AGENDA

CITY COUNCIL
REGULAR MEETING

November 28, 2017
4:00 PM
City Council Chamber
One Civic Center Plaza
Irvine, CA 92606

Donald P. Wagner
Mayor

Lynn Schott
Mayor Pro Tempore

Melissa Fox
Councilmember

Jeffrey Lalloway
Councilmember

Christina Shea
Councilmember

Speaker's Card/Request to Speak: If you would like to address the City Council on a scheduled agenda item – including a Consent Calendar item, a Regular Council Business item, a Public Hearing item, or Public Comments – please complete the Request to Speak Form. The card is at the table at the entrance to the City Council Chamber. Please identify on the card your name and the item on which you would like to speak and return to the City Clerk. The Request to Speak Form assists the Mayor in ensuring that all persons wishing to address the City Council are recognized. It also ensures the accurate identification of meeting participants in the City Council minutes. Your name will be called at the time the matter is heard by the City Council. City policy is to limit public testimony to up to three minutes per speaker depending on relevant circumstances (unless the time limit is extended by the Mayor), which includes the presentation of electronic or audio visual information. Speakers may not yield their time to other persons.

Please take notice that the order of scheduled agenda items below and/or the time they are actually heard, considered and decided may be modified by the Mayor or the City Council during the course of the meeting, so please stay alert.

CALL TO ORDER

ROLL CALL

Scan this QR code for an electronic copy of the City Council staff reports

1. CLOSED SESSION

1.1 CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION - Pursuant to Government Code Section 54956.9(d)(1) – Harvey Liss, et al, v. City of Irvine, et al, Orange County Superior Court Case No. 30-2017-00955176-CU-WM-CXC

RECONVENE TO THE CITY COUNCIL MEETING

PLEDGE OF ALLEGIANCE

INVOCATION

2. PRESENTATIONS

2.1 Presentation by Orange County District Attorney Tony Rackauckas on the Human Exploitation and Trafficking (HEAT) Unit

CITY MANAGER'S REPORT

ANNOUNCEMENTS/COMMITTEE REPORTS/COUNCIL REPORTS

Announcements, Committee Reports and Council Comments are for the purpose of presenting brief comments or reports, are subject to California Government Code Section 54954.2 of the Brown Act and are limited to 15 minutes per meeting.

ADDITIONS AND DELETIONS

Additions to the agenda are limited by California Government Code Section 54954.2 of the Brown Act and for those items that arise after the posting of the Agenda and must be acted upon prior to the next City Council meeting.

3. CONSENT CALENDAR

All matters listed under Consent Calendar are considered by the City Manager to be routine and enacted by one roll call vote. There will be no discussion of these items unless members of the City Council request specific items to be removed from the Consent Calendar for separate discussion. Any member of the public may address the Council on items on the Consent Calendar. See information for Speaker's Card/Request to Speak on first page.

3.1 MINUTES

ACTION:
Approve the minutes of a regular meeting of the Irvine City Council held on November 14, 2017.

3.2 WARRANT AND WIRE TRANSFER RESOLUTION

ACTION:
Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ALLOWING CERTAIN CLAIMS AND DEMANDS AND SPECIFYING THE FUNDS OUT OF WHICH THE SAME ARE TO BE PAID

3.3 ORANGE COUNTY GREAT PARK FUNDS FINANCIAL STATEMENT AUDIT – FISCAL YEAR 2016-17

ACTION:
Receive and file.

(Unless otherwise directed by a member of the City Council, the vote on this matter will reflect the prior action of each Councilmember when he or she sat and voted as a member of the Board of Directors of the Orange County Great Park Corporation. However, if a Councilmember is not present at the City Council meeting, his or her vote will be reflected as absent.)

3.4 2018 CITY COUNCIL MEETING CALENDAR

ACTION:
Approve the proposed 2018 City Council Meeting Calendar.

3.5 DESIGN ENHANCEMENTS TO SOFTBALL STADIUM IN THE SPORTS PARK SUBAREA OF THE ORANGE COUNTY GREAT PARK

ACTION:
Approve design enhancements to the softball stadium dugouts at the Great Park and authorize payment for the enhancements by applying $210,000 in savings realized through cost reductions elsewhere in the Sports Park.

(Unless otherwise directed by a member of the City Council, the vote on this matter will reflect the prior action of each Councilmember when he or she sat and voted as a member of the Board of Directors of the Orange County Great Park Corporation. However, if a Councilmember is not present at the City Council meeting, his or her vote will be reflected as absent.)

3.6 BUDGET ADJUSTMENT FOR CONTRACT MAINTENANCE SERVICES FOR SPORTS PARK PHASES 1, 2, 3 AND 4

ACTION:

1) Approve a budget appropriation of $931,350 from the unallocated Orange County Great Park fund balance for contract maintenance services through June 30, 2018 for the Sports Park phases 1, 2, 3 and 4.
2) Authorize the City Manager and Director of Public Works to execute corresponding maintenance service contract agreements, in accordance with City purchasing procedures, for the required maintenance services.

(Unless otherwise directed by a member of the City Council, the vote on this matter will reflect the prior action of each Councilmember when he or she sat and voted as a member of the Board of Directors of the Orange County Great Park Corporation. However, if a Councilmember is not present at the City Council meeting, his or her vote will be reflected as absent.)

3.7 APPROVAL OF JEFFREY/ALTON INTERSECTION IMPROVEMENT PROJECT REPORT

ACTION:

Approve the Project Report for the Jeffrey/Alton Intersection Improvement Project and authorize staff to proceed with the final design and right-of-way project phases.

3.8 APPROVAL OF PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR DEERFIELD COMMUNITY CENTER FIRE SPRINKLER UPGRADES

ACTION:

1) Approve the construction plans, specifications and contract documents for Fire Sprinkler Building Safety Upgrades at Deerfield Community Park, Capital Improvement Project 361707.
2) Approve the Engineer's Estimate, Construction Contingency and Project Funding Summary.
3) Authorize staff to solicit competitive bids and award the construction contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures, within the approved project budget.
4) Direct staff to return with a budget appropriation for Fire Sprinkler Upgrades at other City Facilities and Community Centers.

3.9 NOTICE OF REVIEW FOR A TRACT MAP IN PORTOLA SPRINGS

ACTION:
Receive and file.

3.10 WEEKDAY COMMUTER iSHUTTLE ROUTE EXPANSION AGREEMENTS

ACTION:
1) Authorize the City Manager or his designee to execute the Cooperative Agreements between Orange County Transportation Authority and City of Irvine for Project V Community-Based Transit/Circulators for expansion of weekday commuter iShuttle routes and execute future amendments to the agreement, if necessary, for the continued operation of the routes.
2) Authorize the City Manager or his designee to execute the funding agreements and execute future amendments to the agreement, if necessary, for the continued operation of the routes with the Irvine Company and Spectrumotion in support of Project V Route E.

3.11 COMMUNITY PARTNERSHIP FUND GRANT NOMINATIONS

ACTION:
1) Approve Councilmember Fox's request for Community Partnership Fund Grant nomination to South Cardinal Football and Cheer in the amount of $250 in support of the South Cardinal Cheer Team.
2) Authorize the City Manager to prepare and sign the funding agreement listed in Action 1.

4. PUBLIC HEARINGS

Public Hearings are scheduled for a time certain of 4:00 p.m., unless noticed otherwise, or as soon thereafter as possible. Those wishing to address the City Council during the Public Hearing are requested to complete a form and provide it to the City Clerk prior to the hearing.
Notice: Public Hearings listed for continuance will be continued as noted and posting of this agenda serves as notice of continuation. Any matter not noted for continuance, will be posted separately.

4.1 APPROVAL OF BOND ISSUANCE BY THE CALIFORNIA MUNICIPAL FINANCE AUTHORITY FOR FINANCING AND REFINANCING CERTAIN EDUCATIONAL FACILITIES AND OTHER RELATED MATTERS FOR CONCORDIA UNIVERSITY

ACTION:
1) Receive staff report.
2) Open the public hearing; receive public input.
3) Close the public hearing.
4) City Council comments and questions.

5) Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, APPROVING THE ISSUANCE OF BONDS BY THE CALIFORNIA MUNICIPAL FINANCE AUTHORITY IN A MAXIMUM AGGREGATE PRINCIPAL AMOUNT OF $40,000,000 FOR THE PURPOSES OF FINANCING AND REFINANCING THE COSTS OF CONSTRUCTION, EXPANSION, IMPROVEMENT, RENOVATION, FURNISHING AND EQUIPPING OF CERTAIN EDUCATIONAL FACILITIES AND CERTAIN OTHER MATTERS RELATING THERETO

4.2 CITY COUNCIL OVERRIDE OF INCONSISTENCY DETERMINATION BY THE AIRPORT LAND USE COMMISSION OF ORANGE COUNTY

ACTION:

1) Receive staff report.
2) Reopen the public hearing, receive public input.
3) Close the public hearing.
4) City Council comments and questions.
5) City Council may either: Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING FINDINGS TO OVERRIDE THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY INCONSISTENCY DETERMINATION FOR THE LANDMARK PROJECT LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX); FILED BY GREAT FAR EAST, LLC

   - OR -

   Determine the findings to override the Airport Land Use Commission decision on the Landmark project cannot be made, thereby invalidating the Planning Commission's approval of the Master Plan for the project.

5. COUNCIL BUSINESS

5.1 APPROVAL OF PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR ORANGE COUNTY GREAT PARK WAYFINDING SIGNAGE

ACTION:

1) Approve the construction plans, specifications and contract documents for Orange County Great Park Wayfinding Signage, Capital Improvement Project 361726.
2) Approve the Engineer’s Estimate, Construction Contingency and Project Funding Summary.

3) Authorize staff to solicit competitive bids and award the construction contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures, within the approved project budget.

5.2 PROPOSED UPDATES TO THE COST RECOVERY POLICY FOR COMMUNITY SERVICES PROGRAMS AND SERVICES

ACTION:
Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, TO ADOPT THE COST RECOVERY POLICY FOR COMMUNITY SERVICES PROGRAMS AND SERVICES

5.3 REQUEST FOR PROPOSALS - CONSULTING SERVICES TO CONDUCT SEARCH FOR CITY MANAGER

ACTION:
Authorize staff to release the attached Request for Proposals for consulting services to conduct a search for City Manager.

PUBLIC COMMENTS - Public comments will be heard at approximately 6:30 p.m. or prior to adjournment, whichever occurs earlier.

Any member of the public may address the City Council on items within the City Council's subject matter jurisdiction but which are not listed on this agenda during Public Comments; however, no action may be taken on matters that are not part of the posted agenda. See information for Speaker's Card/Request to Speak on the first page.

ADJOURNMENT

NOTICE TO THE PUBLIC

LIVE BROADCASTING AND REBROADCASTING

Regular City Council meetings are broadcast live every 2nd and 4th Tuesday of the month at 4 p.m. and are replayed on Tuesdays at 4 p.m. (in weeks in which there is not a live City Council meeting), Sundays at 11 a.m., Wednesdays at 7 p.m., and Thursdays at 10 a.m. until the next City Council meeting. All broadcasts can be viewed on Cox Communications Local Access Channel 30 and U-Verse Channel 99. City Council meetings are also available via live webcast and at any time for replaying through the City's ICTV webpage at cityofirvine.org/ictv. For more information, please contact the City Clerk's office at (949) 724-6205.

ADJOURNMENT

At 11:00 p.m., the City Council will determine which of the remaining agenda items can be considered and acted upon prior to 12:00 midnight and will continue all other items on which additional time is required until a future City Council meeting. All meetings are scheduled to terminate at 12:00 midnight.

STAFF REPORTS

As a general rule, staff reports or other written documentation have been prepared or organized with respect to each item of business listed on the agenda. Copies of these materials are on file with the City Clerk and are available for public inspection and copying once the agenda is publicly posted, (at least 72 hours prior to a regular City Council meeting). Staff reports can also be downloaded from the City's website at *cityofirvine.org* beginning the Friday prior to the scheduled City Council meeting on Tuesday.

In addition, meetings can be viewed live at the time posted on the agenda and related staff reports can be opened and viewed simultaneously along with the streaming of the meeting. To view the meeting, go to *cityofirvine.org/ictv*.

If you have any questions regarding any item of business on the agenda for this meeting, or any of the staff reports or other documentation relating to any agenda item, please contact City Clerk staff at (949)724-6205.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the City Council regarding any item on this agenda after the posting of the agenda will be available for public review in the City Clerk's Office, One Civic Center Plaza, Irvine, California, during normal business hours. In addition, such writings or documents will be made available for public review at the respective public meeting.

If you have any questions regarding any item of business on the agenda for this meeting, or any of the staff reports or other documentation relating to any agenda item, please contact City Clerk staff at (949)724-6205.

SUBMITTAL OF INFORMATION BY MEMBERS OF THE PUBLIC FOR DISSEMINATION OR PRESENTATION AT PUBLIC MEETINGS

Media Types and Guidelines

1. Written Materials/Handouts:

   Any member of the public who desires to submit documentation in hard copy form may do so prior to the meeting or at the time he/she addresses the City Council. Please provide 15 copies of the information to be submitted and file with the City Clerk at the time of arrival to the meeting. This information will be disseminated to the City Council at the time testimony is given.

2. Large Displays/Maps/Renderings:

   Any member of the public who desires to display freestanding large displays or renderings in conjunction with their public testimony is asked to notify the City Clerk's Office at (949)724-6205 no later than 12:00 noon on the day of the scheduled meeting so that an easel can be made available, if necessary.

3. Electronic Documents/Audio-Visuals:

   Any member of the public who desires to display information electronically in conjunction with their public testimony is asked to submit the information to the Public Information Office (PIO) no later than 12:00 noon on the day of the scheduled meeting. To facilitate your request contact the PIO Office at (949)724-6253 or the City Clerk's Office at (949)724-6205.

   Information must be provided on CD, DVD, or VHS; or, emailed by 12:00 noon on the day of the scheduled meeting to pio@ci.irvine.ca.us. Members of the public will be asked to provide their name, identify the meeting and the agenda item to be addressed, and a day time phone number.

The PIO office will notify the person submitting the information as soon as possible prior to the meeting if the information cannot be accessed or if the version provided is incompatible with the City's system. Every effort will be made by City staff to facilitate the presentation.

CITY SERVICES TO FACILITATE ACCESS TO PUBLIC MEETINGS

It is the intention of the City of Irvine to comply with the Americans With Disabilities Act (ADA) in all respects. If, as an attendee or a participant at this meeting, you will need special assistance beyond what is normally provided, the City of Irvine will attempt to accommodate you in every reasonable manner. Please contact the City Clerk's Office at (949)724-6205.

Assisted listening devices are available at the meeting for individuals with hearing impairments. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. (28 CFR 35. 102-35. 104 ADA Title II)

CHALLENGING CITY DECISIONS

The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by the City is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitations period is specified by any other provision. Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by the City must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge that is not filed within this 90-day period will be barred.

If a person wishes to challenge the nature of the above actions in court, they may be limited to raising only those issues they or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City of Irvine, at or prior to the meeting. In addition, judicial challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies.

COMMUNICATION AND ELECTRONIC DEVICES

To minimize distractions, please be sure all personal communication and electronic devices are turned off or on silent mode.

MEETING SCHEDULE

Regular meetings of the City Council are held on the second and fourth Tuesdays of each month at 4:00 p.m. Study Sessions and/or Closed Sessions are periodically held prior to the start of the regular meeting. Agendas are available at the following locations:

- City Clerk's Office
- Police Department
- Front Entrance of City Hall
- University Park Center (Culver/Michelson)
- Walnut Village Center (Culver/Walnut)
- Northwood Town Center (Irvine Blvd./Yale)
- City's web page at www.ci.irvine.ca.us

I hereby certify that the agenda for the Regular City Council meeting was posted in accordance with law in the posting book located in the Public Safety Lobby and at the entrance of City Hall, One Civic Center Plaza, Irvine, California on November 21, 2017 by 8:00 pm as well as on the City's web page.

Molly McLaughlin, CMC
City Clerk

CLOSED SESSION

1.1

PRESENTATIONS

2.1

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: PRESENTATIONS

City Clerk

RECOMMENDED ACTION:

Presentation by Orange County District Attorney Tony Rackauckas on the Human Exploitation and Trafficking (HEAT) Unit

RECEIVED
CITY OF IRVINE
CITY CLERK'S OFFICE

2017 AUG -4 AM 11:56

Memo

RECEIVED

AUG 04 2017

CITY OF IRVINE
CITY MANAGER'S OFFICE

To: Sean Joyce, City Manager

From: Donald P. Wagner, Mayor

Date: August 3, 2017

Re: Presentation concerning Human Trafficking

Please place a presentation concerning human trafficking on the September 12 City Council agenda. I have invited Orange County District Attorney Tony Rackauckas to provide an update on efforts his office is taking in collaboration with the Orange County Human Trafficking Task Force to address human trafficking throughout Orange County.

The Human Trafficking Task Force was established in 2004. More than 40 member agencies comprise the Task Force, including law enforcement, victim services, faith-based organizations, and community groups. A full-time Irvine Police detective is also assigned to the Task Force. The goal of the Task Force is to protect victims and prevent further perpetration of the crime. Human trafficking is a form of modern slavery where criminals profit from the control and exploitation of others. This problem exists on a local and global scale.

I look forward to hearing about the efforts the District Attorney has made to deter human trafficking and the success his office has had in the prosecution of this serious crime.

cc: Irvine City Council
Molly McLaughlin, City Clerk

3.1

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: MINUTES

City Clerk

RECOMMENDED ACTION:

Approve the minutes of a regular meeting of the Irvine City Council held on November 14, 2017.

MINUTES

CITY COUNCIL
REGULAR MEETING

November 14, 2017
City Council Chamber
One Civic Center Plaza
Irvine, CA 92606

CALL TO ORDER

The regular meeting of the Irvine City Council was called to order at 4:06 p.m. on November 14, 2017 in the City Council Chamber, Irvine Civic Center, One Civic Center Plaza, Irvine, California; Mayor Wagner presiding.

ROLL CALL

Present:	5	Councilmember:	Melissa Fox*
		Councilmember:	Jeffrey Lalloway
		Councilmember:	Christina Shea
		Mayor Pro Tempore:	Lynn Schott
		Mayor:	Donald P. Wagner

* Councilmember Fox arrived at 4:07 p.m.

Prior to convening to Closed Session, Mayor Wagner reordered the agenda to consider the continuance of Public Hearing Item No. 4.1 (Zone Change to Amend Irvine's Sign Code to Allow Off-Premises Advertising on the Existing Electronic Freeway Sign Located in the Irvine Auto Center at 30 Auto Center Drive in Planning Area 35 [Irvine Spectrum 2]) to the December 11 meeting. See Item No. 4.1.

1. CLOSED SESSION

City Attorney Melching announced the following Closed Session items:

1.1 CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION: Initiation of litigation pursuant to paragraph (4) of subdivision (d) of Section 54956.9: One potential case (regarding County of Orange development south of Marine Way in Planning Area 51)

1.2 PUBLIC EMPLOYEE PERFORMANCE EVALUATION: Government Code Section 54957 - Title: City Attorney

There were no requests to speak.

RECESS

Mayor Wagner convened the City Council meeting to Closed Session at 4:10 p.m.

RECONVENE TO THE CITY COUNCIL MEETING

Mayor Wagner reconvened the City Council meeting at 5:50 p.m. City Attorney Melching, on behalf of the City Council, announced that with respect to Closed Session Item No. 1.1, the City Council authorized commencement of litigation by a 5-0 vote; and noted that there was no reportable action taken on Item No. 1.2.

PLEDGE OF ALLEGIANCE

Councilmember Fox led the Pledge of Allegiance.

MOMENT OF SILENCE

Mayor Wagner requested a moment of silence for the 26 worshipers, the many others who were wounded, and the families and friends who mourn the deaths at First Baptist Church in Sutherland Springs, Texas; as well as those in who were victims of the recent tragedy in the City of Tehama, California.

INVOCATION

Pastor Jack West from Mariner's Church in Irvine provided the invocation.

2. PRESENTATIONS

2.1 Employee Recognition - 25 Years of Service

City Manager Joyce recognized Katy Johnson, Community Services Program Coordinator, and David Klug, Police Lieutenant, for 25 Years of Service.

CITY MANAGER'S REPORT

There was no report; however, City Manager Joyce reiterated the action taken by the City Council prior to Closed Session to continue Public Hearing Item No. 4.1.

ANNOUNCEMENTS/COMMITTEE REPORTS/COUNCIL REPORTS

Mayor Pro Tempore Schott noted her recent attendance on Friday, November 10 at Concordia University of Irvine's dedication ceremony for the Staff Sergeant Matthew Thompson Veterans Resource Center to present a Certificate of Recognition on behalf of the City of Irvine; and made the following announcements:

- On behalf of the Exchange Club of Irvine, members of the community are invited to attend the 36th Annual Thanksgiving Prayer Breakfast on November 16 at the Irvine Marriot Hotel. Attendees will have an opportunity to hear from keynote speaker Chef Bruno Serato on the importance of child wellness. The event is co-hosted by the Greater Irvine Chamber and the City of Irvine, with all proceeds benefitting The Raise Foundation for the prevention of child abuse. To register, visit *cityofirvine.org.*

- The community is invited to attend the Barclay Theatre's upcoming events and performances, which include CHESS: The Musical, by the UCI School of Arts; and the UCI Symphony Concert. For information or to purchase tickets, visit *thebarclay.org.*

Councilmember Fox noted her acceptance of the award by Sustain OC to Irvine for its Zero Waste program at the Irvine Global Village; and made the following announcements:

- Irvine's own Pop Warner South Cardinal Junior Varsity Cheer Team will be representing Irvine at a Regional competition in San Diego this upcoming weekend, comprised of a group of 17 girls ranging between 10 and 13 years of age, working on earning a spot to a national cheer competition at which time they will also represent the City of Irvine.

- On Friday, November 17 at 9 a.m., the community is invited to participate in a hike around the Quail Hill Loop, hosted by Councilmember Fox. The trail is part of Irvine's precious open space preserves and features beautiful views of the City of Irvine.

Mayor Wagner made the following announcements:

- This is the final week to bring in donations of canned goods or nonperishable food items for the City's fall food drive at the Great Park. The "Scare Away Hunger Food Drive" began during the Great Park's Spooktacular Fund Days event, with more than 30,000 pounds of food donated the weekend of October 1 and 15, equivalent to more than 25,000 meals. To support hunger relief efforts, donations will be accepted through Sunday, November 19 at the Visitors Center and Sports Complex; Thursdays and Fridays from 10 a.m. to 10 p.m., and Saturdays and Sundays from 9 a.m. to 10 p.m. All donations support Orange County Food Bank and Second Harvest Food Bank. For information, visit *ocgp.org.*

- Join the City of Irvine and the Irvine 2/11 Marine Adoption Committee in brightening the season for military families. The Holiday Toy Drive runs through December 11 and supports the families of Irvine's adopted 2/11 Marine Battalion. Donation bins are located at the Irvine Civic Center and Irvine Police Department lobbies. For information, call 949-724-6606 or visit *cityofirvine.org.*

- The City is accepting nominations for the Wall of Recognition, established in 2006 at Colonel Bill Barber Marine Corps Memorial Park to honor those who have made significant contributions to our community. Nominations for individuals, groups, organizations and businesses will be accepted through December 30. To be eligible for consideration, individual nominees must be, or have been, a person living, working or attending school within the City. Groups, businesses, and organizations must be or have been located in Irvine. Additional criteria and nomination forms are available at the Irvine Civic Center and online at *cityofirvine.org/publicrecognition.*

ADDITIONS AND DELETIONS

There were no additions or deletions to the agenda; however, City Manager Joyce noted an errata memo related to Item No. 3.3 recommending an amendment to Recommended Action No. 3.

3. CONSENT CALENDAR

ACTION: Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried to approve Consent Calendar Item Nos. 3.1 through 3.12, with the exception of Item Nos. 3.7 and 3.9, which were removed for separate discussion.

3.1 MINUTES

ACTION:
Approved the minutes of a special meeting of the Irvine City Council and special joint meeting with the City of Irvine as Successor Agency to the dissolved Irvine Redevelopment Agency held on October 24, 2017.

3.2 WARRANT AND WIRE TRANSFER RESOLUTION

ACTION:
Adopted RESOLUTION NO. 17-76 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ALLOWING CERTAIN CLAIMS AND DEMANDS AND SPECIFYING THE FUNDS OUT OF WHICH THE SAME ARE TO BE PAID

3.3 FISCAL YEAR 2016-17 CAPITAL IMPROVEMENT AND SPECIAL FUNDS YEAR-END REPORT

ACTION:
1) Approved the closure of 38 completed projects with $91.2 million in expenditures and release appropriations of $5.8 million in applicable special funds.
2) Approved the continuation of 207 Special District and City administered capital projects with budgets totaling $303.7 million to Fiscal Year 2017-18.
3) Approved reserving $3 million of Infrastructure and Rehabilitation funding received from the Bowerman Landfill Extension Agreement for future street related projects within close proximity to the landfill.
4) Approved a $3.3 million net appropriation to inter-fund transfers for open capital projects among various special and capital project funds.
5) Approved funding for outstanding purchase orders and continuing activities in the Special Funds totaling $4.4 million.
6) Received and filed Community Facility District (CFD) annual reports for CFD 2004-1 Central Park, CFD 2005-2 Columbus Grove and CFD 2013-3 Great Park.

As amended per the errata memo dated November 14, 2017.

3.4 AIR QUALITY IMPROVEMENT SPECIAL REVENUE FUND AUDIT FOR THE FISCAL YEAR ENDED JUNE 30, 2017

ACTION:
Received and filed.

3.5 COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR THE FISCAL YEAR ENDED JUNE 30, 2017 AND AUDITORS' COMMUNICATION

ACTION:
Received and filed.

3.6 SINGLE AUDIT OF FEDERALLY ASSISTED GRANT PROGRAMS FOR THE FISCAL YEAR ENDED JUNE 30, 2017

ACTION:
Received and filed.

3.7 FISCAL YEAR 2016-17 MEASURE M2 EXPENDITURE REPORT

This item was removed for separate discussion at the request of Councilmember Fox, who inquired about any proposed significant traffic improvements in the upcoming fiscal year.

City Council discussion included: noting that most improvements were related to street/road improvements and whether signal synchronization was included; questioned if M2 funding applied to public transit; clarified Measure V vs. M2 funding sources; noted Orange County Transportation Authority's recent reallocation of certain bus routes; and suggested competing for additional funding for transit-based resources.

Mark Linsenmayer, Director of Transportation, provided a brief summary of upcoming traffic improvements, and noted that a more detailed report would be provided at the next City Council meeting.

ACTION: Moved by Mayor Pro Tempore Schott, seconded by Councilmember Shea, and unanimously carried to:

Adopt RESOLUTION NO. 17-77 – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING THE FISCAL YEAR 2016-17 MEASURE M2 EXPENDITURE REPORT FOR THE CITY OF IRVINE

3.8 ANNUAL DEVELOPMENT IMPACT FEE REPORT FOR FISCAL YEAR 2016-17

ACTION:
Received and filed.

3.9 PARTNERSHIP FOR EDUCATIONAL EXCELLENCE FUNDING FOR FISCAL YEAR 2018-19 AND FISCAL YEAR 2019-20 AND EDUCATIONAL PARTNERSHIP FUND FISCAL YEAR 2016-17 YEAR-END REPORT

This item was removed for separate discussion at the request of Councilmember Lalloway, who noted the significance of this funding for local schools, and expressed appreciation to staff.

There was no City Council discussion.

ACTION: Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried to:

1) Adopt RESOLUTION NO. 17-78 – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, SUPERSEDING RESOLUTION NO. 16-14, PERTAINING TO IMPLEMENTING THE EDUCATIONAL PARTNERSHIP FUND PROGRAM OF THE PARTNERSHIP FOR EDUCATIONAL EXCELLENCE PROGRAM FOR FISCAL YEARS 2018-19 AND 2019-20; authorizing $2.5 million for the Educational Partnership Fund annually for Fiscal Years 2018-19 and 2019-20.
2) Adopt RESOLUTION NO. 17-79 – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, SUPERSEDING RESOLUTION NO. 16-15, PERTAINING TO IMPLEMENTING THE CHALLENGE MATCH GRANT PROGRAM OF THE PARTNERSHIP FOR EDUCATIONAL EXCELLENCE PROGRAM FOR FISCAL YEARS 2018-19 AND 2019-20; authorizing $1.5 million for the Challenge Match Grant program annually for Fiscal Years 2018-19 and 2019-20.
3) Authorize the City Manager to execute the Memorandums of Understanding for the Educational Partnership Fund program for Fiscal Year 2018-19 and Fiscal Year 2019-20 with Irvine Unified **(Contract No. 9977)** and Tustin Unified School Districts **(Contract No. 9978)**.
4) Authorize the City Manager to execute the Memorandums of Understanding for the Challenge Match Grant program for Fiscal Year 2018-19 and Fiscal Year 2019-20 with Irvine Unified School District/Irvine Public Educational Foundation **(Contract No. 9979)**, Tustin Unified School District **(Contract No. 9980)** and Santa Ana Unified School District/Santa Ana Public Educational Foundation **(Contract No. 9981)**.

5) Receive and file the Fiscal Year 2016-17 Year-End Actual Expenditures Reports for the Educational Partnership Fund program.

3.10 CITY OF IRVINE HOUSING SUCCESSOR TO THE DISSOLVED IRVINE REDEVELOPMENT AGENCY ANNUAL REPORT

ACTION:

1) Authorized submittal of the Housing Successor Annual Report to the State Department of Housing and Community Development.
2) Authorized posting the Housing Successor Annual Report on the City's website.

3.11 NOTICE OF REVIEW FOR TRACT MAPS IN LOS OLIVOS AND PORTOLA SPRINGS

ACTION:

Received and filed.

3.12 COOPERATIVE AGREEMENT WITH THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION FOR CITYWIDE TRAFFIC SIGNAL SYNCHRONIZATION

ACTION:

1) Authorized the City Manager to execute a cooperative agreement with the State of California Department of Transportation (Caltrans) to synchronize state-owned traffic signals along the state highway system corridors located within the City. **(Contract No. 9982)**
2) Appropriated $389,964 from unallocated Gas Tax fund balance to provide necessary funding to Caltrans for the intersection improvements.

4. PUBLIC HEARINGS

4.1 ZONE CHANGE TO AMEND IRVINE'S SIGN CODE TO ALLOW OFF-PREMISES ADVERTISING ON THE EXISTING ELECTRONIC FREEWAY SIGN LOCATED IN THE IRVINE AUTO CENTER AT 30 AUTO CENTER DRIVE IN PLANNING AREA 35 (IRVINE SPECTRUM 2)

Mayor Wagner noted that a request was received by the applicant to continue the item to the December 11, 2017 City Council meeting.

Mayor Wagner opened the public hearing at 4:07 p.m. The following individuals submitted a Request to Speak slip but did not speak:

Brad Mugg, Irvine Auto Center
Tom Corcovelos, Irvine Auto Center
John Suckrison, Orange County Auto Dealers Association

City Council discussion included: inquiring about the reason why the applicant was requesting a continuance; and noted additional time needed to gather more information to find a solution acceptable to all stakeholders.

ACTION: Moved by Councilmember Shea, seconded by Councilmember Lalloway, and unanimously carried to:

Continue the public hearing to the December 11, 2017 City Council meeting.

Mayor Pro Tempore Schott left the meeting at 6:20 p.m.

5. COUNCIL BUSINESS

5.1 FISCAL YEAR 2016-17 GENERAL FUND YEAR-END REPORT

Kristin Griffith, Director of Administrative Services, presented the staff report and responded to questions.

City Council discussion included: noting challenges during the recent recession, which included declining revenues and difficult decisions that ensued; and reiterated the City's commitment to increasing the contingency fund and paying down the unfunded pension liability balance.

City Manager Joyce also commended the City Council for its commitment to the community and its outstanding fiscal policies.

ACTION: Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried by those members present (Mayor Pro Tempore Schott absent) to:

1) Approve a budget adjustment to transfer $3,739,685 of year-end General Fund balance to the Asset Management Plan Fund in accordance with the Accelerated Pension Liability Paydown Plan, adopted by the City Council on June 25, 2013.

2) Approve a budget adjustment allocating $172,187 of year-end General Fund balance for outstanding encumbrances and Purchase Orders that were not completed by the end of the fiscal year.
3) Appropriate $150,000 from General Fund contingency reserve to fund furnishings and equipment for the Portola Springs community center.

5.2 COMMUNITY FACILITIES RESERVATION POLICY REVISIONS

Darin Loughrey, Manager of Community Services, and Michael Dominguez, Community Services Administrator, presented the staff report and responded to questions.

City Council discussion included: noting the importance of the policy revisions as the City has grown; expressed concern about residents' inability to reserve certain facilities based on current policies; and noted a desire to work with groups that required further assistance.

ACTION: Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried by those members present (Mayor Pro Tempore Schott absent) to:

Adopt RESOLUTION NO. 17-80 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, TO AMEND THE COMMUNITY SERVICES "PUBLIC FACILITIES RESERVATION AND FEE POLICIES" AND RENAME THEM THE "PUBLIC SPORTS FACILITIES RESERVATION AND FEE POLICY" AND ADOPT A NEW COMMUNITY SERVICES "COMMUNITY FACILITIES RESERVATION POLICY"

5.3 CONSIDERATION OF MAYOR WAGNER'S REQUEST FOR DISCUSSION OF CITY MANAGER RECRUITMENT

This item was agendized at the request of Mayor Wagner, who asked for City Council consideration and direction regarding the retention of a national recruiting firm to conduct a search to replace City Manager Joyce, who announced his upcoming retirement effective February 10, 2018.

City Council discussion included: reviewed pros and cons of a nationwide vs. a statewide recruitment and potential impacts on the selection of qualified candidates; questioned whether a subcommittee or the City Council as a whole would review resumes; suggested that qualified firms be interviewed by the City Council, noting that certain firms were already on retainer; questioned if the preference was to issue a Request for

Proposals (RFP) for City Council review and selection; and clarified that recruiting firms should have experience in national recruitments.

ACTION: Moved by Councilmember Fox, seconded by Councilmember Shea, to:

> Direct staff to concurrently 1) develop a Request for Proposals (RFP); and 2) invite firms on retainer with the City of Irvine to provide presentations at the upcoming City Council meeting.

Additional City Council discussion included: clarification of the motion and whether both tracks could be pursued at the same time; noted a preference to only receive a presentation by the three qualified firms already on retainer; expressed concern that the existing qualified firms may not have the ability to conduct a proper search based on the necessary qualifications; suggested that the City Council should move forward with the RFP process if the existing three qualified firms must also participate in that process; and inquired about whether the three firms on retainer had experience in municipal searches.

Following discussion, Councilmember Fox withdrew her motion.

City Manager Joyce identified the three qualified firms on retainer, and noted that staff would move quickly to prepare an RFP for City Council review.

ACTION: Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried by those members present (Mayor Pro Tempore Schott absent) to:

> Direct staff to immediately prepare a draft Request for Proposals (RFP) and return to the City Council on December 11, 2017 or as soon as possible.

5.4 CONSIDERATION OF COUNCILMEMBER SHEA'S REQUEST FOR DISCUSSION OF PROPOSED QUAIL HILL DEVELOPMENT

This item was agendized at the request of Councilmember Shea, who asked for an update on proposed development plans in Quail Hill (Planning Area 17) based on inquiries received from nearby residents.

Tim Gehrich, Acting Director of Community Development, provided a brief history of the site and status update on the project.

City Council discussion included: inquiring about whether the project would be reviewed by the Transportation Commission for any ingress/egress concerns, noting that the project had not been reviewed

since 2001; reiterated that entitlements had already been granted; inquired about access off Laguna Canyon Road/California State Highway 133; and expressed concerns about the potential for increased traffic near California Interstate 405 and Sand Canyon if Quail Hill Parkway was used.

Jeff Davis, representing the Irvine Company, provided a brief description of the proposed project; addressed ingress/egress concerns; noted commencement of the first phase of construction would take place in April or May 2018; and reiterated that the Irvine Company would be reaching out to nearby homeowner associations to address concerns and associated impacts.

Received and filed.

PUBLIC COMMENT

Suresh Paulraj, Irvine resident, spoke in opposition to the proposed school attendance boundary adjustments in 2019-20 by the Irvine Unified School District.

Caryn Cherry, Irvine resident, spoke in support of enhancing safe routes to Irvine schools.

Ilya Tseglin and Robert Tseglin reiterated concerns related to an autistic family member.

Brigitte spoke on recent actions by the Orange County Board of Supervisors and on behalf of the Tseglin family concerning an autistic family member.

ADJOURNMENT

Moved by Councilmember Lalloway, seconded by Councilmember Shea, and unanimously carried by those members present (Mayor Pro Tempore Schott absent) to adjourn the City Council meeting at 7:36 p.m.

_____
MAYOR OF THE CITY OF IRVINE

_____ November 28, 2017
CITY CLERK OF THE CITY OF IRVINE

3.2

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: WARRANT AND WIRE TRANSFER RESOLUTION

Director of Administrative Services

City Manager

RECOMMENDED ACTION

Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ALLOWING CERTAIN CLAIMS AND DEMANDS AND SPECIFYING THE FUNDS OUT OF WHICH THE SAME ARE TO BE PAID

EXECUTIVE SUMMARY

A detailed register of claims, the Register of Warrants and Wire Transfers, are submitted to the City Council for review and authorization on a weekly basis. Approval of the attached resolution ratifies the disbursement of funds for the period of November 8, 2017 through November 14, 2017 in accordance with Section 2-7-211 of the Irvine Municipal Code.

ATTACHMENT Warrant and Wire Transfer Resolution

CITY COUNCIL RESOLUTION NO. 17-___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ALLOWING CERTAIN CLAIMS AND DEMANDS AND SPECIFYING THE FUNDS OUT OF WHICH THE SAME ARE TO BE PAID

(SEE ATTACHED)

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 28th day of November 2017.

_____
MAYOR OF THE CITY OF IRVINE

ATTEST:

_____
CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 28th day of November 2017.

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:
ABSTAIN:	COUNCILMEMBERS:

_____
CITY CLERK OF THE CITY OF IRVINE

ATTACHMENT

11/8/2017 through 11/14/2017

REGISTER OF DEMANDS AND WARRANTS

Fund	Fund Description	Amount
001	GENERAL FUND	822,488.80
004	PAYROLL CLEARING FUND	51,816.59
005	DEVELOPMENT SERVICES FUND	104,794.00
009	REVENUE CLEARING FUND	14,635.00
024	BUILDING & SAFETY FUND	507.85
111	GAS TAX FUND	112,522.26
114	HOME GRANT	130.00
119	LIGHTING, LANDSCAPE & PARK MNT	289,350.00
126	SENIOR SERVICES FUND	225.00
128	OFFICE ON AGING PROGRAMS FUND	8,577.14
132	SLURRY SEAL SUR CHG FUND	323.91
139	SUPPL LAW ENFORCEMENT SERVICES	8,156.68
180	ORANGE COUNTY GREAT PARK	184,566.58
204	CFD 2013-3 GREAT PARK	27,007.00
250	CAPITAL IMPROV PROJ FUND - CIR	125,865.70
260	CAPITAL IMPROV PROJ-NON CIRC	70,980.93
271	IRVINE BUSINESS COMPLEX	2,688.00
286	GREAT PARK DEVELOPMENT FUND	2,799.00
501	INVENTORY	8,811.72
570	INSURANCE FUND	59,454.48
574	FLEET SERVICES FUND	66,233.58
578	MAIL INTERNAL SERVICES	979.98
579	STRATEGIC TECHNOLOGY PLAN FUND	-252,877.09
580	CIVIC CTR MAINT & OPERATIONS	40,958.60
714	REASSESSMENT 12-1 FIXED RATE	1,836,458.07
715	AD 13-25 FIXED RATE	80,504.15
716	RAD 13-1 FIXED RATE	1,174,069.91
719	REASSESSMENT 85-7A VARIABLE RT	2,000.00
726	AD10-23 SERIES B FR LAGUNA ALT	122,354.95
730	11-24 FIXED RT CYPRESS VILLAGE	591,916.79
731	AD07-22 GROUP 4 FIXED RATE	511,912.04
732	RAD 04-20 GROUP 3 FIXED RATE	124,163.66
744	CFD 2013-3 GREAT PARK	2,076,146.17
745	CFD 2005-2R COLUMBUS GROVE SP	145,504.17
746	CFD 2004-1 CENTRAL PARK	149,169.00
772	RAD 15-I FIXED RATE	911,307.16
773	RAD 15-2 FIXED RATE	765,715.67
777	RAD 05-21 G1 FIXED RATE	614,985.04
778	RAD 04-20 G4 FIXED RATE	141,337.61
779	RAD 04-20 G5 FIXED RATE	108,740.28

11/8/2017 through 11/14/2017

REGISTER OF DEMANDS AND WARRANTS

Fund	Fund Description	Amount
	GRAND TOTAL	**11,107,280.38**

3.3

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: ORANGE COUNTY GREAT PARK FUNDS FINANCIAL STATEMENT AUDIT – FISCAL YEAR 2016-17

Director of Administrative Services

City Manager

RECOMMENDED ACTION

Receive and file.

EXECUTIVE SUMMARY

On November 4, 2014, Irvine voters approved Measure V, the Orange County Great Park Fiscal Transparency and Reforms Act. Among other provisions, the Act requires an annual audit of all Great Park funds by an accredited, outside professional auditing firm, with a final report posted on the City website each year. The independent audit firm, White Nelson Diehl Evans LLP, audited the financial statements of the Great Park as of and for the fiscal year ended June 30, 2017. The auditor's opinion states, "In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Orange County Great Park Funds of the City of Irvine, California, as of June 30, 2017, and the changes in financial position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America."

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Unless otherwise directed by a member of the City Council, the vote on this matter will reflect the prior action of each City Councilmember when he or she sat and voted as a member of the Board of Directors of the Orange County Great Park Corporation. However, if a Councilmember is not present at the City Council meeting, his or her vote will be reflected as absent.

On November 6, 2017, with all members present, the Finance Commission voted 5-0 to recommend City Council receive and file the Orange County Great Park Funds Financial Statement Audit.

ANALYSIS

Irvine's City Charter requires the annual submission of a comprehensive certified audit report for all City funds to the City Council. In addition, Measure V, the Orange County Great Park Fiscal Transparency and Reforms Act, requires an annual audit of those City funds specific to the Great Park. This audit satisfies Measure V requirements. Furthermore, the City's CAFR for all City funds includes "Management Discussion and Analysis Information" for the Great Park Funds under the section titled Financial Analysis of the Other Major Funds.

As is noted in the attached Orange County Great Park Financial Statement Audit for Fiscal Year 2016-17, the Orange County Great Park funds include the Operations Fund and Development Fund. Combined, these two funds recorded revenues of $25.6 million, expenditures of $30.7 million and an ending fund balance of $323.4 million.

ALTERNATIVES CONSIDERED

None. The audit is required by the Orange County Great Park Fiscal Transparency and Reforms Act.

FINANCIAL IMPACT

The cost of this year's independent financial audit is $3,075 and is funded within the Fiscal Services division budget in the Orange County Great Park Operations Fund.

REPORT PREPARED BY Roger Galli, Budget Officer

ATTACHMENT

Orange County Great Park Financial Statements as of June 30, 2017

CITY OF IRVINE, CALIFORNIA

ORANGE COUNTY GREAT PARK FUNDS

FINANCIAL STATEMENTS

FOR THE YEAR ENDED JUNE 30, 2017

ATTACHMENT

CITY OF IRVINE

ORANGE COUNTY GREAT PARK FUNDS

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INDEPENDENT AUDITORS' REPORT

To the Honorable Mayor and
Members of the City Council
of the City of Irvine
Irvine, California

We have audited the accompanying financial statements of the Orange County Great Park Funds of the City of Irvine, California, which include the Operations Special Revenue Fund and the Development Capital Projects Fund (Orange County Great Park Funds), as of and for the year ended June 30, 2017, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the City's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

2875 Michelle Drive, Suite 300, Irvine, CA 92606 • Tel: 714.978.1300 • Fax: 714.978.7893
Offices located in Orange and San Diego Counties

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Orange County Great Park Funds of the City of Irvine, California, as of June 30, 2017, and the changes in financial position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Management has omitted the management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the financial statements. Such missing information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. Our opinion on the financial statements is not affected by this missing information.

Accounting principles generally accepted in the United States of America require that the budgetary comparison schedule for the Orange County Great Park Operations Special Revenue Fund be presented to supplement the financial statements. Such information, although not part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to this required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Orange County Great Park Funds and do not purport to, and do not, present fairly the financial position of the City of Irvine, California, as of June 30, 2017, the changes in its financial position for the year ended in accordance with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 31, 2017, on our consideration of the City of Irvine's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting and compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

White Nelson Diehl Evans LLP

Irvine, California
October 31, 2017

CITY OF IRVINE
ORANGE COUNTY GREAT PARK FUNDS

BALANCE SHEET

June 30, 2017
(amounts expressed in thousands)

	Special Revenue Fund	Capital Project Funds	
	Orange County Great Park Operations	Orange County Great Park Development	Total
ASSETS:			
Cash and investments	$ 86,263	$ 1,699	$ 87,962
Receivables, net of allowances	2,174	-	2,174
Accrued interest	136	2	138
Escrow deposits	-	2,628	2,628
Due from Successor Agency	259,691	-	259,691
TOTAL ASSETS	$ 348,264	$ 4,329	$ 352,593
LIABILITIES:			
Accounts payable	$ 717	$ 372	$ 1,089
Accrued liabilities	-	3	3
Due to Irvine Community Land Trust	25,969	-	25,969
Due to other City fund	19	-	19
Due to other governments	13	-	13
Unearned revenue	50	-	50
TOTAL LIABILITIES	26,768	375	27,143
DEFERRED INFLOWS OF RESOURCES:			
Unavailable revenue	2,075	-	2,075
TOTAL DEFERRED INFLOWS OF RESOURCES	2,075	-	2,075
FUND BALANCES:			
Restricted	18,088	-	18,088
Committed	38,533	-	38,533
Assigned	262,800	3,954	266,754
TOTAL FUND BALANCES	319,421	3,954	323,375
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCES	$ 348,264	$ 4,329	$ 352,593

See accompanying notes to financial statements.

CITY OF IRVINE
ORANGE COUNTY GREAT PARK FUNDS

STATEMENTS OF REVENUES, EXPENDITURES, AND
CHANGES IN FUND BALANCES

For the year ended June 30, 2017
(amounts expressed in thousands)

	Special Revenue Fund	Capital Project Funds	
	Orange County Great Park Operations	Orange County Great Park Development	Totals
REVENUES:			
Investment income	$ 72	$ (18)	$ 54
Charges for services	2,482	-	2,482
Revenue from developers	9,200	-	9,200
Special assessments	8,520	-	8,520
Contributions from other City funds	-	5,339	5,339
Donations	1	-	1
TOTAL REVENUES	20,275	5,321	25,596
EXPENDITURES:			
Current:			
General government	3,199	1	3,200
Public safety	331	-	331
Public works	2,169	1	2,170
Community development	248	-	248
Community services	3,817	-	3,817
Reimbursement of contribution to City	-	17,204	17,204
Capital outlay	-	3,716	3,716
TOTAL EXPENDITURES	9,764	20,922	30,686
EXCESS OF REVENUES OVER EXPENDITURES	10,511	(15,601)	(5,090)
OTHER FINANCING SOURCES (USES):			
Transfers in	-	517	517
Transfers out	(517)	-	(517)
TOTAL OTHER FINANCING SOURCES (USES)	(517)	517	-
NET CHANGE IN FUND BALANCES	9,994	(15,084)	(5,090)
FUND BALANCES, BEGINNING OF YEAR	309,427	19,038	328,465
FUND BALANCES, END OF YEAR	$ 319,421	$ 3,954	$ 323,375

See accompanying notes to financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

The accompanying financial statements present only the Orange County Great Park Operations Special Revenue Fund and Development Capital Projects Fund (Orange County Great Park Funds) of the City of Irvine, California (the City), and do not include any other funds of the City. The City's basic financial statements are available at City Hall.

a. Historical Background:

The Orange County Great Park was formed by the City of Irvine to transform the former United States Marine Corps Air Station El Toro into the first great metropolitan park of the 21st Century. The former military base was built as a wartime air station for the purpose of aircraft squadron formation and unit training prior to overseas combat. In February 2005, the land was purchased during auction by Lennar Corporation, one of the country's leading residential and commercial developers. This purchase was the beginning of a unique partnership between the City of Irvine, the federal government, and Lennar Corporation that will result in the formation of the greatest metropolitan park in the United States. Under the terms of a development agreement between Lennar Corporation and the City of Irvine, Lennar Corporation was granted limited development rights in return for the land and capital that will allow the construction of the Orange County Great Park. The agreement required Lennar to transfer more than 1,347 acres to public ownership and contribute $200 million dollars toward the development of the Great Park. The Great Park Plan will allow development on the property that is consistent with the uses allowed by the voter-approved Measure W. Under the Great Park Plan, the 4,639-acre El Toro property will become a master planned community.

b. Basis of Accounting:

The accompanying financial statements for the Orange County Great Park Funds of the City of Irvine, California, have been prepared on the modified accrual basis of accounting. Generally, revenues are recognized when they become "susceptible to accrual," that is, measurable and available to finance expenditures of the current period. Revenues susceptible to accrual include property taxes, intergovernmental, and investment earnings received within 60 days of year-end. Expenditures are recognized when the fund liability is incurred, if measurable. Exchange transactions are recognized as revenues in the period in which they are earned (i.e., the related goods or services are provided). Voluntary, nonexchange transactions are recognized as revenues when all applicable eligibility requirements have been met.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

c. Measurement Focus:

The Orange County Great Park Funds are accounted for on a spending or "financial flow" measurement focus. This means that generally only current assets, current liabilities and deferred inflow of resources are included on the balance sheet. The statement of revenues, expenditures, and changes in fund balance for the Orange County Great Park Funds generally present increases (revenues and other financing sources) and decreases (expenditures and other financing uses) in net current assets.

d. Fund Balance Flow Assumptions:

Sometimes the government will fund outlays for a particular purpose from both restricted and unrestricted resources (the total of committed, assigned, and unassigned fund balance). In order to calculate the amounts to report as restricted, committed, assigned, and unassigned fund balance in the governmental fund financial statements, a flow assumption must be made about the order in which the resources are considered to be applied. It is the government's policy to consider the restricted fund balance to have been depleted before using any of the components of the unrestricted fund balance. Further, when the components of the unrestricted fund balance can be used for the same purpose, the committed fund balance is depleted first, followed by the assigned fund balance. The unassigned fund balance is applied last.

e. Cash and Investments:

Cash and investments are pooled with the City of Irvine, California's cash and investments for investment purposes. The Orange County Great Park Funds' share of the pooled cash and investments is stated at fair value, as determined by the City.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

f. Deferred Inflows of Resources:

In addition to liabilities, the balance sheet will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of fund balance that applies to a future period(s) and will not be recognized as an inflow of resources (revenue) until that time. The Orange County Great Park Operations Special Revenue Fund has only one type of item, which arises only under a modified accrual basis of accounting that qualifies for reporting in this category: unavailable revenues from grant sources. These amounts are deferred and recognized as an inflow of resources in the period that the amounts become available.

g. Use of Estimates:

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenditures during the reporting period. Actual results could differ from those estimates.

h. Budgetary Basis of Accounting:

The budget for the Orange County Great Park Operating Special Revenue Fund is adopted at a budget category by department level of control, and the budget for the Orange County Great Park Development Capital Projects Fund is adopted at the project level on a basis consistent with the accounting principles generally accepted in the United States of America. Accordingly, actual revenues and expenditures can be compared with the related budget amounts without any significant reconciling items. Budget amounts contained within the required supplementary information section are the original and final amended amounts as reviewed by the Board of Directors and approved by the City Council.

2. CASH AND INVESTMENTS:

Investments Authorized by the California Government Code:

Any cash of the Orange County Great Park Funds is entirely pooled with the City of Irvine's cash and investment pool. The table below identifies the investment types that are authorized by the City of Irvine's investment pool and the California Government Code (where more restrictive). The table also identifies certain provisions of the California Government Code that address interest rate risk, credit risk, and concentration of credit risk.

Authorized Investment Type	Maximum Maturity	Maximum Percentage of Portfolio	Maximum Investment in One Issuer
United States Treasury Obligations	5 years	None	None
Federal Agencies (United States Government-Sponsored Agency Securities)	5 years	None	None
Banker's Acceptances	180 days	25%	$5,000
Commercial Paper	270 days	15%	3%
Repurchase Agreements	75 days	25%	None
Reverse Repurchase Agreements	75 days	15%	None
California Local Agency Investment Fund (LAIF)	N/A	25%	N/A
Municipal Bonds	5 years	None	None
Corporate Medium-Term Notes	5 years	15%	3%
Money Market Mutual Funds	N/A	20%	10%
Supranationals	5 years	10%	None

Disclosures Relating to Interest Rate Risk:

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. One of the ways that the City manages its exposure to interest rate risk is by purchasing a combination of shorter term and longer term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity evenly over time as necessary to provide the cash flow and liquidity needed for operations.

2. CASH AND INVESTMENTS (CONTINUED):

Disclosures Relating to Credit Risk:

Generally, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. There are minimum ratings required by the California Government Code or the City's investment policy (where more restrictive). See the City's Comprehensive Annual Financial Report for further details.

Concentration of Credit Risk:

The City's investment policy generally limits the amount that can be invested in any obligations of one entity or single security except U.S. Treasuries, U.S. Government-Sponsored Enterprise Securities, and LAIF, which is subject to a 25% limitation.

Custodial Credit Risk:

Custodial credit risk for *deposits* is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for *investments* is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The California Government Code and the City's investment policy do not contain legal or policy requirements that would limit the exposure to custodial credit risk for deposits or investments, other than the following provision for deposits: The California Government Code requires that a financial institution secure deposits made by state or local governmental units by pledging securities in an undivided collateral pool held by a depository regulated under state law (unless so waived by the governmental unit). The market value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. California law also allows financial institutions to secure the City's deposits by pledging first trust deed mortgage notes having a value of 150% of the secured public deposits.

2. CASH AND INVESTMENTS (CONTINUED):

Fair Value Measurements:

The City categorizes its fair value measurement within the fair value hierarchy established by accounting principles generally accepted in the United States of America. The hierarchy is based on the relative inputs used to measure the fair value of the investments. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

Additional Information:

Any cash of the Orange County Great Park Funds is entirely pooled with the City of Irvine's cash and investment pool. Information regarding the exposure of the City of Irvine's cash and investment pool to interest rate risk, credit risk, concentration of credit risk, custodial risk, and fair value measurements is available in the City of Irvine's Comprehensive Annual Financial Report.

3. DUE FROM SUCCESSOR AGENCY:

The City of Irvine loaned the former redevelopment agency $134,000 to fund the purchase of property located in the Orange County Great Park Redevelopment Area. Upon dissolution of the redevelopment agency on February 1, 2012, this loan balance became a debt of the Successor Agency. On October 24, 2014, a settlement agreement was entered into that resolved lawsuits filed by the City, Successor Agency, and Irvine Community Land Trust against the State of California. The lawsuit was related to debts owed by the former Redevelopment Agency to the City and Irvine Community Land Trust that the State Department of Finance denied property tax funding. The settlement agreement calls for the State to remit to the Successor Agency a total of $292,000 in property tax receipts over an unspecified period, which when received by the Successor Agency will be remitted to the City. As of June 30, 2017, the outstanding balance due from the Successor Agency is $259,691.

As part of the settlement agreement, the City agreed to pay the Irvine Community Land Trust 5 percent of the settlement agreement for a total of $14,600. On January 26, 2016, the City Council approved an increase in funding to the Irvine Community Land Trust from 5 percent to 10 percent of the settlement agreement. The total due to the Irvine Community Land Trust from the City at June 30, 2017, was $25,969.

4. INTERFUND TRANSFERS:

Interfund transfers of $517 were made to fund various capital projects related to the Orange County Great Park.

5. LEASES:

The City has various operating lease rental agreements producing annual rental revenue to the Orange County Great Park Funds. Rental revenue is included in charges for services in the accompanying financial statements.

The Orange County Great Park (OCGP) fund receives revenue for several operating leases for sites within the former MCAS El Toro. The OCGP is currently under development and thus lease rentals are only projected as far out as to the fiscal year ended June 30, 2019, with some leases expiring or planned to be terminated sooner. The leases are for recreational vehicle storage, green waste recycling, office/manufacturing buildings, farming, and other uses of the property.

A lease with Tierra Verde Industries began in May 2006 has been amended and restated over the years and is for two parcels located in the OCGP. The first parcel is approximately 60 acres and is used as a green waste recycling center. The quarterly rental for this property is $111 for an annual rental of $447. An additional $0.64 per ton is charged as a Green Waste Host Fees and the amount collected June 30, 2017, was $447. The second parcel under this lease are buildings used for office space, light maintenance, and manufacturing. The rents received for this parcel for the fiscal year ended June 30, 2017, was $91.

A farming lease with El Toro Farms, LLC to grow strawberries and vegetable crop. The lease began in July 2005 and has been renewed over the years and currently terminates June 30, 2019. Rental revenue at June 30, 2017, was $33.

A lease with Orange County Produce to grow strawberries and other crops. The lease began in July 2010 and has been extended to June 30, 2025. Rental revenue at June 30, 2017, was $160.

A lease with AMCI/Omnicom for the use of other sites within OCGP. The lease is month to month with $313 received in the fiscal year June 30, 2017.

5. LEASES (CONTINUED):

The future minimum rental revenue to be received from the aforementioned operating leases as of June 30, 2017, is as follows:

Fiscal Year Ending June 30,	Annual Rent
2018	$ 572
2019	32
	$ 604

6. LITIGATION:

At June 30, 2017, the City was involved as a defendant in several lawsuits and claims arising out of ordinary conduct of its affairs as they relate to the Orange County Great Park. It is the opinion of management and the City's legal counsel that settlement of these lawsuits and claims, if any, will not have a material effect on the financial position of the Orange County Great Park Funds.

7. SUBSEQUENT EVENTS:

Events occurring after June 30, 2017, have been evaluated for possible adjustment to the financial statements or disclosure as of October 31, 2017, which is the date these financial statements were available to be issued.

REQUIRED SUPPLEMENTARY INFORMATION

CITY OF IRVINE
ORANGE COUNTY GREAT PARK OPERATIONS SPECIAL REVENUE FUND

BUDGETARY COMPARISON SCHEDULE

For the year ended June 30, 2017
(amounts expressed in thousands)

	Budgeted Amount			Variance with Final Budget Positive
	Original	Final	Actual	(Negative)
REVENUES:				
Investment income	$ 658	$ 658	$ 72	$ (586)
Charges for services	2,294	2,883	2,482	(401)
Revenue from developers	9,200	9,200	9,200	-
Special assessment	9,785	9,785	8,520	(1,265)
Donations	-	-	1	1
TOTAL REVENUES	21,937	22,526	20,275	(2,251)
EXPENDITURES:				
Current:				
City Manager:				
Personnel	1,192	1,192	1,031	161
Supplies	89	89	10	79
Internal service allocations	44	44	44	-
Contract services	2,343	2,584	1,654	930
Training and business expense	30	30	5	25
Capital equipment	55	55	36	19
Miscellaneous	92	92	28	64
Total City Manager	3,845	4,086	2,808	1,278
Administrative Services:				
Personnel	382	382	376	6
Internal service allocations	8	8	8	-
Contract services	7	7	7	-
Training and business expenses	2	2	-	2
Total Administrative Services	399	399	391	8
Public Safety:				
Personnel	359	359	331	28
Total Public Safety	359	359	331	28

(Continued)

CITY OF IRVINE
ORANGE COUNTY GREAT PARK OPERATIONS SPECIAL REVENUE FUND

BUDGETARY COMPARISON SCHEDULE
(CONTINUED)

For the year ended June 30, 2017
(amounts expressed in thousands)

	Budgeted Amount			Variance with Final Budget Positive
	Original	Final	Actual	(Negative)
Public Works:				
Personnel	$ 739	$ 739	$ 639	$ 100
Supplies	151	151	55	96
Internal service allocations	30	30	30	-
Contract services	3,129	3,145	1,205	1,940
Training and business expenses	6	6	-	6
Utilities	463	463	240	223
Capital equipment	2	2	-	2
Total Public Works	4,520	4,536	2,169	2,367
Community Development:				
Personnel	71	71	25	46
Supplies	3	3	1	2
Contract services	606	606	222	384
Total Community Development	680	680	248	432
Community Services:				
Personnel	2,552	2,552	2,094	458
Supplies	215	215	173	42
Internal service allocations	673	673	673	-
Contract services	1,135	1,511	697	814
Training and business expenses	25	25	6	19
Capital equipment	80	80	79	1
Miscellaneous	225	225	94	131
Repairs and maintenance	7	7	1	6
Total Community Services	4,912	5,288	3,817	1,471
TOTAL EXPENDITURES	14,715	15,348	9,764	5,584
EXCESS OF REVENUES OVER EXPENDITURES	7,222	7,178	10,511	3,333

(Continued)

CITY OF IRVINE
ORANGE COUNTY GREAT PARK OPERATIONS SPECIAL REVENUE FUND

BUDGETARY COMPARISON SCHEDULE
(CONTINUED)

For the year ended June 30, 2017
(amounts expressed in thousands)

	Budgeted Amount			Variance with Final Budget Positive
	Original	Final	Actual	(Negative)
OTHER FINANCING SOURCES (USES):				
Proceeds from sale of capital assets	$ -	$ 280	$ -	$ (280)
Transfers out	-	(517)	(517)	-
TOTAL OTHER FINANCING SOURCES (USES)	-	(237)	(517)	(280)
NET CHANGE IN FUND BALANCES	7,222	6,941	9,994	3,053
FUND BALANCES, BEGINNING OF YEAR	309,427	309,427	309,427	-
FUND BALANCES, END OF YEAR	$ 316,649	$ 316,368	$ 319,421	$ 3,053

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Honorable Mayor and
Members of the City Council
of the City of Irvine
Irvine, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Governmental Auditing Standards* issued by Comptroller General of the United States, the financial statements of the Orange County Great Park Funds of the City of Irvine (the City), which include the Operations Special Revenue Fund and the Development Capital Projects Fund, as of and for the year ended June 30, 2017, and the related notes to the financial statements and have issued our report thereon dated October 31, 2017.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the City's internal control over financial reporting (internal control) as it relates to the Orange County Great Park Funds to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing an opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control related to the Orange County Great Park Funds. Accordingly, we do not express an opinion on the effectiveness of the City's internal control related to the Orange County Great Park Funds.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies, and therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as described in the accompanying schedule of findings and questioned costs, we identified certain deficiencies in internal control that we consider to be material weaknesses and significant deficiencies.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the City's financial statements will not be prevented, or detected and corrected on a timely basis. We consider the deficiency described in the accompanying schedule of findings and responses, as Finding 2017-001, to be a material weakness.

2875 Michelle Drive, Suite 300, Irvine, CA 92606 • Tel: 714.978.1300 • Fax: 714.978.7893

Offices located in Orange and San Diego Counties

Internal Control over Financial Reporting (Continued)

A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance. We consider the deficiencies described in the accompanying schedule of findings and responses, as Finding 2017-002 and 2017-003, to be a significant deficiencies.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the financial statements of the Orange County Great Park Funds are free from material misstatements, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

City of Irvine's Responses to Findings

The City's responses to the findings identified in our audit are described in the accompanying schedule of findings and responses. The City's responses were not subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we express no opinion on them.

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the City's internal control or on compliance related to the Orange County Great Park Funds. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the City's internal control and compliance related to the Orange County Great Park Funds. Accordingly, this communication is not suitable for any other purpose.

White Nelson Diehl Evans LLP

Irvine, California
October 31, 2017

CITY OF IRVINE
ORANGE COUNTY GREAT PARK FUNDS

SCHEDULE OF FINDINGS AND RESPONSES

For the year ended June 30, 2017

Finding 2017-001 – Material Weakness – Revenue Recognition

Governmental funds are accounted for on the modified accrual basis. As such, revenues are recognized only when they are measurable and available. Availability is defined as being collected within the current period or within 60 days after year-end. Those accrued revenues that are not available are recorded on the balance sheet as a deferred inflow of resources. We noted that the revenue related to a certain material receivable balance in the City's Capital Project Improvement Fund was recorded as both unearned revenue and a deferred inflow of resources on the balance sheet which resulted in an understatement of fund balance. The cause for this duplication was an incorrect prior period adjustment made in fiscal year 2015-16. We recommend that a more thorough review of capital project related reimbursements occur during the year-end closing process to ensure the accuracy of the revenue recognition related to specific capital projects.

City's Response

This was an isolated event involving a construction project with complicated cooperative agreements as well as amendments with several other agencies. Going forward all projects with multiple agreements that involve more than one agency are subject to an additional review by Fiscal Services before any billings and/or reimbursements are recorded.

Finding 2017-002 – Significant Deficiency – Construction in Progress

We identified certain capital improvement projects, where construction was completed and the projects were placed in service as of the end of the fiscal year; however, the asset values had not been transferred from the capital asset classification, "Construction in Progress" (CIP), to the appropriate capital asset category (e.g. infrastructure, improvements, etc.). As a result, the commencement of depreciation of the capital assets was delayed and the asset category balances in the capital asset note disclosures as of the end of the fiscal year were misstated. The City does perform an annual process in November each year to identify completed capital projects and has the City Council formally accept the projects as being complete. It is at this time that City adjusts the related CIP balances. Unfortunately, this practice can cause timing issues with generally accepted accounting principles. An important part of financial reporting is ensuring the accuracy of capital asset classifications and appropriately estimating the use of those capital assets in the form of depreciation expense. As these projects are completed and placed in service, the assets should be transferred to the appropriate capital asset category and depreciation of the capital assets should commence pursuant to the City's depreciation policy. We recommend that the City consider moving the timing of their annual analysis process for formally accepting the completion of capital projects to July or August so that it can coincide with the year-end financial closing process to ensure that accounting for the completed capital projects is done in accordance with generally accepted accounting principles.

Finding 2017-002 – Significant Deficiency – Construction in Progress (Continued)

City's Response

Fiscal Services follows an established capitalization practice where all Construction in Progress (CIP) projects are not capitalized or transferred into the appropriate capital asset category until the City Council approves the project closure. After discussion with the auditor, White Nelson Diehl Evans, staff will update the capital asset policy to include a section on the timing of the transfer of projects categorized as construction in progress to coincide with the requirements of generally accepted accounting principles.

Finding 2017-003 – Significant Deficiency – Contributed Capital Assets

We noted that two current year additions to the capital asset classification, Land, should have been recorded in prior years. These two additions represented the second and third installments relate to a long-term existing agreement whereby the third party was obligated to contribute land to the City for affordable housing. The Fiscal Services Division only identified the existence of this unrecorded land as a result of monitoring the minutes of recent council meetings in which discussions occurred about transferring this contributed land to the Irvine Community Land Trust. We recommend that the City departments responsible for monitoring activity related to multi-year agreements affecting City assets and obligations such as the one identified above, improve their communications with the Fiscal Services Division to ensure the timely and accurate recording of events involving the multi-year agreements.

City's Response

Fiscal Services has a standard procedure in place with Public Works to receive all donations of land, streets, parks, and other capital assets as a result of development. Staff will issue direction to guide the other departments on the proper procedure and processes for accepting and notifying Fiscal Services of the donation of capital assets.

3.4

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: 2018 CITY COUNCIL MEETING CALENDAR

City Clerk

City Manager

RECOMMENDED ACTION

Approve the proposed 2018 City Council Meeting Calendar.

EXECUTIVE SUMMARY

Presented for City Council consideration is the 2018 City Council Meeting Calendar (Attachment) that includes regular meeting dates as required by the City's Municipal Code and a proposed rescheduled meeting date due to a scheduling conflict with Rosh Hashanah. In addition, the calendar includes proposed cancellation dates (August 28 and December 25) consistent with previous City Council action to cancel or reschedule meetings when holidays and/or vacation schedules conflict with regular City Council meeting dates.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Not applicable.

ANALYSIS

Municipal Code § 1-2-101 requires that regular City Council meetings be held on the second and fourth Tuesdays of every month at 4 p.m. When the day for any regular meeting of the City Council falls on a legal holiday, no meeting shall be held on such holiday; but such meeting shall be held at the same hour on the next succeeding day which is not a holiday.

City Council meetings have been rescheduled or canceled when holidays conflicted with regular City Council meeting dates. For example, the second meeting in December has historically been canceled due to the Christmas holiday. In addition, the second meeting in August is typically canceled due to summer vacation schedules.

Staff has identified potential conflicts relative to Rosh Hashanah and Christmas holiday as follows:

Rosh Hashanah September 9-11 (begins sundown on September 9, ends at sundown on September 11)	September 11 City Council meeting
Christmas December 25 (holiday closure is Dec. 24-28)	December 25 City Council Meeting

Based on these potential conflicts, staff recommends the September 11 meeting be rescheduled to Wednesday, September 12; and consistent with past practice, recommends that the City Council cancel the August 28 and December 25 City Council meetings.

While the proposed calendar is meant to set the proposed 2018 City Council meeting dates, the City Council may cancel or add additional meetings at any time in accordance with Municipal Code and State regulations.

ALTERNATIVES CONSIDERED

The City Council may amend the 2018 City Council Meeting Calendar and provide alternative direction.

FINANCIAL IMPACT

There is no financial impact associated with the 2018 City Council Meeting Calendar.

REPORT PREPARED BY: Molly McLaughlin, City Clerk

ATTACHMENT

Attachment: 2018 City Council Meeting Calendar

2018 City Council Meeting Calendar

January

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9 CC	10	11	12	13
14	15 H	16	17	18	19	20
21	22	23 CC/GP	24	25	26	27
28	29	30	31			

February

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13 CC	14	15	16	17
18	19 H	20	21	22	23	24
25	26	27 CC/GP	28			

March

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13 CC	14	15	16	17
18	19	20	21	22	23	24
25	26	27 CC/GP	28	29	30	31

April

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4 CC	5	6	7
8	9	10 CC	11	12	13	14
15	16	17	18	19	20	21
22	23	24 CC/GP	25	26	27	28
29	30					

May

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8 CC	9	10	11	12
13	14	15	16	17	18	19
20	21	22 CC/GP	23	24	25	26
27	28 H	29	30	31		

June

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12 CC	13	14	15	16
17	18	19	20	21	22	23
24	25	26 CC/GP	27	28	29	30

July

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4 H	5	6	7
8	9	10 CC	11	12	13	14
15	16	17	18	19	20	21
22	23	24 CC/GP	25	26	27	28
29	30	31				

August

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14 CC	15	16	17	18
19	20	21	22	23	24	25
26	27	28 CC/GP	29	30	31	

September

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3 H	4	5	6	7	8
9	10	11* CC	12	13	14	15
16	17	18	19	20	21	22
23	24	25 CC/GP	26	27	28	29
30						

October

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9 CC	10	11	12	13
14	15	16	17	18	19	20
21	22	23 CC/GP	24	25	26	27
28	29	30	31			

November

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12 H	13 CC	14	15	16	17
18	19	20	21	22 H	23 H	24
25	26	27 CC/GP	28	29	30	

December

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11 CC	12	13	14	15
16	17	18	19	20	21	22
23	24 H	25 H	26	27	28	29
30	31					

CC: City Council – 4pm (2nd & 4th Tue)
GP: Orange County Great Park – 2pm (4th Tue)
* Alternate Meeting Date Proposed

ATTACHMENT

Meeting Dates
Proposed Alternate Meeting Date
Proposed Cancellation
Holidays

3.5

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: DESIGN ENHANCEMENTS TO SOFTBALL STADIUM IN THE SPORTS PARK SUBAREA OF THE ORANGE COUNTY GREAT PARK

Director, Orange County Great Park

City Manager

RECOMMENDED ACTION

Approve design enhancements to the softball stadium dugouts at the Great Park and authorize payment for the enhancements by applying $210,000 in savings realized through cost reductions elsewhere in the Sports Park.

EXECUTIVE SUMMARY

The Second Agreement with City of Irvine as Adjacent Landowner between the City of Irvine and Heritage Fields El Toro, LLC (ALA II) provided for up to $10.5 million in Additional Allowance Funds to be used for City-directed design enhancements, paid for by Heritage Fields. In September 2015, the City Council approved $5,040,000 in Additional Allowance Funds for enhancements at the Sports Park, including the conversion of six soccer fields from natural to synthetic turf. Through subsequent negotiations with the vendor, Five Point Communities (Development Manager for Heritage Fields) obtained better pricing for the synthetic turf than was previously estimated, resulting in a savings of $210,000 in Allowance Funds (contractor change order documenting savings included as Attachment 1).

As Sports Park construction has progressed, opportunities have been identified for additional improvements to the approved design. Several of these opportunities have been brought forward for City Council consideration over the last 18 months, including construction of additional storage areas and improvements to scoreboards and IT infrastructure. Five Point has now identified an opportunity to improve the dugouts at the softball stadium complex, part of Phase 3 of the Sports Park, expected to open next year. The proposed enhancements include changing from chain link fence to concrete, sinking the dugouts below field level to improve spectator line of site and expanding spectator viewing areas. Five Point has provided a detailed cost estimate and a schematic of the proposed enhancements, included as Attachments 2 and 3, respectively. The total cost for

the work is estimated to be $209,480. Staff recommends covering the cost of the upgrades to the dugouts with the aforementioned savings achieved through cost reductions for artificial turf.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Not applicable.

ANALYSIS

On November 26, 2013, the City Council approved the ALA II between the City of Irvine and Heritage Fields El Toro, LLC. The ALA II set forth the concept plans and programming for the development of 688 acres within the Orange County Great Park. The ALA II further subdivided the 688-acre Great Park Improvement Area into a number of subareas, one of which is the Sports Park. Phase 1 of the Sports Park opened in August of this year. Construction of the subsequent phases of the Sports Park is underway.

The ALA II provided for up to $10.5 million in Additional Allowance Funds for City-directed enhancements to the design of the various sub-areas of the 688-acres: Sports Park, Bosque, Upper Bee, Golf/Agriculture/Trails. At its meeting of September 8, 2015, the City Council approved the allocation of $5,040,000 in Sports Park Allowance Funds for upgrades at the Sports Park. Included in the approved enhancements was the conversion of six soccer fields in Phase 2 from natural to synthetic turf. Through negotiations with the vendor, Five Point Communities obtained better pricing for the synthetic turf, resulting in a savings of $210,000 in Allowance Funds.

As planning and construction have progressed at the Sports Park, additional design enhancement opportunities that improve park operations and enhance the visitor experience have been identified by City staff and the design team from Five Point. By implementing these enhancements now, during construction, rather than after completion, disruptions will be limited and costs can be reduced. Several of these opportunities have been brought forward for City Council consideration over the last 18 months, including construction of additional storage areas, upgraded scoreboards, and improved IT infrastructure.

Earlier this year Five Point representatives contacted City staff regarding the opportunity for softball dugout enhancements. The proposed enhancements include:

- Conversion of the dugout from chain link fence to concrete
- Lowering of the dugout floor 18-inches below field level and shifting it back towards the bleachers to improve spectator line of site
- Addition of stairs and ramps to provide access to the lowered dugout
- Addition of paving, hand rails and a concrete canopy over the dugout to improve the player experience and expand spectator viewing space
- Addition of a storage area in the dugouts for equipment

The estimated cost of the enhancements is $209,480. City staff worked with Five Point to refine the recommended enhancements so that the total cost is within the amount of the savings achieved on the artificial turf. Five Point's detailed cost estimate (Attachment 1) and a schematic of the proposed enhancements (Attachment 2) are provided for reference.

ALTERNATIVES CONSIDERED

The City Council could choose not to approve the Sports Park design enhancements and construct the dugouts as presently designed and authorized, leaving the $210,000 in synthetic turf savings for other uses. The City Council could also make modifications to the recommended enhancements as deemed appropriate.

FINANCIAL IMPACT

Additional Allowance Funds are funds provided by Heritage Fields for City-directed enhancements to the 688-acre Great Park Improvement Area. The recommended improvements to the dugouts would be paid for with $210,000 in Additional Allowance Funds saved through a reduction in the costs for City-approved enhancements elsewhere in the Sports Park.

REPORT PREPARED BY Steve Torelli, Management Analyst II

ATTACHMENTS

1. Brightview Contractor Change Proposal No. 0012, documenting $210,000 credit for savings from artificial turf
2. Detailed cost estimate for softball dugout enhancements
3. Schematic of proposed design changes to softball dugouts

BrightView Landscape Development

Contractor Change Proposal
No. 0012

TITLE:	Shaw Credit	**DATE:**	6/16/2017
PROJECT:	OCGP GMP	**JOB:**	132400
TO:	Attn: Default Contact Heritage Fields El Toro Contractor G Contractor GP Inc 25 Enterprise Ste 400 Aliso Viejo, CA 92656 Phone: 949 349-1000	**CONTRACT NO**	BUDGET

BREAKDOWN OF WORK

Item	Description of Work	Quantity	Units	Unit Price	Net Amount
00001	Shaw Credit	1.000		($210,000.00)	($210,000.00)

TOTAL: ($210,000.00)

Estimated Time Extension..... 0 days

This estimate will remain in effect for 30 days, unless otherwise noted. After expiration a new estimate will be submitted upon request.

Notes:

- ☐ 1. This work will not be done until approved and a written change order is issued.
- ☐ 2. A signature below authorizes us to proceed with the work described above, at the stated prices.
- ☐ 3. Extension of time necessary for this change: 0 consecutive working days.
- ☐ 4. This work was done in accordance with your order to proceed: please issue change order.

Prepared By: _____
Matthew Mudek
Date: _____

Approved By: _____
Default Contact
Date: _____

Form Rev. 04/18/08 SGK - f_est_01avcd

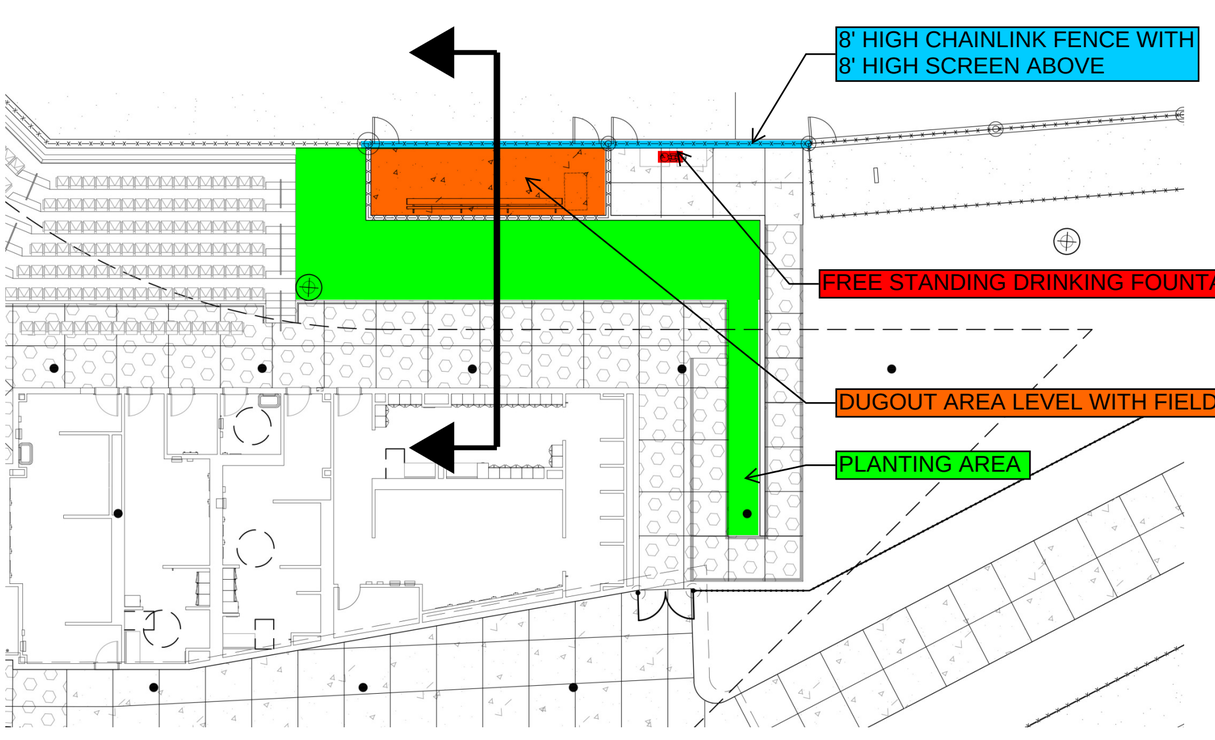
ATTACHMENT 1

Building G Dugout 11/9/17				
Description	***Quantity***	***Unit***	***Unit Price***	***Total Cost***
BRIGHTVIEW LANDSCAPE DEVELOPMENT, INC.				
Deck (concrete @ dugout)	160	SF	$86.00	$13,760.00
Stairs (entrance from field to lowered dugout)	12	LF	$165.00	$1,980.00
Additional slab on grade concrete paving, including ramp into dugout	190	SF	$12.00	$2,280.00
Low curb wall under guardrail with footing (front of dugout)	54	LF	$341.00	$18,414.00
30" rail with padding, netting (front of dugout)	54	LF	$125.00	$6,750.00
Handrail (at stairs into dugout and ramp corner of storage)	15	LF	$125.00	$1,875.00
8' Netting in lieu of Guardrail at plaza edge	18	LF	$75.00	$1,350.00
8' Chain Link Fence (interior storage wall -field facing)	19	LF	$30.00	$570.00
Chainlink Lid at Storage Area	155	SF	$10.00	$1,550.00
Deck Drain	53	LF	$55.00	$2,915.00
7' Masonry Wall dugout	665	SF	$19.00	$12,635.00
7' Masonry Wall Footing dugout	95	LF	$69.00	$6,555.00
7' Wall Waterproofing dugout	545	SF	$8.00	$4,360.00
Lighting (fixture under concrete lid and microphone provision)	1	LS	$3,500.00	$3,500.00
Masonry wall	-123	SF	$19.00	-$2,337.00
Masonry wall footing	-41	LF	$80.00	-$3,280.00
8' Chain Link Fence	-68	LF	$30.00	-$2,040.00
Design Fees	1	LS	$3,900.00	$3,900.00
sub total cost per side				$74,737.00
			BrightView Total Cost - Both Sides	**$149,474.00**
KPRS CONSTRUCTION SERVICES, INC.				
Paving - Concourse Added Concrete SF	524	SF	$17.75	$9,301.00
Paving - Additional Mobilization Labor	1	LS	$2,750.00	$2,750.00
Paving - Additional Mobilization Equipment	1	LS	$3,250.00	$3,250.00
Paving - Mark-up Additional Scope	1	LS	$2,295.15	$2,295.15
Guardrail - Al/Glass Added LF	18	LF	$125.00	$2,250.00
Guardrail - Mutliline Ramp LF	10	LF	$150.00	$1,500.00
Guardrail - Added Engineering / 2 Times	2	EA	$2,000.00	$4,000.00
Guardrail - Markup Additional Scope	1	LS	$1,162.50	$1,162.50
Ramps -Additional PIP Walls	45	LF	$215.00	$9,675.00
Ramps - Credit 6" Curb - Now PIP Wall	-45	LF	$16.00	-$720.00
Ramps - Additional Mobilization Labor	1	LS	$3,000.00	$3,000.00
Ramps - Additional Mobilization Equipment	1	LS	$3,250.00	$3,250.00
Ramps - Stadium Wall Pour Back	1	LS	$4,372.00	$4,372.00
Ramps - Markup Additional Scope	1	LS	$2,936.55	$2,936.55
Re-Grading Ramps	1	LS	$5,750.00	$5,750.00
Survey - Additional Staking Revised Grades	12	HRS	$210.00	$2,520.00
Additional Clean-up Labor	32	HRS	$79.84	$2,554.88
Additional 3 Yd Trash Bin	1	EA	$159.00	$159.00
			KRPS Total Cost - Both Sides	$60,006.08
			TOTAL COST BRIGHTVIEW & KPRS	**$209,480.08**

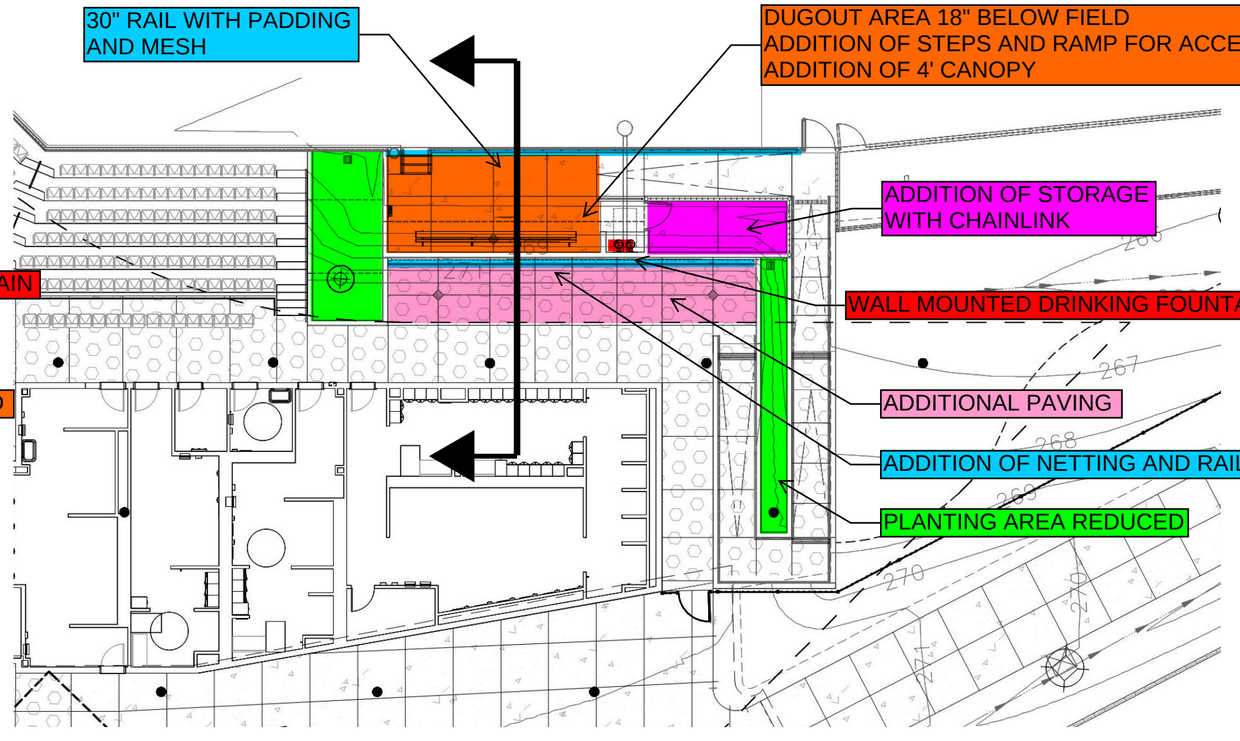
ATTACHMENT 2

Champ Softball Dugout Summary of Changes | Exhibit

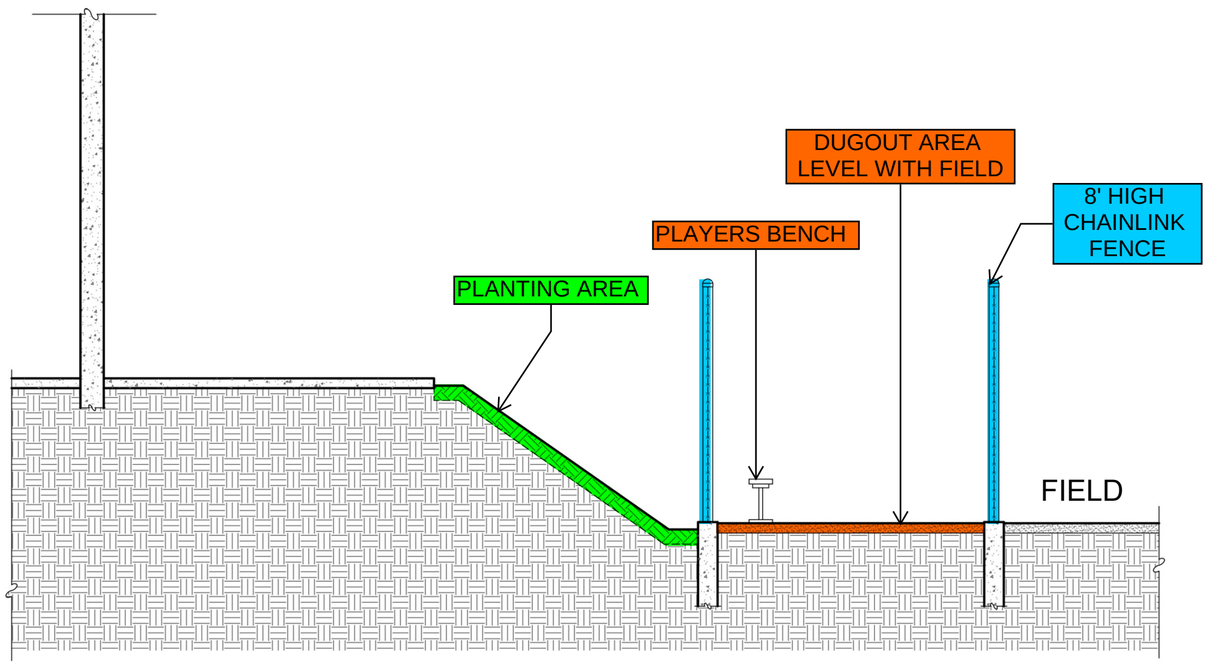
Typical Representation for 1st & 3rd Base



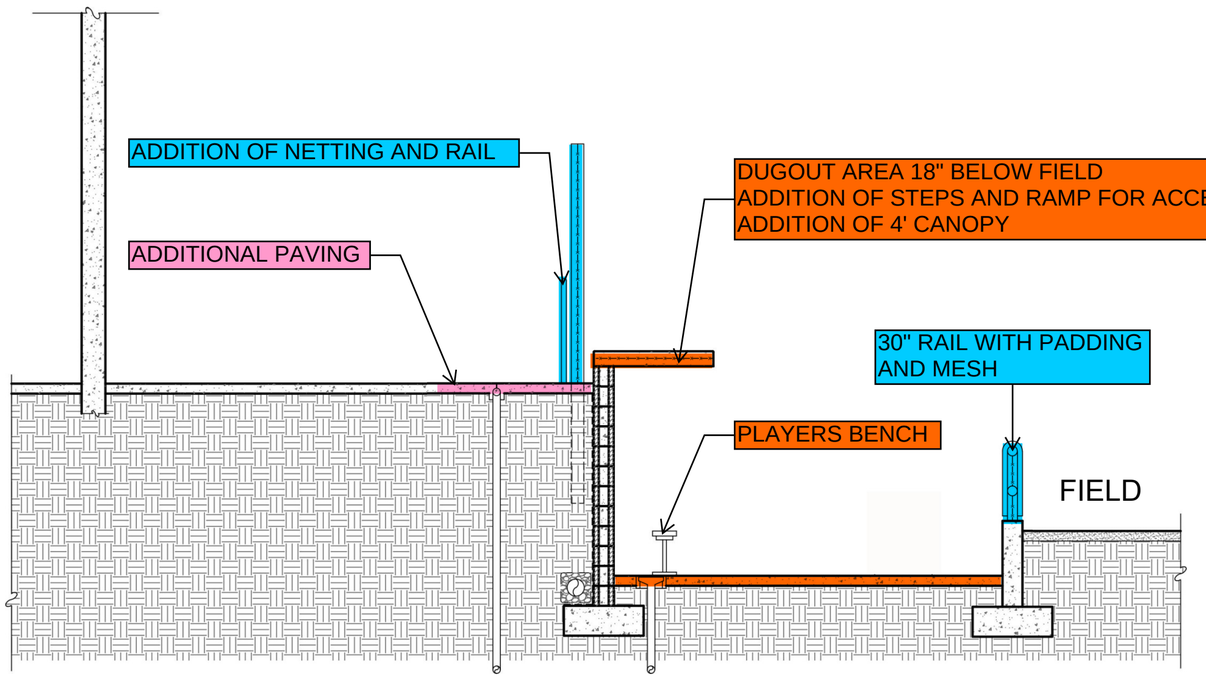
Base Original Approved - Plan



Proposed Enhanced Design - Plan



Original Approved - Section



Proposed Enhanced Design - Section

3.6

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: BUDGET ADJUSTMENT FOR CONTRACT MAINTENANCE SERVICES FOR SPORTS PARK PHASES 1, 2, 3 AND 4

Director of Public Works

City Manager

RECOMMENDED ACTION

1. Approve a budget appropriation of $931,350 from the unallocated Orange County Great Park fund balance for contract maintenance services through June 30, 2018 for the Sports Park phases 1, 2, 3 and 4.

2. Authorize the City Manager and Director of Public Works to execute corresponding maintenance service contract agreements, in accordance with City purchasing procedures, for the required maintenance services.

EXECUTIVE SUMMARY

The initial phase of the 194-acre Sports Park (Phase 1) was accepted by the City and opened for public use in August 2017. Completion of the next Sports Park phases is expected in early 2018. In anticipation of the phased implementation and City acceptance of the various Sports Park components, the City budgeted and awarded competitively bid maintenance service contracts that allow the City to incrementally incorporate portions of the Sports Park as they are accepted by the City.

Based on completion schedules provided to the City by Five Point Communities, funding was included in the Fiscal Year 2017-18 budget for contract maintenance services for those portions of the park previously anticipated to be completed by June 2018. With the acceleration of the Sports Park Phase 1 and the pending completion of the subsequent phases in early 2018, a budget adjustment is necessary to support the required maintenance functions upon City acceptance of the new improvements. Funding and budget authority for these new Sport Park phases was not included in the Fiscal Year 2017-18 budget.

The recommended budget adjustment (Attachment 1) of $931,350 will allocate funding to support the required maintenance service contracts (Attachment 2) for the new Sports Park phases through June 30, 2018. These new phases include the soccer complex, synthetic and turf fields, new basketball courts, and new baseball and softball complexes.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

The Orange County Great Park Board of Directors will consider the proposed budget adjustment and make a recommendation to the City Council at its November 28, 2017 meeting.

Unless otherwise directed by a member of the City Council, the vote on this matter will reflect the prior action of each City Councilmember when he or she sat and voted as a member of the Board of Directors of the Orange County Great Park Corporation. However, if a City Councilmember is not present at the City Council meeting, his or her vote will be reflected as absent.

ANALYSIS

The Public Works Department is responsible for maintenance of public facilities and athletic fields throughout the City, including the Orange County Great Park. These maintenance services are primarily conducted by private contractors selected through a competitive bid process. Funding for these maintenance service contracts is included as part of the annual department maintenance budget. The current fiscal year budget (Fiscal Year 2017-18), provides funding and contract authority for the following Great Park facilities:

- Western Sector
- Upper Bee and Bosque
- Sports Park Phase 1

With the anticipated completion in Spring 2018 of the next phases of the Sports Park (Phase 2, 3 and 4), the City will assume maintenance responsibility for the following new park amenities and components:

- 6 Synthetic Soccer Fields
- 4 Basketball Courts
- 5 Flex Athletic Fields
- 3 Surface Parking Lots
- 7 Baseball Fields with Championship Stadium
- 5 Softball Fields with Championship Stadium
- 80.2 Acres of Common Area Turf & Shrubs
- 1,740 Trees

Maintenance contracts are in place and available to provide the required maintenance services for these new amenities as they are turned over from Five Point Communities contractors to the City. These competitively bid contracts include unit pricing for the new Sports Park phases in anticipation of accepting the new facilities upon completion. The corresponding funding to support these new Sports Park phases was not budgeted at the time the contracts were awarded. Contract services funding for preventive maintenance functions and elevator non-warranty inspection and repair for the new Soccer Stadium and other Phase 1 components was also not included with the current Fiscal Year budget. This funding was inadvertently omitted at the time the budget was prepared.

The recommended budget adjustment of $931,350 provides the necessary funding to support the required maintenance as follows:

Phase 1 (Soccer Stadium, Tennis and Volleyball Complexes)	**$130,660**
Phase 2 (Synthetic Soccer Fields, Flex Fields, Basketball Courts)	**$315,460**
Phase 3 (Baseball Fields and Stadium)	**$338,130**
Phase 4 (Softball Fields and Stadium)	**$147,100**
TOTAL	**$931,350**

A summary of the proposed funding and contract services is included in Attachments 1 and 2. If approved by the City Council, the recommended actions will provide funding and contract authority through June 30, 2018 for maintenance of the new phases of the Sports Park as they are accepted for public use by the City.

ALTERNATIVES CONSIDERED

The Council could direct staff to solicit new competitive bids for the Sports Park contract maintenance services and return with the necessary budget request based on the bids received in lieu of exercising the option to use the existing service contracts for the required maintenance functions.

FINANCIAL IMPACT

Approval of the recommend budget adjustment will allocate $931,350 for contract maintenance services for the Sports Park. This level of funding is consistent with expenditure assumptions included in the Great Park financial forecast previously reviewed by the Great Park Board and City Council. Funding is available in the unallocated Orange County Great Park fund balance (Fund 180). The unallocated fund balance in Fund 180 is $52 million.

REPORT PREPARED BY: Jay Ponce, Senior Management Analyst

ATTACHMENTS

1. Budget Adjustment
2. Contract Maintenance Services

CITY OF IRVINE
BUDGET ADJUSTMENT REQUEST FORM

Department: Public Works
Requestor: Jay Ponce

Finance Comm. Date:
City Council Date: November 28, 2017

Finance Use Only - Batch Record Number	
GL	
JL	
Posting Date	
Posted by	/date

Approval Exception (A - O):
(see Financial Policies - Budget Adjustment)

Reason Code: 0011 Appropriate Fund Balance

Explanation for Request:

Budget Adustment for contract maintenance services for sports park phases 1,2,3,and 4.

Approvals:

Department Approval	Date	Budget Office Approval	Date
Fiscal Services Approval	Date	City Manager Approval	Date

REVENUES AND TRANSFERS-IN

Fund #	Account Number GL Org Key	GL Object Code	JL Job Key	JL Object Code	Amount Increase or (Decrease)
			Subtotal		0

EXPENDITURES AND TRANSFERS-OUT

Fund #	Account Number GL Org Key	GL Object Code	JL Job Key	JL Object Code	Amount Increase or (Decrease)
180	9159137373	4310	7185591181	4310	26,560
180	9159137373	4310		4310	6,570
180	9159137373	4310		4310	170,420
180	9157165299	4319	7185571155	4319	727,800
			Subtotal		931,350

CHANGE TO FUND BALANCE

Fund #	Account Number GL Org Key	GL Object Code	JL Job Key	JL Object Code	Amount Increase or (Decrease)
180	9100000099	2001			(931,350)
			Subtotal		(931,350)

Fund Balance Entry Required

ATTACHMENT 1

CONTRACT MAINTENANCE SERVICES

JL #	Contract Description	Existing Budget	Proposed Increase	Total Budget
7185571155	LANDSCAPE MAINTENANCE	2,306,094	727,800	3,033,894
7185591181	CUSTODIAL AND DAY PORTER SERVICES	235,000	26,560	261,560
New	NON-WARRANTY ELEVATOR MAINTENANCE AND REPAIR	0	6,570	6,570
New	FACILITY PREVENTATIVE MAINTENANCE SERVICES	0	170,420	170,420
	Total	2,541,094	931,350	3,472,444

ATTACHMENT 2

3.7

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: APPROVAL OF JEFFREY/ALTON INTERSECTION IMPROVEMENT PROJECT REPORT

Director of Public Works

City Manager

RECOMMENDED ACTION

Approve the Project Report for the Jeffrey/Alton Intersection Improvement Project and authorize staff to proceed with the final design and right-of-way project phases.

EXECUTIVE SUMMARY

The proposed intersection widening is one of several traffic capital projects approved by the City Council to address its commitment to traffic management and reducing traffic congestion on major roadways in the City. The project is also a mitigation measure included in the North Irvine Transportation Mitigation (NITM) program established to mitigate traffic impacts from anticipated development previously approved within Planning Areas in the northern part of the City. The proposed intersection widening will enhance roadway capacity to address existing traffic congestion during the morning and evening commute periods and will accommodate future forecasted traffic volumes.

A Project Report (Attachment 2) was prepared by the City's traffic consultant, Kreuzer Consulting Group, to define the project scope of work and to develop preliminary cost estimates for the implementation of the proposed intersection improvements. The report analyzed five alternatives and provides a summary of traffic analyses, right-of-way assessments, preliminary engineering plans and preliminary cost estimates. The preferred alternative (Project Report Alternative 5) proposes to widen the intersection to accommodate the addition of a new third westbound left-turn lane on Alton and converting the existing northbound free right-turn lane on Jeffrey to a standard right-turn lane. The proposed revised intersection configuration will enhance traffic flow through the intersection and will allow for improved coordination to the signal timing plans along the Jeffrey and Alton corridors.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

On August 15, 2017, the Transportation Commission reviewed the Project Report and voted 5-0, with all members present, to recommend that the City Council approve the Project Report and direct staff to proceed with the final design and right-of-way project phases.

On October 5, 2017, the Planning Commission reviewed the Project Report and accompanying environmental documents and voted 5-0, with all members present, to recommend that the City Council approve the Project Report and direct staff to proceed with the final design and right-of-way project phases.

ANALYSIS

The Jeffrey/Alton Intersection Improvement Project is one of several mitigation measures included in the NITM program. The NITM program was established in May 2003 to mitigate traffic impacts from anticipated development approved within Planning Areas 1, 5, 6, 8, 9, 40 and 51 and is expected to provide more than $185 million for infrastructure improvements throughout the City.

The proposed improvements at Jeffrey/Alton will widen the intersection to:

- Add a new third westbound left-turn lane from Alton to southbound Jeffrey
- Extend the existing southbound dual left-turn pockets
- Restripe the existing southbound through curb lane to provide a de-facto right-turn lane from southbound Jeffrey to westbound Alton
- Convert the existing northbound free right-turn lane on Jeffrey to a standard right-turn lane to eastbound Alton
- Widen Alton along the southerly curb lane, within existing right-of-way, to realign the existing travel lanes and on-street bicycle lane with the new intersection configuration

In August, 2015, the Planning Commission considered several alternatives for the proposed intersection improvements. The Woodbridge Village Association (WVA), located westerly of the intersection, expressed concerns (primarily with changes to existing landscaping and potential increase in noise) with the proximity of the then proposed improvements to its residential neighborhoods. In an effort to address these concerns, the Planning Commission established a Subcommittee, consisting of Commissioners Bartlett and Smith, to work with staff and WVA board members to address WVA's concerns. This effort led to the refinement of a project alternative listed as Alternative 5 in the Project Report (Attachment 2). The WVA supports the new Alternative 5 as indicated in its letter dated December 13, 2016 (Attachment 3).

The recommended Alternative 5 will require a temporary construction easement from the adjacent property owner (Irvine Company) at the southwest quadrant of the intersection, but does not require property acquisition or impact the frontage improvement of the WVA community. All disturbed landscape areas will be replaced with plant materials similar in kind. The Irvine Company is the property owner of the two adjacent shopping centers and is supportive of the proposed improvements.

Staff also provided notice of the proposed improvements to the adjacent property owners in the Oak Creek Village development at the southeast quadrant of the intersection. Staff received one resident inquiry by phone and provided project

information to the resident in response to questions about the project noise study. There have been no other inquiries or responses to the project notices.

If the City Council approves the Project Report, staff will immediately initiate the final design and right-of-way project phases. Construction plans are anticipated to be ready for consideration by the City Council in late 2018 with construction activity beginning in early 2019.

ENVIRONMENTAL REVIEW

Pursuant to Section 4 of the City of Irvine California Environmental Quality Act Procedures and Article 19 of the State of California CEQA Guidelines, the proposed project has been determined to be categorically exempt from the requirements of CEQA under State Guideline Section 15301(c), Class I Existing Facilities.

ALTERNATIVES CONSIDERED

The City Council can recommend that additional project features be incorporated into the proposed project as deemed appropriate, or may direct staff to defer the project to a future date. Deferring the proposed project is not recommended because the improvements satisfy a mitigation measure from the NITM program and will improve traffic circulation through this intersection.

FINANCIAL IMPACT

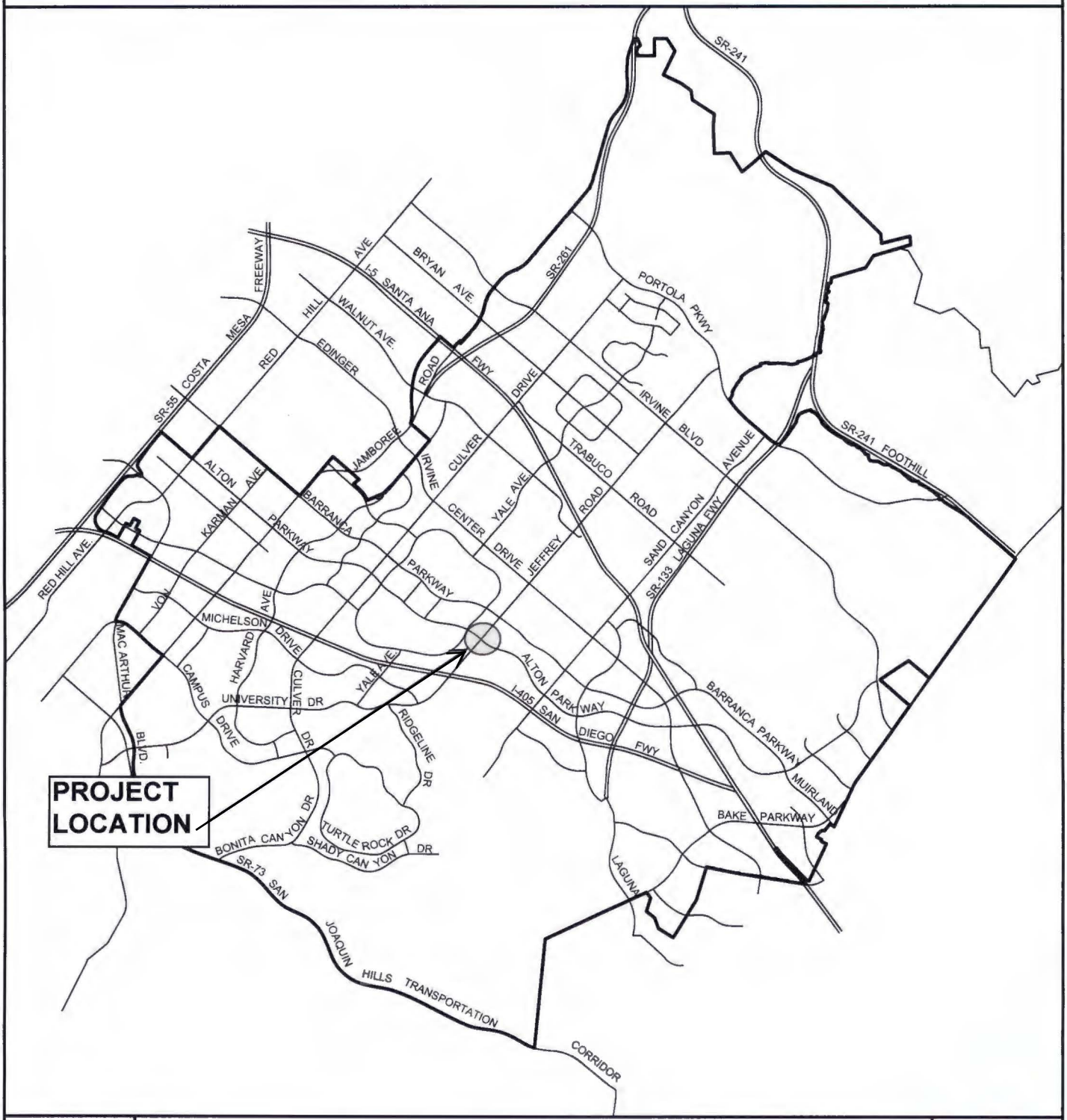
Project expenditures to date for the preparation of the Project Report and Preliminary Engineering Plans total $230,000. The preliminary estimated project cost for the final design and construction is $1.9 million. This estimate will be updated with the preparation of final construction plans. Funding for all phases of this project is available in the City Council approved CIP 311406 from the City's NITM fee program.

REPORT PREPARED BY Uyenly Bui, Senior Civil Engineer

ATTACHMENTS

1. Vicinity Map
2. Project Report by Kreuzer Consulting dated July 2017
3. Letter from Woodbridge Village Association

JEFFREY/ALTON INTERSECTION IMPROVEMENT



VICINITY MAP

CITY OF IRVINE

ATTACHMENT 1

PROJECT REPORT

FOR THE

JEFFREY / ALTON
INTERSECTION IMPROVEMENT PROJECT

LEAD AGENCY:

ONE CIVIC CENTER PLAZA
IRVINE, CA 92623-9575

PREPARED BY:

320 MAIN STREET, UNIT D
SEAL BEACH, CA 90740

CONTACT:

RICK KREUZER, PE
PROJECT MANAGER
714-656-0160

JULY 2017

ATTACHMENT 2

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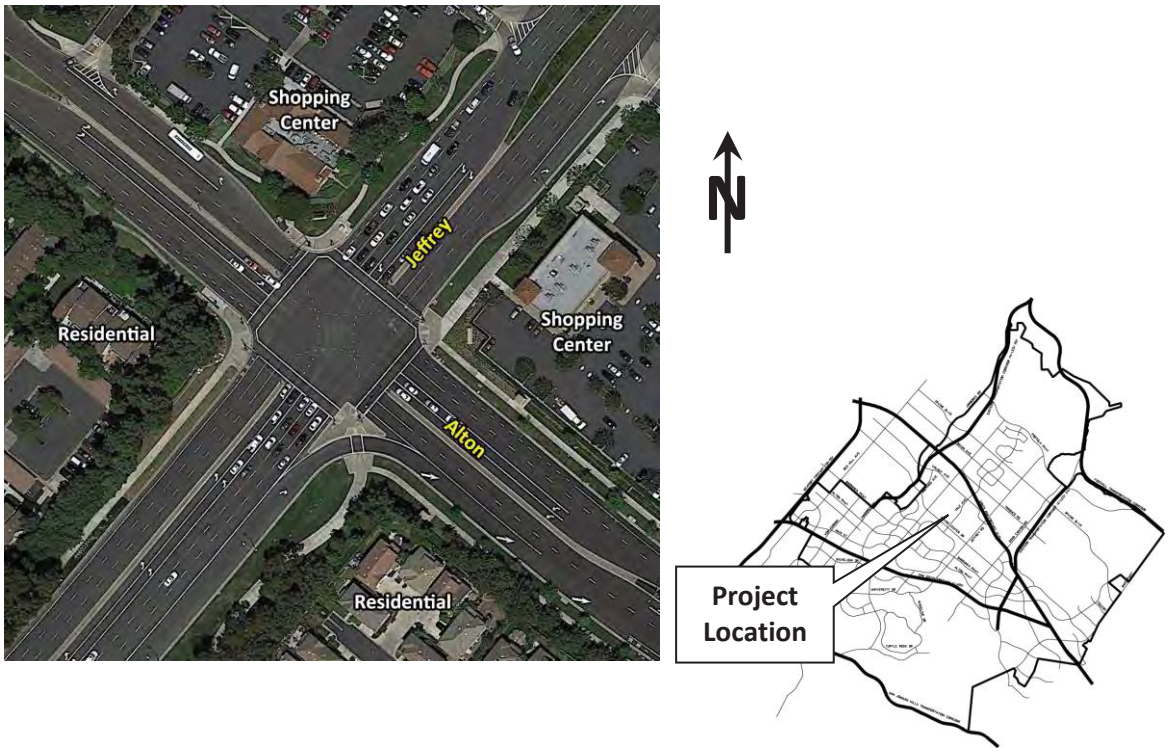
Attachment A – Alternative 5 (Preferred Alternative) Layout
Attachment B – Alternatives 1, 2, 3 and 4 Layouts
Attachment C – Traffic Analysis Memorandum
Attachment D – Existing Utility Plan and Prior Rights Summary
Attachment E – Project Cost Estimates
Attachment F – Landscape Concept Plan
Attachment G – Conceptual Drainage Plan and Hydrology / Hydraulic Study
Attachment H – Preliminary Water Quality Management Plan
Attachment I – Preliminary Plans (Preferred Alternative)
Attachment J – Preliminary Geotechnical Evaluation
Attachment K – Enviromental Document (CE)

I. INTRODUCTION

The intersection of Jeffrey Road and Alton Parkway is located in the southern portion of the City as shown in Figure 1 below. The south leg of Jeffrey is bordered by residential uses. The southwest quadrant of the intersection is the community of Woodbridge and the southeast quadrant is the community of Oak Creek. The north leg of Jeffrey is bordered by commercial centers on both sides. In the northwest quadrant of the intersection is the Alton Square Shopping Center and the shopping center on the northeast corner is the Oak Creek Village Center. These shopping centers are bordered on the north by the San Diego Creek Channel, a major flood control facility.

Jeffrey Road is a north-south arterial street providing access to Interstate 405 (I-405) and Interstate 5 (I-5). Alton Parkway runs east-west and provides access to State Route 133 (SR-133) and Interstate 405 (I-405). Alton Parkway also provides access to State Route 55 (SR55) to the west via Red Hill Avenue and MacArthur Boulevard. The Jeffrey/Alton Intersection Improvement Project proposes to reduce traffic congestion at the intersection and improve traffic operations.

FIGURE 1 - VICINITY MAP



The proposed intersection project consists of adding a third westbound left turn lane on Alton Parkway and a defacto right turn lane for southbound Jeffrey Road.

II. BACKGROUND

A. PROJECT HISTORY

The North Irvine Transportation Mitigation Program (the "NITM Program") was established for the purpose of providing funding for the coordinated and phased installation of traffic and transportation improvements required under CEQA documents previously certified and adopted by the City in connection with land use entitlements for City Planning Areas 1, 2, 5, 6, 8, 9, 30, 40 and 51.

The Jeffrey/ Alton Intersection Improvement Project is one of the mitigations identified in the NITM List of Improvements. The project improvements will reduce traffic congestion at the intersection and improve traffic operations.

B. PREVIOUS COMMUNITY INTERACTION

The NITM program is managed by the North Irvine Transportation Mitigation Advisory Committee. Committee meetings are held on a regular basis and are open to the public pursuant to California Government Code Section 54954.2 of the Brown Act.

III. EXISTING FACILITY

A. JEFFREY ROAD

In the northbound direction, Jeffrey Road currently has 2 left turn lanes, 3 through lanes and a free right turn lane. The left turn lanes are 10 feet wide, the #1 and #3 through lanes are 12 feet wide, the #2 through lane is 11 feet, the bike lane is 6 feet wide and the free right turn lane is 26 feet wide. The half street width from centerline to curb face is 78 feet. The parkway is extremely wide and consists of a 12 foot wide meandering sidewalk surrounded by turf, ground cover and mature trees.

In the southbound direction, Jeffrey Road has 2 left turn lanes, 3 through lanes and a bike lane. The left turn lanes are 10 feet wide, the #1 through lane is 12 feet wide, the #2 and #3 through lanes are 11 feet wide and the bike lane is 7 feet wide. The half street width from centerline to curb face is 48 feet. The parkway width is 18 feet and consists of a meandering 5 foot wide sidewalk surrounded by turf and trees

Jeffrey Road is divided by a raised median with landscape throughout the project limits. Record drawings indicate that the existing roadway section along Jeffrey Road is 0.35' AC over 1.10' AB.

Figure 2 on the following page depicts the existing roadway conditions on Jeffrey Road.

B. ALTON PARKWAY

In the eastbound direction, Alton Parkway consists of 2 left turn lanes, 2 through lanes and a bike lane. The #2 through lane functions as a de-facto right turn lane at the intersection. The left turn lanes are 10 feet wide, the #1 through lane is 13 feet wide, the #2 through lane is 12 feet wide and the bike lane is 8 feet wide. The half street width from centerline to curb face is 45 feet. The parkway is extremely wide and consists of a 5 foot wide meandering sidewalk surrounded by turf, ground cover and mature trees.

In the westbound direction, Alton Parkway has 2 left turn lanes, 2 through lanes and a bike lane. The #2 through lane functions as a de-facto right turn lane at the intersection. The left turn lanes are 10 feet wide, the #1 through lane is 13 feet wide, the #2 through lane is 12 feet wide and the bike lane is 8 feet wide. The half street width from centerline to curb face is 45 feet. The parkway width is 18 feet and consists of a curb adjacent landscape strip with a 6 foot sidewalk behind the planted area. Alton Parkway is divided by a raised median with landscape throughout the project limits.

Figure 2 on the following page depicts the existing roadway conditions on Alton Parkway.

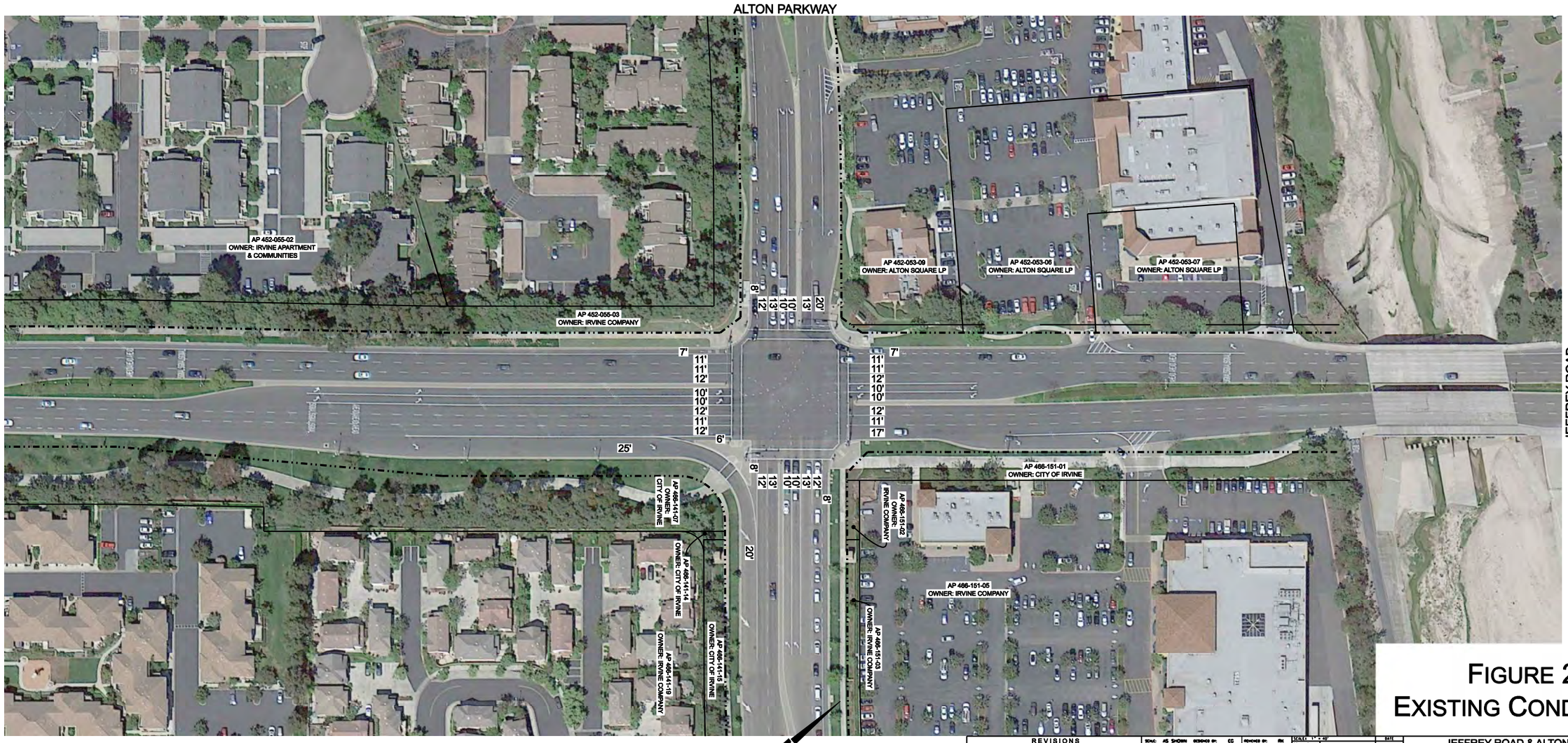


FIGURE 2
EXISTING CONDITIONS

SCALE: 1"= 40'
0 1 2
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

PREPARED BY:
KC Engineering Group
320 MAIN STREET UNIT D SEAL BEACH, CA 90740 714-454-0160

REVISIONS				
NO.	DATE	DESCRIPTION	ENGR.	APPROV.

SCALE: AS SHOWN DESIGNED BY: EG REVIEWED BY: RK
PLAN PREPARED BY: R.A. Kreger
RICK KREGER 42407 Exp. 6/30/15 CIVIL STATE OF CALIFORNIA
42407 R.C.E. No. 2/9/2015 DATE

SCALE: 1" = 40'
DRAWN BY
CHECKED BY
APPROVED
APPROVED
DATE

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
EXISTING CONDITIONS
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

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C. EXISTING AND ADJOINING USES AND FACILITIES

As depicted in the City's General Plan, Jeffrey Road bisects 2 Planning Areas at this intersection location. To the west of Jeffrey Road is Planning Area 15 (Woodbridge) and to the east of Jeffrey Road is Planning Area 12 (Oak Creek).

The following uses are adjacent to the project:

Location	Use	Land Use Designation
N/W Quadrant	Alton Square Center	Community Commercial
N/E Quadrant	Oak Creek Village Center	Neighborhood Commercial
S/E Quadrant	Oak Creek Residential	Medium/High Density Residential
S/W Quadrant	Woodbridge Residential	Medium Density Residential

The commercial centers both have driveway access from Jeffrey Road as well as Alton Parkway. The residential uses in the southwest and southeast quadrants of the intersection do not take access from either Jeffrey Road or Alton Parkway within the limits of the proposed project.

IV. TRAFFIC DATA

A. EXISTING (2013) TRAFFIC CONDITIONS

A traffic analysis was conducted by Stantec using the Intersection Capacity Utilization (ICU) method. All traffic data used was based on available data at the time Stantec was authorized to start the study on March 26, 2016. The Stantec study analyzed existing (2013) conditions, interim year (2017) No Build and Build conditions, and future year (post-2035) No Build and Build conditions for the project and identified the change in level of service (LOS), if any, for the proposed improvements.

Under the 2013 conditions, the Jeffrey Road/Alton Parkway intersection operates at acceptable levels of service C and D for the AM and PM peak hours respectively, summarized as follows:

TABLE 1 - EXISTING CONDITION (2013) INTERSECTION ANALYSIS

Condition	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Existing Conditions (2013)	0.77	C	0.78	D

B. 2017 INTERIM TRAFFIC CONDITIONS (BUILD AND NO BUILD)

The intersection of Jeffrey/Alton is an approved Advanced Transportation Management Strategies location. As such, this location is eligible for a 0.05 reduction in the ICU value when the intersection becomes deficient.

In the interim no build condition, year 2017, the Jeffrey Road/ Alton Parkway intersection will operate at a level of service E for the AM peak hour and LOS D for the PM peak hour, summarized as follows:

TABLE 2 - INTERIM NO-BUILD CONDITION (2017) INTERSECTION ANALYSIS

Condition	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Interim Conditions (2017)	0.91	E	0.84	D

ICU reflects application of 0.05 ATMS Credit

As shown in Table 2, the AM peak hour ICU will be an unacceptable LOS E if intersection improvements are not implemented.

The Build Condition (2017) analysis was conducted assuming the addition of a third westbound left turn lane on Alton Parkway and sufficient width on the north leg for the implementation of a southbound de facto right turn lane. In addition, the northbound free right turn on northbound Jeffrey Road will be reconstructed as a standard right turn lane. With these improvements, the intersection will operate at an acceptable LOS D in the AM peak hour and LOS C in the PM peak hour for the future build condition, summarized as follows:

TABLE 3 - INTERIM BUILD CONDITION (2017) INTERSECTION ANALYSIS

Condition	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Interim Conditions (2017)	0.83	D	0.77	C

ICU reflects application of 0.05 ATMS Credit

C. POST-2035 TRAFFIC CONDITIONS (BUILD AND NO BUILD)

For the No Build condition (post-2035), the intersection will operate at an unacceptable LOS E in both the AM and PM peak hours, summarized as follows:

TABLE 4 - FUTURE NO BUILD CONDITION (POST-2035) INTERSECTION ANALYSIS

Condition	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
No Build (post-2035) Condition	0.98	E	0.92	E

ICU reflects application of 0.05 ATMS Credit

The Build Condition (post-2035) analysis was conducted assuming the addition of a third westbound left turn lane on Alton Parkway and sufficient width on the north leg for the implementation of a southbound de facto right turn lane. In addition, the northbound free right turn on northbound Jeffrey Road will be reconstructed as a standard right turn lane. With these improvements, the intersection will operate at an acceptable LOS D in both the AM and PM peak hours for the future build condition, summarized as follows:

TABLE 5 - FUTURE BUILD CONDITION (POST-2035) INTERSECTION ANALYSIS

Condition	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Build (post-2035) Condition	0.89	D	0.82	D

ICU reflects application of 0.05 ATMS Credit

For more detailed information, refer to the Traffic Analysis Memorandum contained in Attachment C.

<u>No Project Alternative</u>

The No Project Alternative would be the existing condition. Without the proposed improvements, the traffic analysis shows that the Jeffrey/ Alton intersection currently operates at an acceptable Level of Service. However, without the proposed improvements, the intersection will degrade to an unacceptable LOS E in both the interim (2017) and future (post-2035) conditions.

Preferred Alternative

The proposed improvements for the Jeffrey Road/Alton Parkway intersection include the following:

- Add a third westbound left turn lane on Alton Parkway
- Provide southbound de facto right-turn lane on Jeffrey Road
- Convert northbound free right turn on Jeffrey Road to a standard right turn
- Maintain on-street bike lanes

These improvements will reduce traffic congestion at the intersection and will improve traffic operations from an unacceptable LOS E to an acceptable LOS D in both the AM and PM peak hours for the future (post-2035) condition.

The traffic data and analyses for the project alternatives are summarized in the Traffic Analysis Memorandum contained in Attachment C.

There is not any permanent right of way acquisition required for the preferred alternative. However, a Temporary Construction Easement (TCE) will be required on the Southwest corner to facilitate match work.

V. DEFICIENCIES AND JUSTIFICATIONS

Currently, the Jeffrey Road/Alton Parkway intersection operates at an acceptable Level of Service (D or better) in the AM and PM peak hours. This will not be the case in the future if project improvements are not implemented. Without any improvements, the intersection operations will eventually degrade to an unacceptable LOS E in both the AM and PM peak hours in post-2035.

With the proposed project improvements identified herein, the interim (2017) and future (post-2035) operation of the intersection will maintain an acceptable LOS D or better in both the AM and PM peak hours.

VI. PROJECT DESCRIPTION

A. PROPOSAL AND ALTERNATIVES

The proposed improvements to the Jeffrey Road/ Alton Parkway intersection will reduce traffic congestion and improve operations. The proposed improvements will meet design criteria established by the City of Irvine Transportation Design Procedures (TDP), except as noted. Non-standard features are covered more thoroughly in Part C of this section.

A total of 5 build alternatives were developed for the subject intersection. They were each evaluated from a traffic operations perspective and project costs were generated for each alternative. After this review, only three build alternatives were carried forward that met LOS D or better. The remaining 2 alternatives, as described in Section 4 herein, did not satisfy this criteria and were eliminated from further consideration. The 3 build alternatives considered for implementation are described as follows:

1. ALTERNATIVE 5 (PREFERRED ALTERNATIVE)

This alternative proposes to add a third westbound left turn lane on Alton Parkway. In addition, sufficient width will be provided on the north leg of Jeffery Road for the implementation of a southbound de-facto right turn lane at the intersection and the free right turn lane for northbound Jeffrey road will be reconstructed as a standard right turn lane. On-street bike lanes will remain.

The design impacts for Alternative 5 are as follows:

- Lane widths will remain the same as existing conditions on Jeffrey Road and Alton Parkway.
- New pavement, curb and gutter, sidewalk and pedestrian ramps.
- Lengthen the southbound Jeffrey Road left turn pocket by approximately 105 feet.
- Reconstruct a portion of the landscaped median on the north leg of Jeffrey Road.
- Reconstruct a portion of the landscaped median on the east leg of Alton Parkway.

- Remove and replace existing trees and ground cover in the Jeffrey Road median, north of the intersection.
- Protect in place existing monument signs at the southwest (Woodbridge) and northwest (Alton Square) corners of the intersection.
- Modify the existing traffic signal at the intersection.
- Adjust and/or relocate various utility features (manholes, valves, vaults, etc.)
- Install Filterra biofiltration system inlet at the south end of the project on the west side of Jeffrey Road for storm water quality purposes.
- Relocation of existing street lighting, as required.
- Replace meandering sidewalk in Alton south parkway with a variable width sidewalk. Grade 2:1 slope behind new sidewalk and replant with ground cover/turf and modify irrigation as required.

Attachment A contains the geometric alignment plan for Alternative 5. Attachment I contains preliminary plans for this preferred alternative.

2. ALTERNATIVE 3

Alternative 3 represents a second Build Alternative developed which also satisfied LOS objectives for the project. This alternative proposes to add a fourth southbound through lane on Jeffrey Road. In addition, sufficient width will be provided for the implementation of a southbound de-facto right turn lane at the intersection. On-street bike lanes will remain.

The design impacts for Alternative 3 are as follows:

- Through lane widths will remain the same as existing conditions which are 12' wide #1 and #4 through lanes, 11' wide for the other through lanes and a 7' wide bike lane.
- New pavement, curb and gutter, sidewalk and pedestrian ramps.
- Add a variable height (1'-2') concrete slough retaining wall in the southwest quadrant of the intersection to support the elevated landscape area adjacent to the widened Jeffrey Road.
- Reconstruct driveway entrance to Alton Square Shopping Center along southbound Jeffrey, north of Alton.

- Lengthen the southbound Jeffrey Road left turn pocket by approximately 105 feet.
- Reconstruct a portion of the landscaped median on the north leg of Jeffrey Road.
- Remove existing eucalyptus trees in the Jeffrey Road west parkway south of the intersection and replace the removed trees in areas deemed feasible during final design. Replace disturbed ground cover and irrigation.
- Remove and replace existing trees and ground cover in the Jeffrey Road median and west parkway north of the intersection.
- Protect in place existing monument signs at the southwest (Woodbridge) and northwest (Alton Square) corners of the intersection.
- Modify the existing traffic signal at the intersection.
- Adjust and/or relocate various utility features (manholes, valves, vaults, etc.)
- Construct new catch basins at new curb locations and extend lateral pipe connections to join the existing laterals.
- Install 2 Filterra biofiltration system inlets at the south end of the project on the west side of Jeffrey Road for storm water quality purposes.
- Relocation of existing street lighting, as required.

These improvements will require minor right of way acquisitions from The Irvine Company and the Alton Square shopping center. Temporary construction easements will be required from these owners as well to facilitate construction. A layout for Alternative 3 is contained in Attachment B.

3. ALTERNATIVE 4

Alternative 4 represents a third Build Alternative developed which also satisfied LOS objectives for the project. This alternative proposes to construct the same improvements on Jeffrey Road as Alternative 3. In addition, Alternative 4 includes the construction of a new eastbound right turn lane on Alton Parkway. The design impacts for Alternative 4 will be the same as Alternative 3 with some additional impacts on Alton Parkway, noted as follows:

- Replace meandering sidewalk in Alton south parkway with a curb adjacent 5' wide sidewalk.

- Grade 2:1 slope behind new sidewalk and replant with ground cover/ turf and modify irrigation as required.

A layout for Alternative 4 is contained in Attachment B.

4. ADDITIONAL ALTERNATIVES CONSIDERED

Two additional alternatives were considered, summarized as follows:

Alternative 1
- Convert NB free right on Jeffrey to standard right turn lane
- SB de-facto right on Jeffrey
- Add third EB through lane on Alton

Alternative 2
- Convert NB free right on Jeffrey to standard right turn lane
- SB de-facto right on Jeffrey
- 3rd EB through on Alton
- EB right on Alton

Each of these alternatives were analyzed from a traffic operations perspective for the future (post-2035) condition, summarized as follows:

TABLE 6 - INTERSECTION ANALYSIS FOR OTHER ALTERNATIVES CONSIDERED

Alternative	Condition	AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
1	Build Out (post-2035)	0.95	E	0.82	D
2	Build Out (post-2035)	0.92	E	0.82	D

ICU reflects application of 0.05 ATMS credit

Layouts for Alternatives 1 and 2 are also enclosed in Attachment B.

5. SELECTION OF PREFERRED ALTERNATIVE

Alternative 5 has been designated as the Preferred Alternative for this project.

As stated, the difference between Alternative 3 and 4 is that Alternative 3 proposes a 4th southbound through lane on Jeffrey Road while Alternative 4 expands upon this improvement by adding an eastbound right turn lane on Alton Parkway. Alternative 5 (Preferred Alternative) achieves level of service objectives by constructing a third westbound left turn lane on Alton Parkway in lieu of the additional southbound 4th through lane on Jeffrey Road as proposed under Alternatives 3 and 4.

Alternative 5 is recommended as the preferred alternative because it was deemed to deliver the best value in terms of operational efficiency in the interim (2017) and ultimate build out (post-2035) conditions while minimizing impacts to the Woodbridge community frontage in the southwest quadrant of the intersection. The following summarizes the three Build Alternatives in terms of operational efficiency and cost.

TABLE 7 - POST-2035 INTERSECTION ANALYSIS FOR BUILD ALTERNATIVES

Alternative	AM Peak Hour		PM Peak Hour		Estimated Cost
	ICU	LOS	ICU	LOS	
3	0.85	D	0.87	D	$2.03 M
4	0.82	D	0.82	D	$2.81 M
5	0.89	D	0.82	D	$1.88 M

ICU reflects application of 0.05 ATMS credit

Although Alternative 4 has a slightly lower ICU in both the AM and PM at project build out, the project cost increase of $930K from Alternative 5 ($1.88M) to Alternative 4 ($2.81M) did not provide enough justification, from a cost benefit perspective, to consider Alternative 4 as the Preferred Alternative. When comparing Alternative 3 with Alternative 5, Alternative 5 delivers a lower ICU in PM peak hour but a higher ICU in the AM peak hour, effectively neutralizing these alternatives from a traffic operation perspective. From a cost perspective, Alternative 5 ($1.88M) is less costly than Alternative 3 ($2.03M) by $150 K. Alternative 5 provides the most cost-effective improvement in Level of Service and traffic operation with existing and future forecast traffic volumes, requires no right of way acquisition and no impact to Woodbridge Village Association frontage and is considered the most feasible for implementation. As such, Alternative 5 was selected as the Preferred Alternative.

B. MATERIAL ALTERNATIVES AND RESTRICTIONS

The proposed intersection improvements will include construction of new pavement, sidewalk, curb ramps, and some minor restoration of existing landscaping. For purposes of this Project Report, we have included provisions for a roadway structural section of 0.35 AC'/ 1.10' AB for Jeffrey Road and Alton Parkway. This matches the existing roadway

section for Jeffrey Road depicted on the as-built record drawings. This structural section may be revised as recommended in the final geotechnical report which will be completed in the future final design phase of the project.

C. NON-STANDARD DESIGN FEATURES / VARIANCES

The City's Master Plan of Arterial Highways designates Jeffrey Road as a Major Highway (6 lanes). Alton Parkway at this location is designated as a Primary Highway.

The key standards for a Major Arterial Highway are set forth on City Standard Plan No. 101, are summarized as follows:

- Design Speed: 60 mph
- Centerline Curve Radius: 2,470 foot minimum
- ADT Volume: 33,900 to 50,600

The key standards for a Primary Arterial Highway are set forth on City Standard Plan No. 102, summarized as follows:

- Design Speed: 55 mph
- Centerline Curve Radius: 1,880 foot minimum
- ADT Volume: 22,500 to 33,600

Our proposed project improvements are based upon maintaining the posted speed on Jeffrey Road at 50 mph and utilizing a design speed of 55 mph.

For Alton Parkway, the existing posted speed on both legs of the intersection is 50 mph. The proposed improvements on Alton Parkway will maintain this current condition.

We are proposing to utilize minimum lane widths in some locations as outlined in the City of Irvine Transportation Design Procedures, "TDM-8 Lane Widths", summarized as follows:

TABLE 8 - CITY OF IRVINE TRANSPORTATION DESIGN PROCEDURES, "TDM-8 LANE WIDTHS"

Lane	Minimum
Through lane adjacent to raised or striped median	12 feet

Through lane	11 feet
Left turn	10 feet
Curb lane (with a bicycle lane)	17 feet (12 feet vehicle, 5 feet bike lane)
Curb lane (without a bicycle lane)	12 feet
Bicycle lane	5 feet

It is important to note that all of these minimums listed in Table 8 above, with the exception of 5' wide bike lanes, currently exist within the project limits today.

D. UTILITIES

1. MAJOR UTILITIES

There are various utilities located within the project limits. These facilities are depicted on the Utility Plan enclosed in Attachment D to this document. All utilities have been identified through records research and information provided by the utility companies and the City. The following summarizes the project impacts to existing utilities within the project limits:

TABLE 9 - EXISTING UTILITIES AND PROJECT IMPACTS

Owner	Utility	Location	Adjustment Required	Relocation Required	Description
MWD	60" Water	Jeffrey	No	No	
LBCWD	42" Water	Jeffrey	No	No	
Verizon	Telephone	Jeffrey	Yes	No	Adjust manhole to grade
IRWD	12" Irrigation	Jeffrey	No	No	
IRWD	33" Sewer	Jeffrey	No	No	
IWRD	30" Reclaimed Water	Jeffrey	No	No	
IRWD	4" Irrigation	Jeffrey	No	No	
IRWD	16" Reclaimed Water	Jeffrey	No	No	
IRWD	24" Water	Jeffrey	Yes	No	Adjust water valves to grade

Owner	Utility	Location	Adjustment Required	Relocation Required	Description
IRWD	14" Irrigation	Jeffrey	No	No	
SCE	Electrical	Jeffrey	Yes	Yes	Adjust manholes; Relocate vents and pull boxes
SCG	3" Gas	Jeffrey	No	Yes	Adjust valves to grade
SCG	6" Gas	Jeffrey	No	No	

Overland, Pacific and Cutler (OPC) completed preliminary prior rights research regarding the project utilities within the project area. This research determined that all of the existing facilities, with the exception of the existing street lighting, are in Jeffrey Road and Alton Parkway under franchise agreements. As such, the costs for all adjustments and relocations required will be borne by the utility service providers with the exception of new street light conduit and pole relocations which will be borne by the project. A summary of OPC's Utility Prior Rights research is also enclosed in Attachment D.

The City will coordinate with the appropriate utility service providers during the PS&E phase of the project, and prior to the initiation of construction activities. All modifications deemed necessary to utilities in franchise will be performed by the parent utility company as per the franchise agreement.

2. DRAINAGE AND WATER QUALITY

Drainage within the project limits is captured by 7 catch basins. There are 2 inlets (1 on each side of the street) on Jeffrey which are in a low point approximately 800' s/o Alton. These inlets drain the area between Alton and Interstate 5. The south leg of Jeffrey drains to this location. Storm water on the east leg of Alton is captured by 2 basins at a low point approximately 200 feet east of the intersection. On the west leg of Alton, flow drains westerly to catch basins at the East Yale Loop intersection. On the north leg of Jeffrey, street flow is from north to south. There are catch basins on either side of the street just north of the intersection which pick up these flows. All of these flows are conveyed via underground pipes to a mainline pipe which outlets to San Diego Creek which is just north of the project area.

The proposed project improvements will not impact these existing drainage facilities.

Preliminary Hydrology/ Hydraulics Report for the project are enclosed in Attachment G to this Project Report.

With regard to water quality, the proposed NPDES BMP improvements consist of constructing a new Filterra Bioretention System on the west side of Jeffrey Road approximately 600 feet south of the Alton intersection. This is addressed in detail in the Preliminary Water Quality Management Plan (WQMP) for the project which is contained in Attachment H of this Project Report.

E. LANDSCAPING & IRRIGATION

Jeffrey Road existing landscaping consists of the following:

- West side parkway south of Alton- Eucalyptus trees in a curb adjacent sloped planting area with ground cover understory.
- West side parkway north of Alton- Jacaranda trees with turf below.
- Raised medians- Jacaranda trees with ground cover understory.

The proposed landscaping improvements will consist of removing and/or replacing disturbed areas with similar type of trees and plant materials. The raised median on the south leg of Jeffrey Road will not be impacted and landscaping will remain as is. The raised median island north of the intersection will be reconfigured slightly resulting in the removal of 3 Jacaranda trees. One new tree will be replanted in the new median area.

These proposed plantings are suggestions only. A final determination of tree and ground plane planting materials will be made during final design based upon coordination with City staff and affected property owners.

F. CONFORMANCE WITH GENERAL PLAN AND ZONING CODE STANDARDS

The proposed project meets all applicable City requirements.

G. INTER-AGENCY CONSIDERATION

The City of Irvine is the Lead Agency with discretionary approval over the proposed project and will be required to address the project's effect on the environment in accordance with the provisions of the California Environmental Quality Act (CEQA) prior to final project approval and solicitation of construction bid documents.

Coordination will also be required with the various utility companies who operate facilities within the project limits.

H. PROJECT SCHEDULE

The proposed project schedule is as follows:

- FY 2017/2018– PS&E phase.
- FY 2018/2019– Right of way acquisition.
- FY 2018/2019– Construction

I. PROJECT COSTS

Cost estimates have been developed for the proposed improvements based upon construction unit costs available from recent bid summaries on similar projects. Materials utilized are consistent with existing improvements and City standards. The total project cost includes preparation of PS&E, right-of-way acquisition, construction, and construction engineering/ management and contingency.

The project costs for each build alternative are summarized in Table 10, 11 and 12 below. Attachment E contains detailed cost estimates for each of the viable build alternatives.

TABLE 10 - ALTERNATIVE 5 PROJECT COST ESTIMATE (PREFERRED ALTERNATIVE)

	Assumption/Basis	Estimated Cost
Construction	Includes 20% Contingency	$1,412,209
Right-of-Way Acquisition	Includes 20% Contingency & Management Estimate	$22,732
Final Design/Engineering and Administration	Estimated	$241,000
Construction Engineering and Administration	Estimated	$202,713
	TOTAL	**$1,878,655**

TABLE 11 - ALTERNATIVE 3 PROJECT COST ESTIMATE

	Assumption/Basis	Estimated Cost
Construction	Includes 20% Contingency	$1,474,663
Right-of-Way Acquisition	Includes 20% Contingency & Management Estimate	$108,221
Final Design/Engineering and Administration	Estimated	$241,000
Construction Engineering and Administration	Estimated	$202,713
	TOTAL	**$2,026,597**

TABLE 12 - ALTERNATIVE 4 PROJECT COST ESTIMATE

	Assumption/Basis	Estimated Cost
Construction	Includes 20% Contingency	$2,124,892
Right-of-Way Acquisition	Includes 20% Contingency & Management Estimate	$237,484
Final Design/Engineering and Administration	Estimated	$241,000
Construction Engineering and Administration	Estimated	$202,713
	TOTAL	**$2,806,089**

VII. AGREEMENTS / PERMITS

Various utilities are located within or adjacent to the proposed project. Coordination with the following utility companies will be required:

- AT&T California
- Irvine Ranch Water District
- Southern California Edison
- Southern California Gas Company
- Metropolitan Water District
- Laguna Beach County Water District

City of Irvine intra-agency coordination required includes the following:

- Adoption of CEQA Document
- Standard Plan Check Procedures
- Approval of Construction Bid Documents

Inter-agency coordination required includes the following:

- State Water Resources Control Board – National Pollution Discharge Elimination System (NPDES)

VIII. RIGHT OF WAY

The proposed improvements will require a single temporary Construction Easement (TCE) from the Irvine Company on the southwest corner of the intersection. As depicted on the alignment plan for Alternative 5 (preferred alternative) this TCE area and the estimated cost are summarized in Table 13 below.

TABLE 13 - PREFERRED ALTERNATIVE R/W REQUIREMENTS AND COST

AP #	Description	Unit Cost	R/W Acquisition (sf)		Cost Subtotal	Contingency (20%)	R/W Mgt.	Cost Total
			P/T	TCE				
452-055-03	Irvine Company	$5.00		1,392	$6,960	$1,392	14,380	$22,732
		Total AP #452-055-03			***$6,960***	***$1,392***	***$14,380***	***$22,732***

R/W Management consists of $7,000 per parcel for consultant services and $7,380 per parcel for staff support

IX. ENVIRONMENTAL CLEARANCE

Concurrent with this Project Report is the preparation of the CEQA compliance document for the project. A Categorical Exemption (CE) is being processed. The technical memoranda for this project environmental document are enclosed herein in Attachment K. These technical memos cover noise, air quality, paleontological, biological, and cultural resources. The CE will be filed with the County Clerk subsequent to approval of the plans, specifications and estimates by the City of Irvine.

X. OTHER CONSIDERATIONS

A. IMPACTS ON NON-MOTORIZED TRANSPORTATION AND PEDESTRIAN MODES

Construction of the project will result in temporary impacts to pedestrian and bike paths/routes, however, there will be no permanent impact. All bike and pedestrian rerouting will be addressed in detail in the final PS&E documents for the project and pedestrian/bike detour plans will be prepared, if necessary.

B. PROLONGED TEMPORARY ROAD CLOSURE

It is not anticipated that Jeffrey Road or Alton Parkway will require full closure at any time during construction. During the final design phase of the project, a detailed set of construction staging plans will be developed which will depict how all vehicular, pedestrian, and bike traffic will be handled during construction.

C. HAZARDOUS WASTE OR MATERIAL

No hazardous wastes or materials are expected from the construction of this project.

D. GEOTECHNICAL CONSIDERATIONS

There are no foreseen geotechnical or geologic site conditions that will prohibit construction of the proposed project.

A Preliminary Geotechnical Evaluation has been prepared for the project and is included herein as Attachment J.

E. WETLAND AND FLOODPLAIN

The proposed project is within an urbanized area. Biological resources within the project area are addressed in the Environmental Document contained in Attachment K to this Project Report.

F. ROADWAY RECONSTRUCTION, RESTORATION, PAVEMENT REHABILITATION

Alton Parkway will be widened to accommodate an additional westbound left turn lane. The existing improvements to be impacted include pavement, curb and gutter, sidewalk, utilities and landscaping. The construction of the proposed widening improvements will be completed with materials consistent with the standard City requirements.

G. BUS AND EMERGENCY LANES

OCTA currently operates two bus routes within the project limits. Route 86 operates on Alton Parkway and Route 175 utilizes the west leg of Alton Parkway and the south leg of Jeffrey Road. There is a bus stop location (with signs and bench) on Alton Parkway at the southwest corner of the intersection. This stop location will be impacted by the proposed construction. To improve the operation of the heavy volume of EBRT lane, the City has initiated the conversation with OCTA and they did not oppose the idea of relocating the bus stop to the far side of intersection (Alton east of Jeffrey). The exact location of the bus stop will be determined during final design.

H. INTERIM FEATURES

No interim features are being proposed. The proposed project consists of ultimate improvements of the Jeffrey/Alton intersection in an effort to improve operational deficiencies.

I. TRAFFIC MANAGEMENT PLAN

During the final PS&E phase of the project, traffic management measures will be developed. These measures will adhere to all City standards and requirements and will serve to address all staging, traffic control, noticing and detouring requirements that the project contractor will be required to follow during the construction of the project improvements.

XI. PROPOSED PROJECT FUNDING

Along with the preparation of this report, a project cost estimate was prepared for the proposed improvements. The total project cost estimate, including design, right-of-way acquisition, construction management, and construction, is **$1,878,655**. A complete accounting of project costs can be found in Attachment E.

The project is fully funded under the North Irvine Transportation Mitigation (NITM) Program.

XII. RECOMMENDATION

It is recommended that the Jeffrey/Alton Intersection Improvement Project, Alternative 5, be constructed to mitigate future traffic conditions. The major improvements recommended to be incorporated include the following:

- Addition of a third westbound left turn lane on Alton Parkway.
- Construction of a de-facto right turn lane for southbound Jeffrey Road at Alton Parkway.
- Conversion of the northbound Jeffrey Road free right turn lane to a standard right turn lane.

RECOMMENDED BY:

City of Irvine

Rick Kreuzer, PE
Project Manager
Kreuzer Consulting Group

JEFFREY / ALTON INTERSECTION IMPROVEMENT

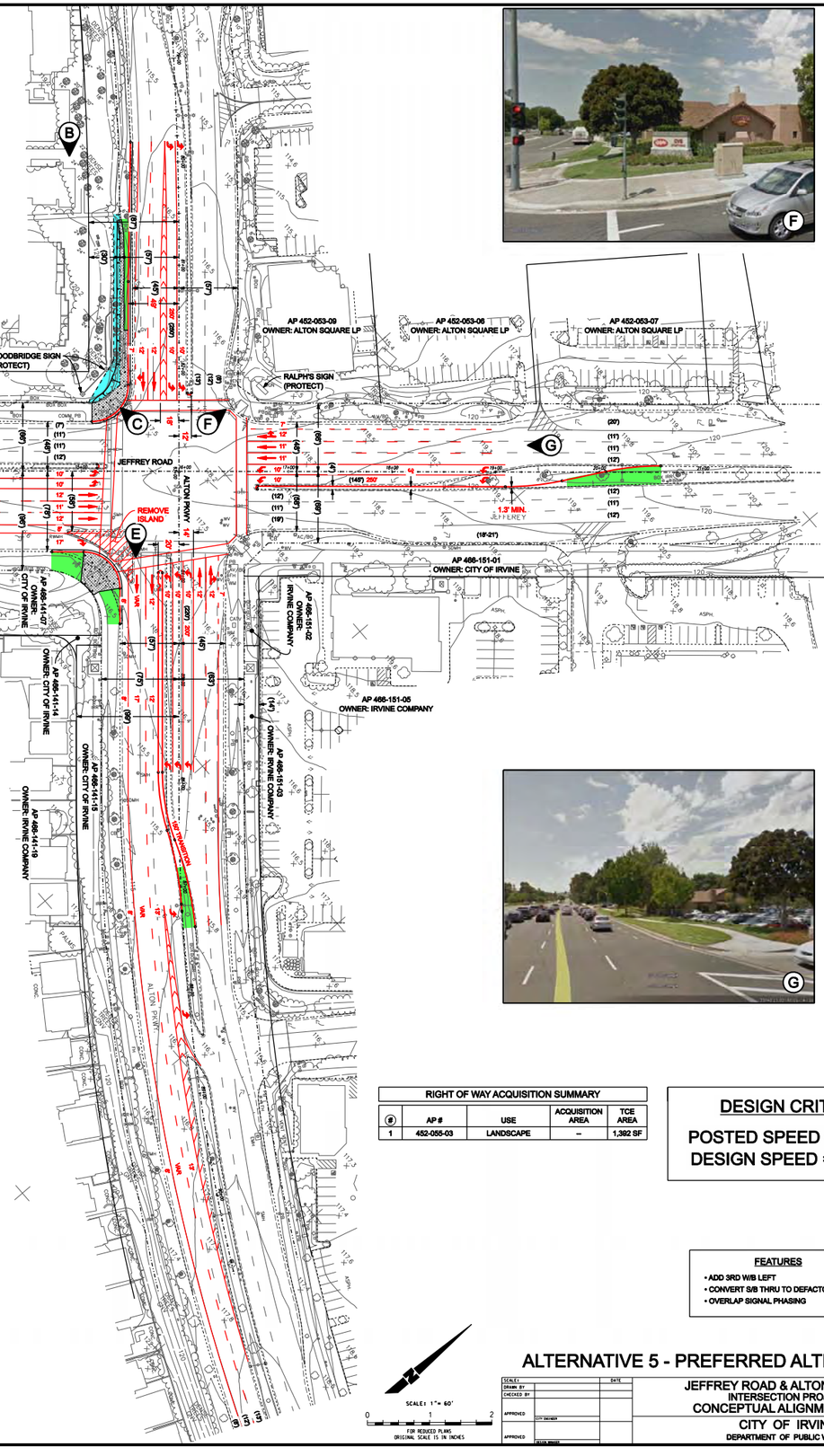
Alternative 5 (Preferred Alternative) Layout

PROJECT REPORT ATTACHMENT A











PEAK HOUR TRAFFIC VOLUMES

LEGEND

- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED R/W ACQUISITION
- PROPOSED TCE
- PROPOSED PLANTING
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- 58' PROPOSED DIMENSIONS
- (58') EXISTING DIMENSIONS
- (#) PROPERTY DESIGNATION

RIGHT OF WAY ACQUISITION SUMMARY

Ⓔ	AP #	USE	ACQUISITION AREA	TCE AREA
1	452-055-03	LANDSCAPE	–	1,382 SF

DESIGN CRITERIA

POSTED SPEED = 50 MPH
DESIGN SPEED = 55 MPH

FEATURES

- ADD 3RD W/B LEFT
- CONVERT S/B THRU TO DEFACTO RIGHT
- OVERLAP SIGNAL PHASING

SCALE: 1" = 60'

0 1 2

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

ALTERNATIVE 5 - PREFERRED ALTERNATIVE

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
CONCEPTUAL ALIGNMENT PLAN

CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

REVISIONS

NO.	DATE	DESCRIPTION	BY	APPROV.

SCALE: AS SHOWN | DESIGNED BY: BD | REVIEWED BY: RK

PLAN PREPARED BY:

RCE No. 42427 — Exp. 6-31-19

RCE NO. 042427

DATE

PREPARED BY:
Kimley»Horn and Associates, Inc.
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-888-0160

SCALE: DATE
DRAWN BY:
CHECKED BY:
APPROVED — CITY ENGINEER
APPROVED — PLAN MANAGER

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Alternative 1, 2, 3 and 4 Layouts

PROJECT REPORT ATTACHMENT B



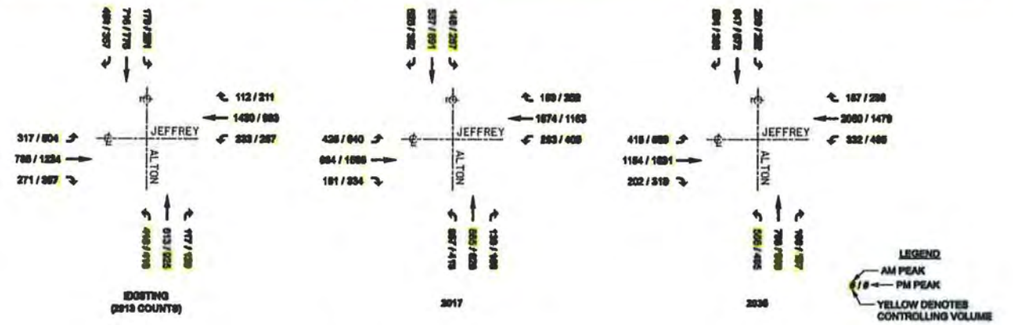












PEAK HOUR TRAFFIC VOLUMES

LEGEND

- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED R/W ACQUISITION
- PROPOSED TCE
- PROPOSED PLANTING
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- PROPOSED DIMENSIONS
- (XX') EXISTING DIMENSIONS
- (#) PROPERTY DESIGNATION

RIGHT OF WAY ACQUISITION SUMMARY				
(P)	AP #	USE	ACQUISITION AREA	TCE AREA
1	402-055-03	LANDSCAPE	1,004 SF	4,301 SF
2	402-053-09	ALTON SQUARE	–	209 SF
3	402-053-07	ALTON SQUARE	–	849 SF

DESIGN CRITERIA

POSTED SPEED = 50 MPH
DESIGN SPEED = 55 MPH

FEATURES

- ADD 3RD E/B THU/RIGHT/PHOTO RIGHT
- CONVERT S/B THRU TO DEPHOTO RIGHT
- OVERLAP SIGNAL PHASING

ALTERNATIVE 1 (NITM IMPROVEMENTS)

SCALED 1"= 60'

REVISIONS			
NO.	DATE	DESCRIPTION	BY	APPD.

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
CONCEPTUAL ALIGNMENT PLAN
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS



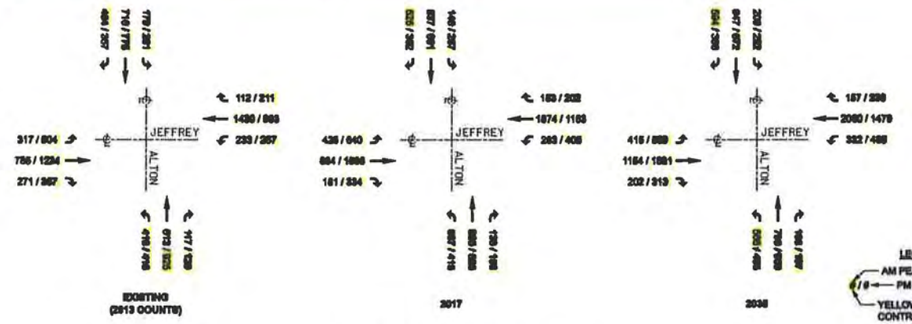




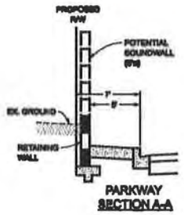






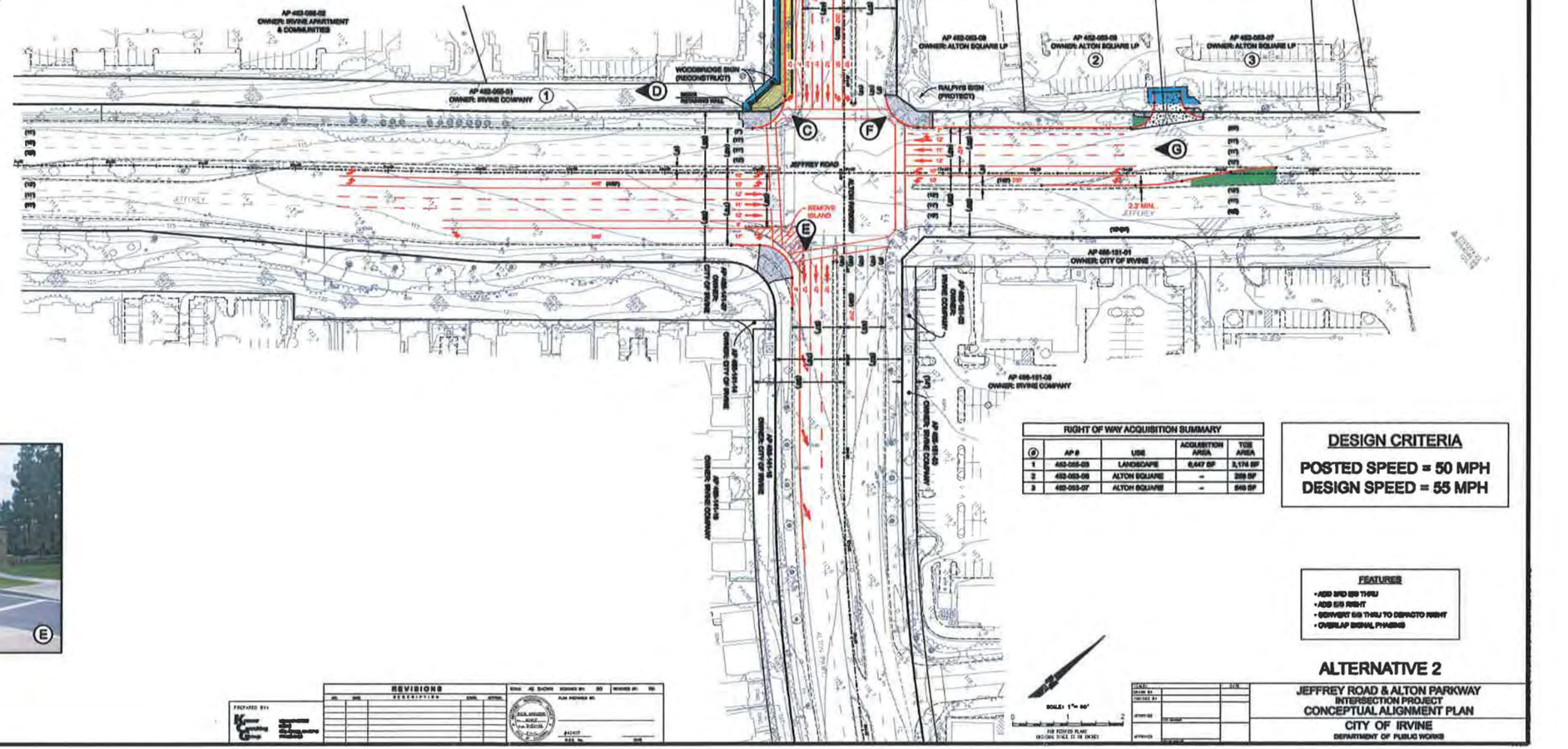


PEAK HOUR TRAFFIC VOLUMES



PARKWAY
SECTION A-A

LEGEND
AM PEAK
PM PEAK
YELLOW DENOTES CONTROLLING VOLUME



RIGHT OF WAY ACQUISITION SUMMARY				
#	AP #	USE	ACQUISITION AREA	TCE AREA
1	452-055-03	LANDSCAPE	6,447 SF	3,174 SF
2	452-053-08	ALTON SQUARE	-	359 SF
3	452-053-07	ALTON SQUARE	-	640 SF

DESIGN CRITERIA

POSTED SPEED = 50 MPH
DESIGN SPEED = 55 MPH



LEGEND
- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED R/W ACQUISITION
- PROPOSED TCE
- PROPOSED PLANTING
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- PROPOSED DIMENSIONS
- (60') EXISTING DIMENSIONS
- (#) PROPERTY DESIGNATION

FEATURES
- ADD 3RD EB THRU
- ADD EB RIGHT
- CONVERT EB THRU TO DEFACTO RIGHT
- OVERLAP SIGNAL PHASING

ALTERNATIVE 2

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVAL

PREPARED BY:

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
CONCEPTUAL ALIGNMENT PLAN
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS



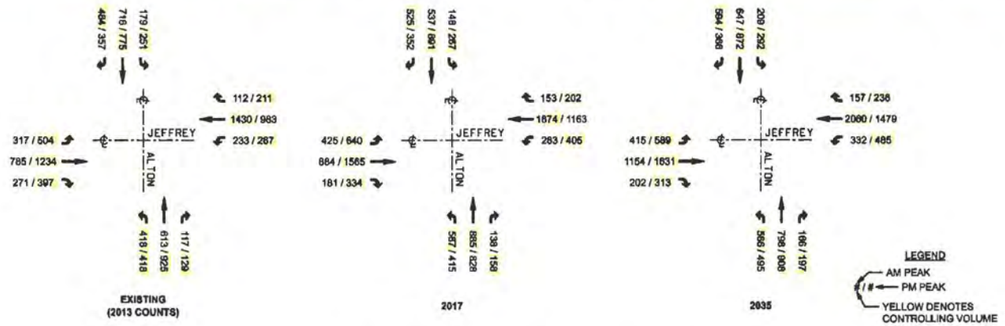




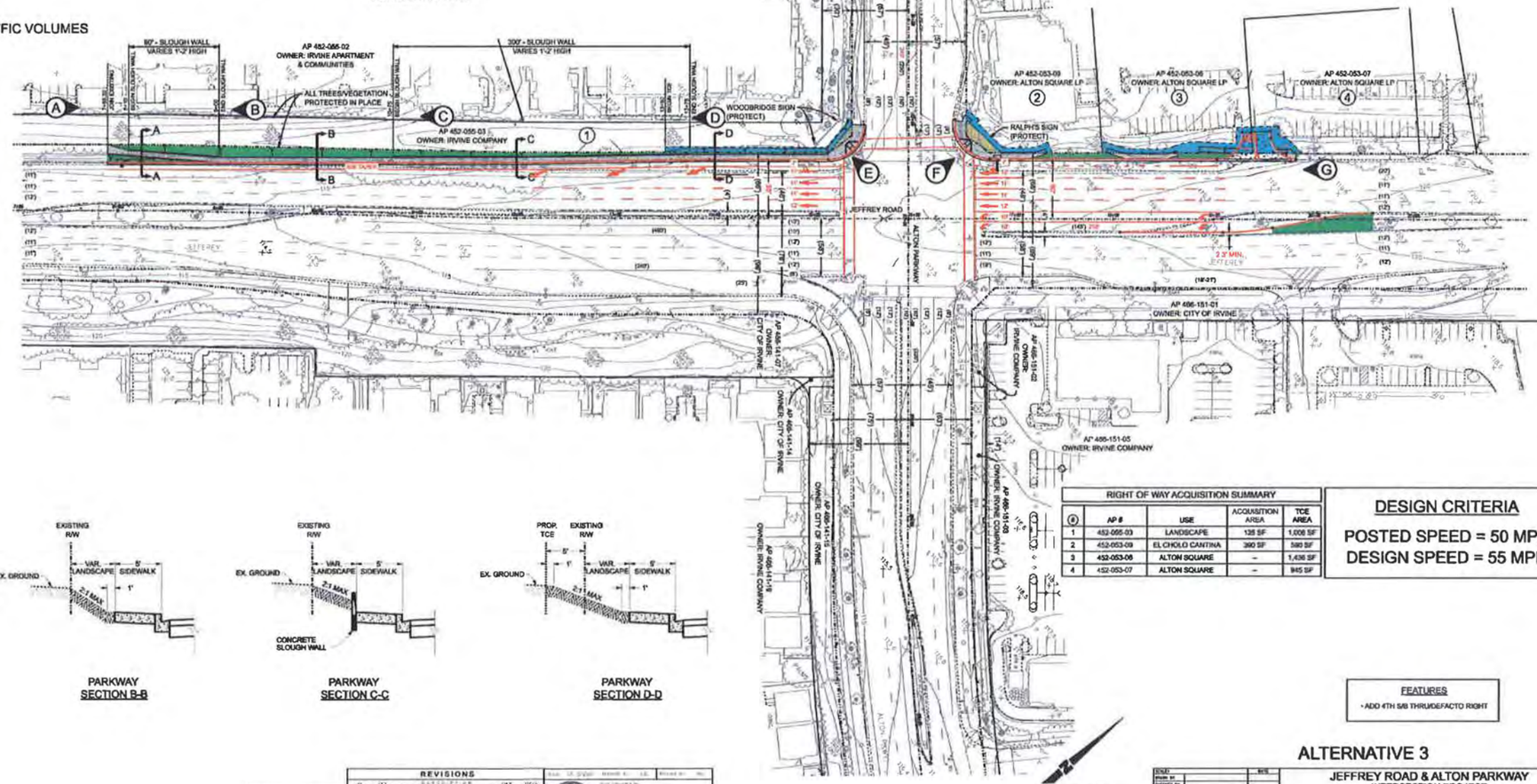








PEAK HOUR TRAFFIC VOLUMES



RIGHT OF WAY ACQUISITION SUMMARY				
#	AP #	USE	ACQUISITION AREA	TCE AREA
1	452-055-03	LANDSCAPE	135 SF	1,006 SF
2	452-053-09	EL CHOLO CANTINA	390 SF	390 SF
3	452-053-06	ALTON SQUARE	–	1,436 SF
4	452-053-07	ALTON SQUARE	–	945 SF

DESIGN CRITERIA

POSTED SPEED = 50 MPH
DESIGN SPEED = 55 MPH

LEGEND

- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED R/W ACQUISITION
- PROPOSED TCE
- PROPOSED PLANTING
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- PROPOSED DIMENSIONS
- (58') EXISTING DIMENSIONS
- (#) PROPERTY DESIGNATION



PARKWAY
SECTION A-A

PARKWAY
SECTION B-B

PARKWAY
SECTION C-C

PARKWAY
SECTION D-D

FEATURES

- ADD 4TH S/B THRU/DEFACTO RIGHT

ALTERNATIVE 3

REVISIONS			
#	DESCRIPTION	BY	APP'D

PREPARED BY:

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
CONCEPTUAL ALIGNMENT PLAN
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

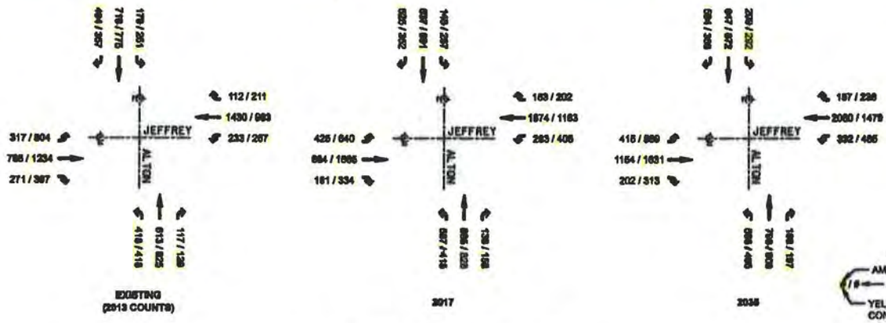
STAFF		DATE
PROJECT MGR		
ENGINEER IN CHARGE		
APPROVED		
APPROVED		



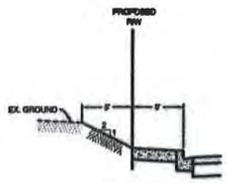


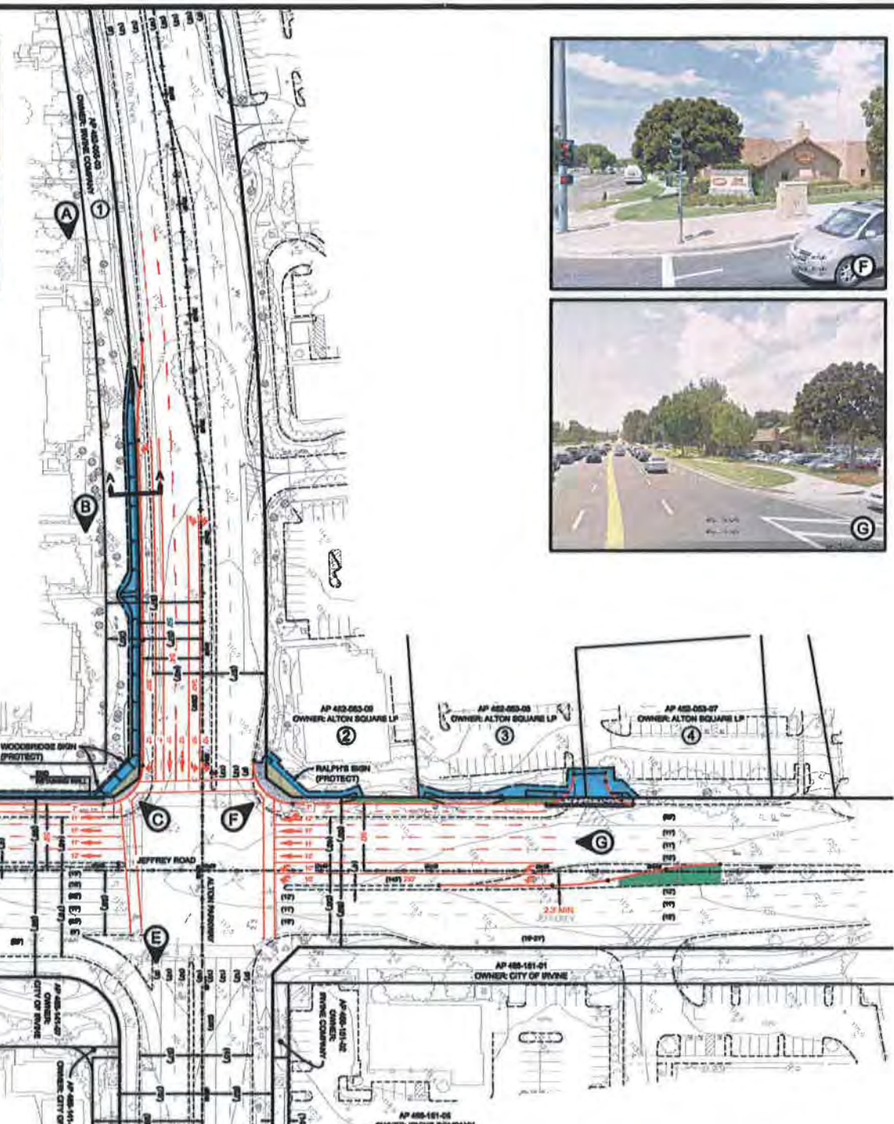






PEAK HOUR TRAFFIC VOLUMES









LEGEND

- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED R/W ACQUISITION
- PROPOSED TCE
- PROPOSED PLANTING
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- PROPOSED DIMENSIONS
- (DIM) EXISTING DIMENSIONS
- PROPERTY DESIGNATION

RIGHT OF WAY ACQUISITION SUMMARY

ID	AP #	USE	ACQUISITION AREA	TCE AREA
1	452-055-03	LANDSCAPE	679 SF	7,005 SF
2	452-053-09	EL CHOLO CANTINA	360 SF	880 SF
3	452-053-05	ALTON SQUARE	-	1,435 SF
4	452-053-07	ALTON SQUARE	-	845 SF

DESIGN CRITERIA

POSTED SPEED = 50 MPH
DESIGN SPEED = 55 MPH

FEATURES

- ADD 4TH S/B THRU/DEFACTO RIGHT
- ADD S/B RIGHT
- OVERLAP SIGNAL PHASING

ALTERNATIVE 4

REVISIONS

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
CONCEPTUAL ALIGNMENT PLAN
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

TRAFFIC ANALYSIS MEMORANDUM

FOR THE

JEFFREY ROAD / ALTON PARKWAY
INTERSECTION IMPROVEMENT PROJECT

LEAD AGENCY:

ONE CIVIC CENTER PLAZA
IRVINE, CA 92623-9575

PREPARED BY:

46 DISCOVERY, SUITE 250
IRVINE, CA 92618
949-474-1400

JUNE 2017

Project Report Attachment C

Note: Stantec Consulting Services Inc. was a subconsultant to Kreuzer Consulting Group (KCG) for this project who was contracted by the City of Irvine on April 21, 2014. A change order to study Alternative 5 as the preferred alternative was authorized for KCG on March 24, 2016. All documents and traffic data used in this traffic analysis were based on all data available at that time.

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Chapter 1 - Introduction

1.1 Purpose

This traffic analysis has been prepared as a companion document to the Project Report for the Jeffrey / Alton Intersection Improvement Project. This report summarizes level of service (LOS) analysis of no build (no project) and with project intersection geometric Alternatives 1 through 5 as included in the Project Report for widening improvements at the intersection. For each alternative, existing (2013), 2017, and Post-2035 am/pm peak hour traffic conditions were evaluated to identify which alternatives are feasible to best improve level of service (LOS) performance criteria. Based on the findings and recommendations of this analysis and with concurrence from the City of Irvine, a preferred alternative has been selected for preliminary project development.

1.2 Project Intersection Improvement Alternatives

The geometric alternatives considered for this project are shown on Figure 1-1 and summarized in Table 1-1. Alternative development began with Alternatives 1 (NITM) and 2 (Citywide Circulation Phasing Report) as identified by the City with additional alternatives being identified through meeting and discussion at project development team meetings. The improvements associated with each alternative are identified below:

Alternative 1 - NITM Improvements: conversion of existing NB free right-turn lane to standard right-turn lane and adding a (3rd) EB through lane with a defacto right, and conversion of a SB through lane with a defacto right.

Alternative 2 - Improvements include providing a third EB through lane, providing a dedicated EB right-turn lane with overlap signal phasing, conversion of existing SB through lane with a defacto right, and conversion of existing NB free right-turn lane to standard right-turn lane.

Alternative 3 - Improvements include providing a fourth SB through lane with a defacto right.

Alternative 4 - Improvements include providing a fourth SB through lane and a SB defacto right-turn lane, and providing a dedicated EB right-turn lane with overlap signal phasing.

Alternative 5 - Improvements include conversion of existing NB free right-turn lane to standard right-turn lane, conversion of existing SB through lane with a defacto right-turn lane and adding a third WB left-turn lane.

Table 1-1

Jeffrey / Alton
Intersection Improvement Project
Intersection Configuration Alternatives

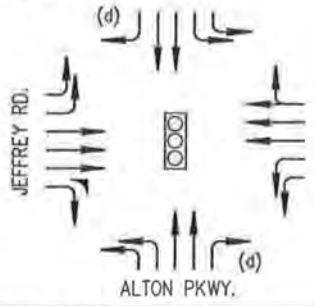
Alternative	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Existing	2	3	1(Fr)	2	3	0	2	2	1(d)	2	2	1(d)
Alternative 1	2	3	1	2	3	1(d)	2	3	1(d)	2	2	1(d)
Alternative 2	2	3	1	2	3	1(d)	2	3	1(OL)	2	2	1(d)
Alternative 3	2	3	1(Fr)	2	4	1(d)	2	2	1(d)	2	2	1(d)
Alternative 4	2	3	1(Fr)	2	4	1(d)	2	2	1(OL)	2	2	1(d)
Alternative 5	2	3	1	2	3	1(d)	2	2	1(d)	3	2	1(d)

(d) – defacto right-turn; (OL) – overlap signal phase; (Fr) – free right-turn

1.3 Report Organization

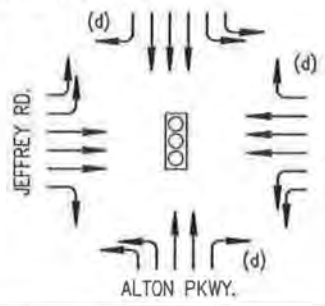
The remainder of this report identifies the analysis methodology used to evaluate intersection performance with existing and future traffic volumes for no build and build intersection improvement alternatives and presents conclusions and recommendations for preliminary project development.

EXISTING



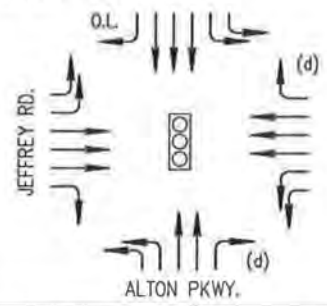
	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.77	0.78	0.91	0.84	0.98	0.92
LOS	C	C	E	D	E	E

ALTERNATIVE 1



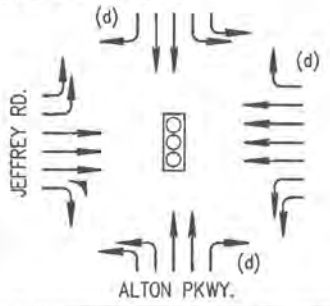
	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.74	0.73	0.88	0.75	0.95	0.82
LOS	C	C	D	C	E	D

ALTERNATIVE 2



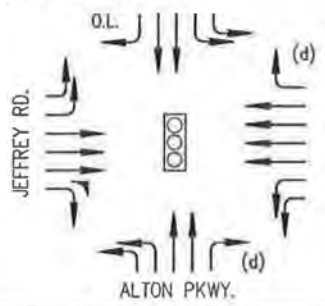
	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.72	0.73	0.85	0.75	0.92	0.82
LOS	C	C	D	C	E	D

ALTERNATIVE 3



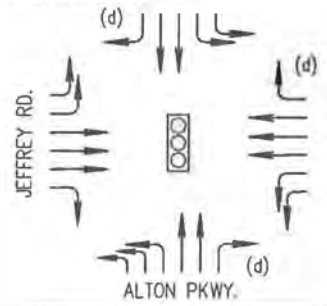
	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.68	0.72	0.79	0.81	0.85	0.87
LOS	B	C	C	D	D	D

ALTERNATIVE 4



	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.68	0.72	0.76	0.81	0.82	0.87
LOS	B	C	C	D	D	D

ALTERNATIVE 5



	EXISTING		2017*		2035*	
	AM	PM	AM	PM	AM	PM
ICU	0.71	0.73	0.83	0.77	0.89	0.82
LOS	C	C	D	C	D	D

* THESE VALUES INCLUDE 0.05 ATMS CREDIT



LEGEND

(d) – DEFACTO RIGHT-TURN

⌜ – FREE RIGHT-TURN

O.L. – OVERLAP SIGNAL PHASE

PREPARED BY:

VA now Stantec

JEFFREY RD/ALTON PKWY INTERSECTION IMPROVEMENT IRVINE, CA

FIGURE 1-1 INTERSECTION GEOMETRIC ALTERNATIVES

Chapter 2 - Methodology

2.1 Traffic Analysis Methodology

The methodology used in this report was to calculate intersection level of service for the various analysis scenarios using the Intersection Capacity Utilization (ICU) method. Traffic volumes used for the calculations were obtain from counts of existing traffic (April 2013) conducted during peak hours and from traffic volume forecasts obtain using the City ITAM model. These components of the analysis are discussed in more detail below.

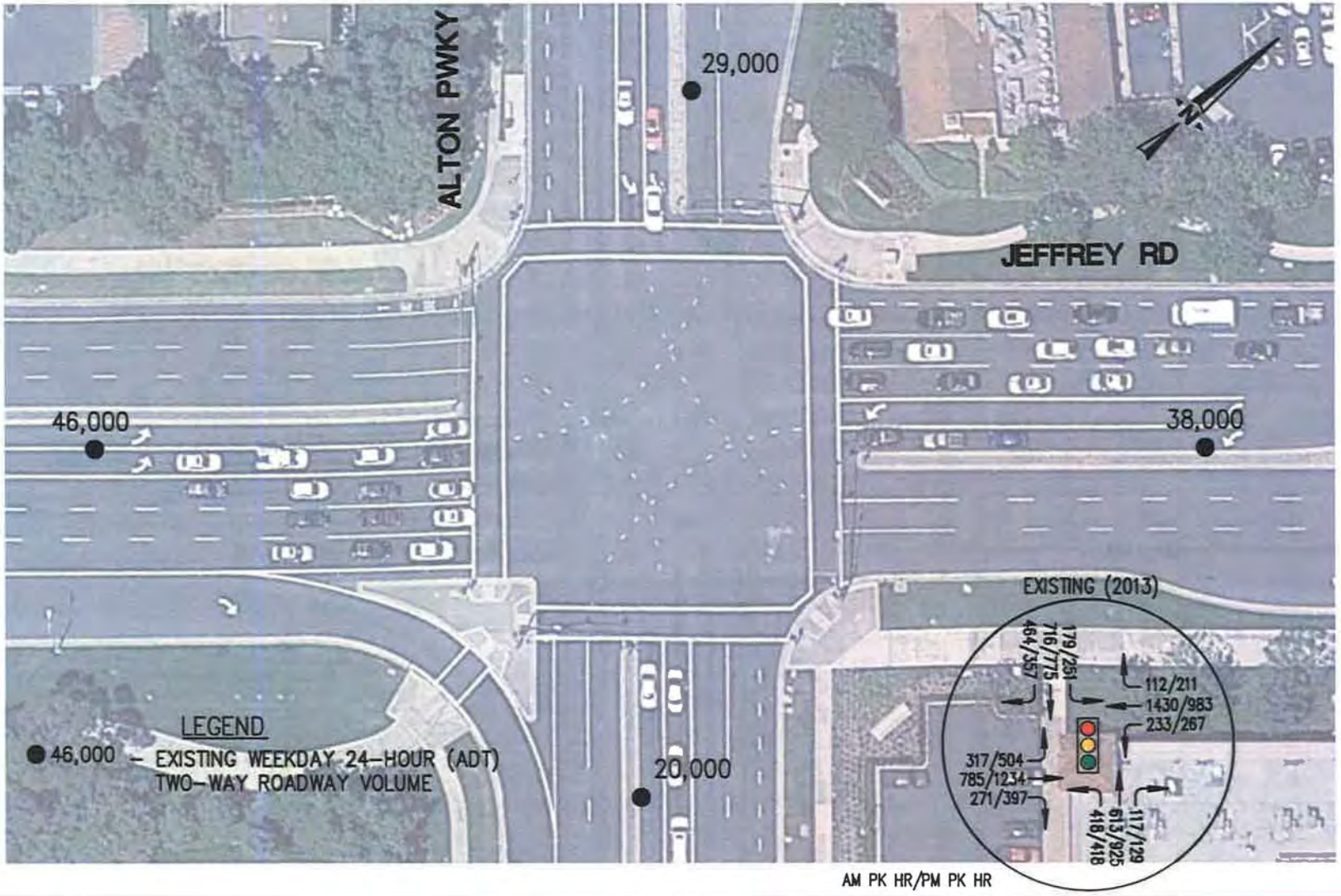
2.2 Traffic Counts

Existing am and pm peak hour turning movement volumes provided for this analysis by the City were conducted on Thursday, April 25th, 2013. UCI and local schools were in session on this count day. These counts represent typical existing weekday turning movement volumes at the intersection (see Table 2-1). Existing peak hour volumes and the current intersection configuration are shown on Figure 2-1. Figure 2-1 also shows existing weekday 24-hour volumes on each approach of the intersection based on City of Irvine and Orange County Traffic Flow Map data. Existing traffic counts are provided in Appendix A.

Table 2-1
Jeffrey / Alton
Existing AM and PM Peak Hour Intersection Volumes

AM Peak Hour														
Date	Weekday	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
4/25/2013	Thursday	317	785	271	233	1430	112	179	716	464	418	613	117	5655

PM Peak Hour														
Date	Weekday	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
4/25/2013	Thursday	504	1234	397	267	983	211	251	775	357	418	925	129	6451



PREPARED BY:

VA CONSULTANTS now Stantec

JEFFREY ROAD/ALTON PARKWAY
INTERSECTION IMPROVEMENTS
IRVINE, CA

FIGURE 2-1
EXISTING TRAFFIC VOLUMES AND INTERSECTION CONFIGURATION

2.3 Traffic Forecasting Methodology

Forecasts of interim year 2017 and Post-2035 intersection turning movements at the intersection were provided by the City of Irvine's ITAM model. These forecasts are shown below in Table 2-2 and are also provided in Appendix B.

Table 2-2
Jeffrey / Alton
ITAM Model Forecast AM and PM Peak Hour Intersection Volumes

Year	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2017 AM	425	884	181	283	1874	153	148	537	525	587	885	138
2017 PM	640	1565	334	405	1163	202	267	891	352	415	828	158
Post-2035 AM	415	1154	202	332	2060	157	209	647	594	566	798	166
Post-2035 PM	586	1631	313	485	1479	236	292	872	366	495	908	197

2.4 Intersection Analysis and Level of Service Performance Criteria

Using existing and future forecast traffic volumes, Intersection Capacity Utilization (ICU) analysis was performed for the intersection. In ICU analysis, the volume of traffic using the intersection is compared to the capacity of the intersection. ICU's are calculated for the peak hours of traffic and include the unique features of the intersection such as turning movement volumes, intersection lane configurations, and traffic signal phasing. ICU is generally expressed as a percent. The percentage represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic and provides a guide to the number and types of lanes required at the intersection. This percent can also be used to determine a level of service (LOS) based on the utilized capacity of the intersection. Table 2-3 provides ICU level of service ranges and descriptions. The City of Irvine target minimum Level of Service to be provided at the intersection is LOS D. The intersection of Jeffrey/Alton is an approved Advanced Transportation Management Strategies location. As such, this location is eligible for a 0.05 reduction in the ICU value when the intersection becomes deficient.

All parameters used in ICU analysis such as lane capacities and clearance intervals are per City of Irvine guidelines. ICU worksheets are provided in Appendix C.

TABLE 2-3
INTERSECTION CAPACITY UTILIZATION (ICU) ANALYSIS
LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Traffic Flow Description	Nominal Range of ICU
A	Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.	0.00 - 0.60
B	Operating speeds beginning to be affected by other traffic; between one and ten percent of the signal cycles have one or more vehicles which wait through more than one cycle during peak traffic periods.	0.61 - 0.70
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one cycle during peak traffic periods; recommended ideal design standard.	0.71 - 0.80
D	Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one cycle during peak traffic periods; often used as design standard in urban areas.	0.81 - 0.90
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one cycle during peak traffic periods.	0.91 - 1.00
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volumes and traffic speed can drop to zero; traffic volumes will be less than the volume which occurs at Level of Service E.	over 1.00

Chapter 3 - Existing (April 2013) Traffic Conditions

Table 3-1 provides a summary of no build and project improvement alternatives LOS at the intersection under existing peak hour traffic conditions.

Table 3-1
Jeffrey / Alton
Level of Service with Existing (2013) Traffic Volumes

Existing (2013) Conditions	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
No Build (Existing Improvements)	0.77	C	0.78	C
Project Improvements Alt. 1	0.74	C	0.73	C
Project Improvements Alt. 2	0.72	C	0.73	C
Project Improvements Alt. 3	0.68	B	0.72	C
Project Improvements Alt. 4	0.68	B	0.72	C
Project Improvements Alt. 5	0.71	C	0.73	C

3.1 Existing No Build Intersection Analysis

Table 3-1 shows that with existing intersection improvements the intersection is providing acceptable LOS during peak hours. The LOS is C during both the AM and PM peak hours.

3.2 Existing Build (Existing with Project) Intersection Analysis

Table 3-1 shows that implementation of Alternatives 1, 2, and 5 would lower the ICU value at the intersection, however, level of service would remain with the LOS C range during both peak hours under existing volume conditions. Alternatives 3 and 4 would improve the AM peak hour LOS by one service level and provide LOS B while PM peak hour LOS would remain unchanged.

Chapter 4 - Interim Year (2017) Traffic Conditions

Table 4-1 provides a summary of no build and project improvement alternatives LOS at the intersection under interim year peak hour traffic conditions.

Table 4-1
Jeffrey / Alton
Level of Service with ITAM Interim Year 2017 Traffic Forecasts

Interim Year 2017 Conditions	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
No Build (Existing Improvements)	0.91	E	0.84	D
Project Improvements Alt. 1	0.88	D	0.75	C
Project Improvements Alt. 2	0.85	D	0.75	C
Project Improvements Alt. 3	0.79	C	0.81	D
Project Improvements Alt. 4	0.76	C	0.81	D
Project Improvements Alt. 5	0.83	D	0.77	C

ICU value reflects 0.05 ATMS credit

4.1 Interim Year (2017) No Build Intersection Analysis

Table 4-1 shows that with existing intersection improvements the level of service at the intersection is expected to decline to LOS E during the AM peak hour and LOS D during the PM peak hour with interim year 2017 forecast volumes.

4.2 Interim Year (2017) Build Intersection Analysis

Table 4-1 shows that implementation of all improvement alternatives would result in AM/PM peak hour LOS D or better under interim year (2017) peak hour traffic conditions. Alternatives 2 and 5 provide the greatest improvement in ICU value for the PM peak hour and Alternatives 3 and 4 for the AM peak hour. Alternatives 1 and 2 are anticipated to improve the PM peak hour LOS from D to C.

Chapter 5 - Post-2035 Traffic Conditions

Table 5-1 provides a summary of no build and project improvement alternatives LOS at the intersection under Post-2035 peak hour traffic conditions.

Table 5-1
Jeffrey / Alton
Level of Service with ITAM Post-2035 Traffic Forecasts

Post-2035 Conditions	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
No Build (Existing Improvements)	0.98	E	0.92	E
Project Improvements Alt. 1	0.95	E	0.82	D
Project Improvements Alt. 2	0.92	E	0.82	D
Project Improvements Alt. 3	0.85	D	0.87	D
Project Improvements Alt. 4	0.82	D	0.87	D
Project Improvements Alt. 5	**0.89**	**D**	**0.82**	**D**

ICU value reflects 0.05 ATMS credit

5.1 Post-2035 No Build Intersection Analysis

Table 5-1 shows that with existing intersection improvements the intersection is expected to operate at LOS E during the AM and PM peak hour with Post-2035 forecast volumes and existing improvements.

5.2 Post-2035 Build Intersection Analysis

Table 5-1 shows that Alternatives 3, 4 and 5 would result in LOS D operation during both the AM and PM peak hours under forecast Post-2035 traffic conditions. Alternatives 1 and 2 would provide LOS E during the AM peak hour.

5.3 Alternative 5 - Synchro Operational Analysis

For Alternative 5 an additional operational analysis was performed using the Synchro model to confirm operation under existing, Interim Year 2017, and Post-2035 peak hour conditions. The Synchro model provides a simulation of traffic operation at the intersection and provides forecast LOS based on average vehicle delay per the Highway Capacity Manual (HCM 2010) method. This model also identifies LOS for individual movements at the intersection and forecasts lengths of vehicle queues so that storage requirements of right/left turn lanes may be evaluated. In addition to the Synchro model, the AutoTurn vehicle turning movement analysis software tool was used to assess potential conflicting left-turn movements on the east-west approaches. AutoTurn analysis has confirmed that implementation of triple left-turns on the westbound approach (see Appendix D) will not prohibit simultaneous left-turns on the eastbound approach and no restrictions of left-turn signal phasing is necessary for Alternative 5.

Table 5-2 provides the results of Synchro analysis for Alternative 5. This table shows that based on average intersection delay, forecast LOS is consistent with that predicted using ICU analysis and is forecast to be LOS C for existing peak hours and LOS D in both peak hours under Interim Year 2017 conditions. Compared to LOS forecast using ICU analysis, the 2017 pm peak hour LOS is predicted to be one level lower at LOS D instead of C. For Post-2035 conditions, predicted am peak hour LOS remains at D and pm peak hour LOS is E. However, overall average intersection delay during the pm peak hour is 57.3 seconds per vehicle and exceeds the LOS D delay threshold of 55.0 seconds by only 2.3 seconds and is near LOS D operation. The HCM delay range for LOS E is 55.0 to 80.0 seconds. Therefore, the Synchro HCM LOS analysis results for alternative 5 are considered similar to the ICU analysis results that predict LOS D during both peak hours for Post-2035 conditions.

The analysis summarized in Table 5-2 has included right-turn overlap signal phasing for the proposed standard right-turn lane on the northbound approach that is to be converted from the existing free-right turn lane. It was noted during analysis that this signal phasing was effective in improving LOS and minimizing queuing for northbound right-turns and is consistent with efficient operation considering the heavy volume of westbound left-turns.

Table 5-2
Jeffrey Road / Alton Parkway
Alternative 5 - Operational Analysis

Year - Peak Hour	Overall Intersection		Northbound Right/Left Turn Lanes								Southbound Left-turn Lanes				Eastbound Left-turn Lanes				Westbound Left-turn Lanes			
			NBRT[1] 1-lane @ 350'		NBRT Queue Length (ft)/lane		NBLT 2-lanes @ 465'		NBLT Queue Length (ft)/lane		SBLT 2-lanes @ 250'		SBLT Queue Length (ft)/lane		EBLT 2-lanes @ 250'		EBLT Queue Length (ft)/lane		WBLT 3-lanes @ 200'		WBLT Queue Length (ft)/lane	
	Avg. Delay (s)	LOS	Avg. Delay (s)	LOS	Avg.	95%	Avg. Delay (s)	LOS	Avg.	95%	Avg. Delay (s)	LOS	Avg.	95%	Avg. Delay (s)	LOS	Avg.	95%	Avg. Delay (s)	LOS	Avg.	95%
Existing - AM Peak	32.4	C	16.4	B	36	83	47.7	D	81	153	38.1	D	57	93	41.1	D	46	94	46.9	D	74	129
Existing - PM Peak	34.6	C	20.8	C	80	151	42.6	D	128	215	40.5	D	67	117	43.8	D	64	128	44.1	D	74.0	126
2017 - AM Peak	47.6	D	13.3	B	25	60	65.6	E	155	254	52.8	D	98	142	69.2	E	54	111	60.3	E	147	221
2017 - PM Peak	45.7	D	19.7	B	69	131	47.5	D	186	292	52.0	D	119	204	55.4	E	78	148	50.9	D	84	140
P2035 - AM Peak	54.3	D	14.2	B	27	66	72	E	140	240	47.3	D	103	148	62.9	E	69	135	67.2	E	131	208
P2035 - PM Peak*	57.3	E	20.4	C	73	134	59.8	E	194	308	62.3	E	160	264	66.4	E	96	178	60.4	E	113	182

[1]Analysis includes overlap signal phasing

Alternative 5 - Convert Ex. NB Free-right turn lane to dedicated right-turn lane; add 3rd westbound left-turn lane; and provide southbound defacto right-turn.

= Estimated 95th percentile queue length is less than vehicle storage provided

= Estimated 95th percentile queue length exceeds vehicle storage provided by less than one car length (25')

Table 5-2 also shows average and 95th percentile vehicle queues for the left-turn movements on each approach as well as for the dedicated right-turn lane on the northbound approach. This table shows that the proposed turn pocket lengths on each approach are in all cases significantly longer than average queues and typically of sufficient length to accommodate forecast 95th percentile queues with only three minor exceptions. These exceptions are as follows:

Table 5-3

Jeffrey / Alton

Alternative 5 - Turn Pocket Storage Lengths less than Theoretical 95th Percentile Queues

Scenario	Movement	Storage Provided per Lane (ft.)	95th Percentile Queue Length (ft.)	Variance from 95th Percentile Queue (ft.)
Post-2035 Pm Pk Hr	SBLT	250	264	14
2017 Am Peak Hr	WBLT	200	221	21
Post-2035 Am Pk Hr	WBLT	200	208	8

Table 5-3 shows that the storage length deviations from theoretical 95th percentile queues are all less than the typical storage length of one vehicle (25 feet). Therefore, the proposed turn lane pocket lengths are considered sufficient. It should also be noted that all proposed turn pocket lengths at the intersection are consistent with City design policy and provide at least one-foot of storage per peak hour turning vehicle.

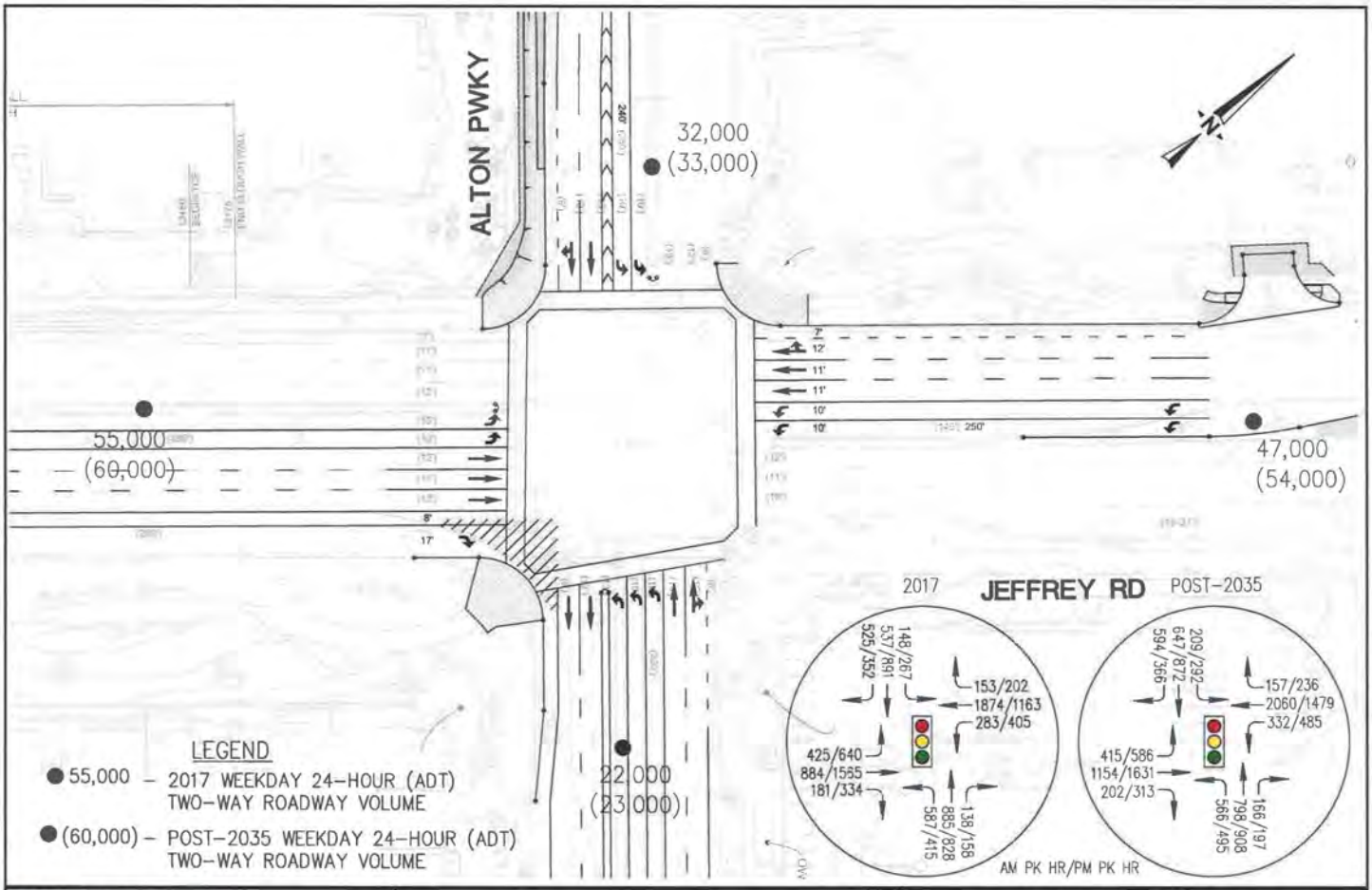
Chapter 6 Conclusions and Recommendation

Alternatives 3, 4 and 5 have been identified as the alternatives meeting the desired LOS D performance criteria for all future year peak hour scenarios based on ICU intersection analysis. Alternative 3 achieves acceptable level of service by providing a fourth southbound through lane and a de-facto right-turn lane. However, all private property impacts associated with this alternative occur on the west side of the intersection, including narrowing of the parkway along the Woodbridge Oaks Apartment Homes located on the southwest corner and this alternative waws opposed by the Woodbridge Village Association (WVA). Alternative 4 achieves acceptable level of service through significant improvement of the intersection including the widening of two approaches to the intersection and reconstruction of a third. These Improvements also have considerable private property impacts including to the WVA and associated higher costs. Alternative 5 provides acceptable LOS by conversion of the existing northbound free right-turn lane to a standard right-turn lane in order to construct a third westbound left-turn lane. A southbound de-facto right will also be provided under this alternative. This alternative requires no right-of-way acquisition for implementation and has no impact on WVA property.

Alternatives 3 and 5 also include extending the length of the dual southbound left-turn lanes from the existing length of approximately 145 feet to 250 feet. This length will provide a total of 500 feet of vehicle storage for the Post-2035 forecast of 485 left-turning vehicles during the PM peak hour and is consistent with the City design policy of providing one-foot of storage per peak hour turning vehicle.

The results presented in this analysis show that Alternative 5 provides the most cost-effective improvement in LOS and traffic operation with existing and future forecast traffic volumes and is considered the most feasible for implementation. Alternative 5 is the only alternative that meets LOS criteria under existing and forecast future traffic conditions that does not have identified public opposition. These findings have been confirmed by a detailed operational analysis of Alternative 5 using the Synchro model. The vehicle turning movement analysis program AutoTurn was also used to confirm that there are no turning path conflicts between eastbound and westbound left-turning vehicles and no restrictions to left-turn signal phasing are necessary with implementation of Alternative 5. The operations analysis also identified the benefit of providing right-turn overlap signal phasing for the proposed standard right-turn lane converted from the existing free-right on the

northbound approach. With concurrence from the City of Irvine, Alternative 5 has been recommended as the preferred alternative for preliminary project development. A concept plan for Alternative 5 including interim year 2017 and Post-2035 traffic volumes is shown on Figure 6-1.



PREPARED BY:

VA CONSULTING now Stantec

JEFFREY ROAD/ALTON PARKWAY INTERSECTION IMPROVEMENTS IRVINE, CA

FIGURE 6-1
FUTURE TRAFFIC VOLUMES AND PREFERRED (ALT. 5) PROJECT INTERSECTION CONFIGURATION

Attachment A

Existing Traffic Counts

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JEFFREY ROAD (291)
E-W Direction: ALTON PARKWAY

File Name : H1304088
Site Code : 00000559
Start Date : 4/25/2013
Page No : 1

Groups Printed- Turning Movements

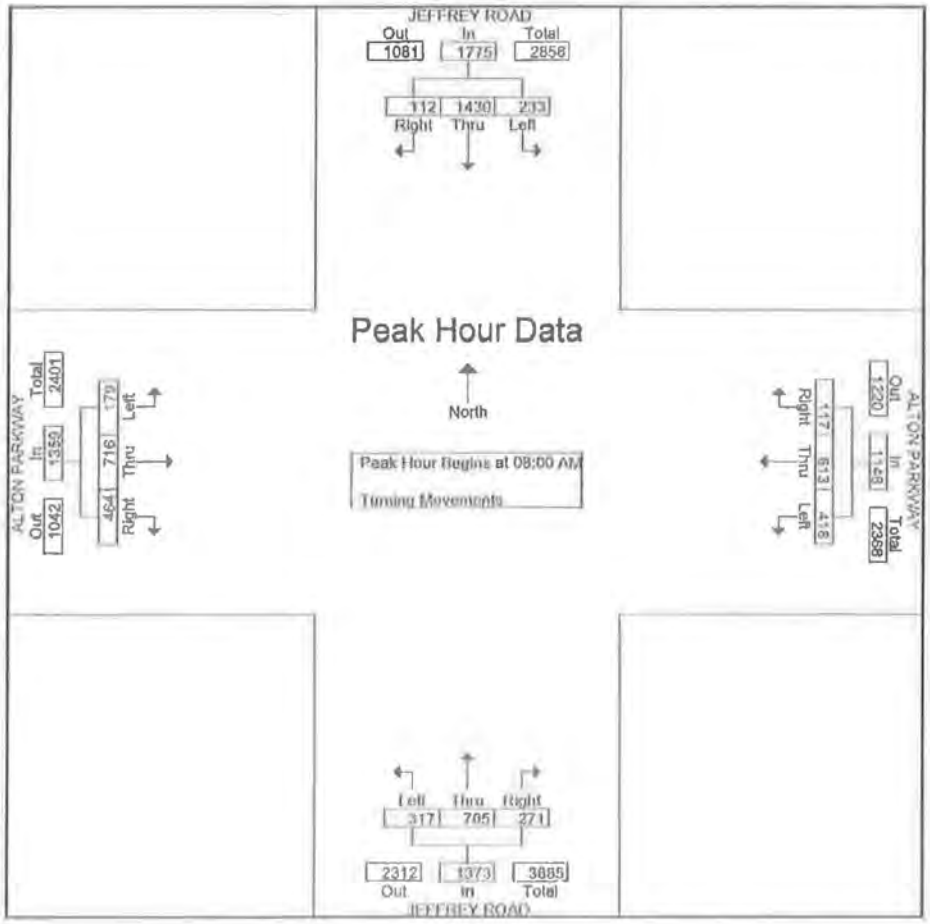
	JEFFREY ROAD Southbound			ALTON PARKWAY Westbound			JEFFREY ROAD Northbound			ALTON PARKWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	11	187	26	5	53	30	19	89	66	61	38	17	602
07:15 AM	19	218	44	14	70	41	13	113	75	93	56	22	778
07:30 AM	13	244	25	16	119	88	22	123	86	92	80	35	943
07:45 AM	31	357	35	32	182	113	24	184	90	104	147	40	1339
Total	74	1006	130	67	424	272	78	509	317	350	321	114	3662
08:00 AM	25	365	75	20	162	96	50	201	77	130	161	35	1397
08:15 AM	35	388	61	57	159	107	42	191	78	129	203	38	1488
08:30 AM	26	301	43	21	152	127	93	207	83	115	196	66	1430
08:45 AM	26	376	54	19	140	68	86	186	79	90	156	40	1340
Total	112	1430	233	117	613	418	271	785	317	464	716	179	5655
*** BREAK ***													
04:00 PM	44	188	54	26	131	54	50	269	100	100	108	43	1167
04:15 PM	50	236	50	29	142	70	41	227	98	93	134	53	1223
04:30 PM	41	192	48	20	180	65	23	246	99	85	120	62	1181
04:45 PM	59	238	72	38	160	67	58	292	152	104	145	45	1430
Total	194	854	224	113	613	256	172	1034	449	382	507	203	5001
05:00 PM	38	214	59	35	196	85	91	283	122	80	187	51	1441
05:15 PM	48	274	63	29	243	80	77	264	130	100	200	58	1566
05:30 PM	62	231	59	26	258	123	108	358	142	78	194	51	1690
05:45 PM	63	264	86	39	228	130	121	329	110	99	194	91	1754
Total	211	983	267	129	925	418	397	1234	504	357	775	251	6451
Grand Total	591	4273	854	426	2575	1364	918	3562	1587	1553	2319	747	20769
Apprch %	10.3	74.7	14.9	9.8	59	31.2	15.1	58.7	26.2	33.6	50.2	16.2	
Total %	2.8	20.6	4.1	2.1	12.4	6.6	4.4	17.2	7.6	7.5	11.2	3.6	

Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JEFFREY ROAD (291)
E-W Direction: ALTON PARKWAY

File Name : H1304088
Site Code : 00000559
Start Date : 4/25/2013
Page No : 2

	JEFFREY ROAD Southbound				ALTON PARKWAY Westbound				JEFFREY ROAD Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	25	365	75	465	20	162	96	278	50	201	77	328	130	161	35	326	1397
08:15 AM	35	388	61	484	57	159	107	323	42	191	78	311	129	203	38	370	1488
08:30 AM	26	301	43	370	21	152	127	300	93	207	83	383	115	198	66	377	1430
08:45 AM	26	376	54	456	19	140	88	247	86	186	79	351	90	156	40	286	1340
Total Volume	112	1430	233	1775	117	613	418	1148	271	785	317	1373	464	718	179	1359	5655
% App. Total	6.3	80.6	13.1		10.2	53.4	36.4		19.7	57.2	23.1		34.1	52.7	13.2		
PHF	.800	.921	.777	.917	.513	.946	.823	.889	.728	.948	.955	.896	.892	.882	.678	.901	.950

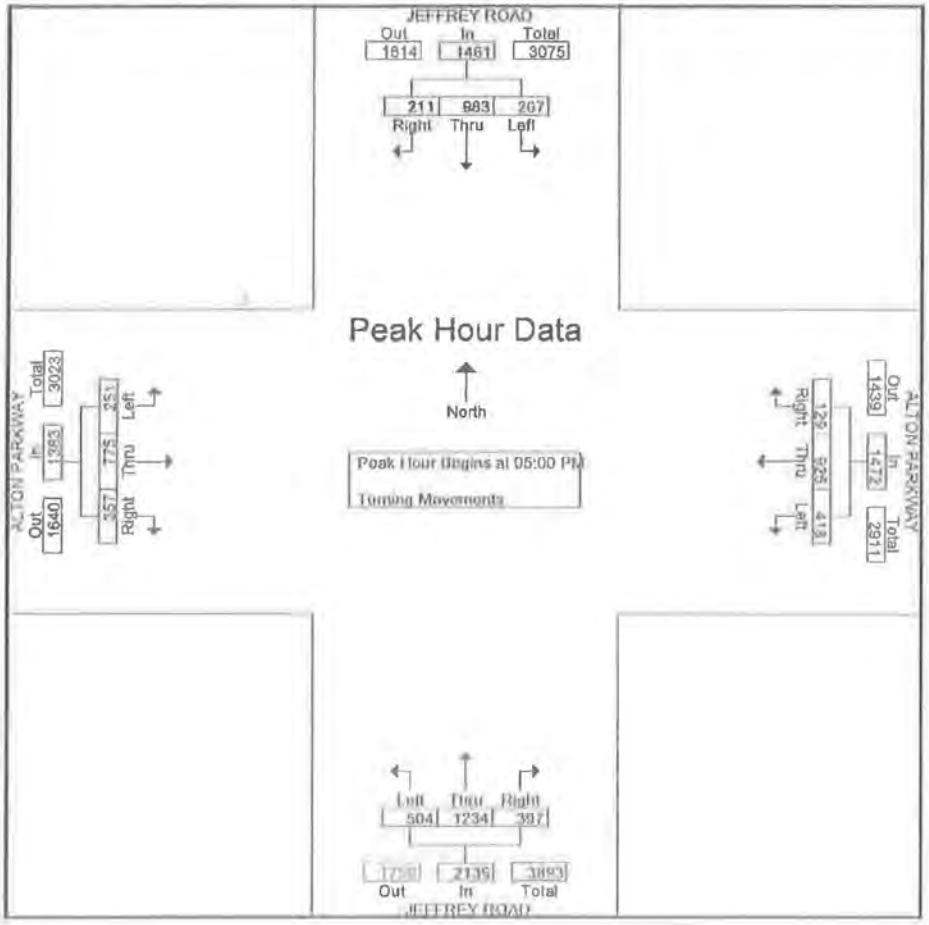


Transportation Studies, Inc.
2640 Walnut Avenue, Suite H
Tustin, CA. 92780

City: IRVINE
N-S Direction: JEFFREY ROAD (291)
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Start Date : 4/25/2013
Page No : 3

	JEFFREY ROAD Southbound				ALTON PARKWAY Westbound				JEFFREY ROAD Northbound				ALTON PARKWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	38	214	59	311	35	196	85	316	91	283	122	496	80	187	51	318	1441
05:15 PM	48	274	63	385	29	243	80	352	77	264	130	471	100	200	58	358	1566
05:30 PM	62	231	59	352	26	258	123	407	108	358	142	608	78	194	51	323	1690
05:45 PM	63	264	86	413	39	228	130	397	121	329	110	560	99	194	91	384	1754
Total Volume	211	983	267	1461	129	925	418	1472	397	1234	504	2135	357	775	251	1383	6451
% App. Total	14.4	67.3	18.3		8.8	62.8	28.4		18.6	57.8	23.6		25.8	56	18.1		
PHF	.837	.897	.776	.884	.827	.896	.804	.904	.820	.862	.887	.878	.893	.969	.690	.900	.919



Attachment B

ITAM Model Peak Hour Intersection Traffic Volume Forecasts and Level of Service Computation Worksheets (ICU Calculations)

- Existing (April 2013)
- Interim Year 2017
- Post-2035

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	504	.15*
NBT	3	5100	785	.15	1234	.24
NBR	f		271		397	
SBL	2	3400	233	.07	267	.08
SBT	3	5100	1430	.30*	983	.23*
SBR	0	0	112		211	
EBL	2	3400	179	.05	251	.07
EBT	2	3400	716	.21*	775	.23*
EBR	d	1700	464	.27	357	.21
WBL	2	3400	418	.12*	418	.12*
WBT	2	3400	613	.18	925	.27
WBR	d	1700	117	.07	129	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.77		.78

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013 - Alt. 1

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	504	.15*
NBT	3	5100	785	.15	1234	.24
NBR	1	1700	271	.16	397	.23
SBL	2	3400	233	.07	267	.08
SBT	3	5100	1430	.28*	983	.19*
SBR	d	1700	112	.07	211	.12
EBL	2	3400	179	.05	251	.07*
EBT	3	5100	716	.14*	775	.15
EBR	d	1700	464	.27	357	.21
WBL	2	3400	418	.12*	418	.12
WBT	2	3400	613	.18	925	.27*
WBR	d	1700	117	.07	129	.08
Right Turn Adjustment			EBR	.06*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74		.73

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013 - Alt. 2

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	504	.15*
NBT	3	5100	785	.15	1234	.24
NBR	1	1700	271	.16	397	.23
SBL	2	3400	233	.07	267	.08
SBT	3	5100	1430	.28*	983	.19*
SBR	d	1700	112	.07	211	.12
EBL	2	3400	179	.05	251	.07*
EBT	3	5100	716	.14*	775	.15
EBR	1	1700	464	.27	357	.21
WBL	2	3400	418	.12*	418	.12
WBT	2	3400	613	.18	925	.27*
WBR	d	1700	117	.07	129	.08
Right Turn Adjustment			EBR	.04*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION .72 .73

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013 - Alt. 3

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	504	.15
NBT	3	5100	785	.15	1234	.24*
NBR	f		271		397	
SBL	2	3400	233	.07	267	.08*
SBT	4	6800	1430	.21*	983	.14
SBR	d	1700	112	.07	211	.12
EBL	2	3400	179	.05	251	.07
EBT	2	3400	716	.21*	775	.23*
EBR	d	1700	464	.27	357	.21
WBL	2	3400	418	.12*	418	.12*
WBT	2	3400	613	.18	925	.27
WBR	d	1700	117	.07	129	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.72

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013 - Alt. 4

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	504	.15
NBT	3	5100	785	.15	1234	.24*
NBR	f		271		397	
SBL	2	3400	233	.07	267	.08*
SBT	4	6800	1430	.21*	983	.14
SBR	d	1700	112	.07	211	.12
EBL	2	3400	179	.05	251	.07
EBT	2	3400	716	.21*	775	.23*
EBR	1	1700	464	.27	357	.21
WBL	2	3400	418	.12*	418	.12*
WBT	2	3400	613	.18	925	.27
WBR	d	1700	117	.07	129	.08
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION .60 .72

291 . Jeffrey Rd. at Alton Pkwy.

Existing Conditions 4/2013 - Alt. 5

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	317	.09*	604	.15*
NBT	3	5100	785	.15	1234	.24
NBR	1	1700	271	.16	397	.23
SBL	2	3400	233	.07	267	.08
SBT	3	5100	1430	.28*	983	.19*
SBR	d	1700	112	.07	211	.12
EBL	2	3400	179	.05	251	.07*
EBT	2	3400	716	.21*	775	.23
EBR	d	1700	464	.27	357	.21
WBL	3	5100	418	.08*	418	.08
WBT	2	3400	613	.18	925	.27*
WBR	d	1700	117	.07	129	.08
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.71		.73

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Existing Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19*
NBT	3	5100	884	.17	1565	.31
NBR	f		181		334	
SBL	2	3400	283	.08	405	.12
SBT	3	5100	1874	.40*	1163	.27*
SBR	0	0	153		202	
EBL	2	3400	148	.04	267	.08
EBT	2	3400	537	.16*	891	.26*
EBR	d	1700	525	.31	352	.21
WBL	2	3400	587	.17*	415	.12*
WBT	2	3400	885	.26	828	.24
WBR	d	1700	138	.08	158	.09
Right Turn Adjustment			EBR	.05*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.96		.89

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Alt. 1 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19
NBT	3	5100	884	.17	1565	.31*
NBR	1	1700	181	.11	334	.20
SBL	2	3400	283	.08	405	.12*
SBT	3	5100	1874	.37*	1163	.23
SBR	d	1700	153	.09	202	.12
EBL	2	3400	148	.04*	267	.08*
EBT	3	5100	537	.11	891	.17
EBR	d	1700	525	.31	352	.21
WBL	2	3400	587	.17	415	.12
WBT	2	3400	885	.26*	828	.24*
WBR	d	1700	138	.08	158	.09
Right Turn Adjustment			EBR	.08*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.93		.80

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Alt. 2 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19
NBT	3	5100	884	.17	1565	.31*
NBR	1	1700	181	.11	334	.20
SBL	2	3400	283	.08	405	.12*
SBT	3	5100	1874	.37*	1163	.23
SBR	d	1700	153	.09	202	.12
EBL	2	3400	148	.04*	267	.08*
EBT	3	5100	537	.11	891	.17
EBR	1	1700	525	.31	352	.21
WBL	2	3400	587	.17	415	.12
WBT	2	3400	885	.26*	828	.24*
WBR	d	1700	138	.08	168	.09
Right Turn Adjustment			EBR	.05*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION .90 .80

#91 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Alt. 3 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19
NBT	3	5100	884	.17	1565	.31*
NBR	f		181		334	
SBL	2	3400	283	.08	405	.12*
SBT	4	6800	1874	.28*	1163	.17
SBR	d	1700	163	.09	202	.12
EBL	2	3400	148	.04	267	.08
EBT	2	3400	537	.16*	891	.26*
EBR	d	1700	525	.31	352	.21
WBL	2	3400	587	.17*	415	.12*
WBT	2	3400	885	.26	828	.24
WBR	d	1700	138	.08	158	.09
Right Turn Adjustment			EBR	.05*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		.86

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Alternative 4

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19
NBT	3	5100	884	.17	1565	.31*
NBR	f		181		334	
SBL	2	3400	283	.08	405	.12*
SBT	4	6800	1874	.28*	1163	.17
SBR	d	1700	153	.09	202	.12
EBL	2	3400	148	.04	267	.08
EBT	2	3400	537	.16*	891	.26*
EBR	1	1700	525	.31	352	.21
WBL	2	3400	587	.17*	415	.12*
WBT	2	3400	885	.26	828	.24
WBR	d	1700	138	.08	158	.09
Right Turn Adjustment			EBR	.02*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION			.81	.86

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 Y2017 - Alt. 5 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	425	.13*	640	.19
NBT	3	5100	884	.17	1565	.31*
NBR	1	1700	181	.11	334	.20
SBL	2	3400	283	.08	405	.12*
SBT	3	5100	1874	.37*	1163	.23
SBR	d	1700	153	.09	202	.12
EBL	2	3400	148	.04*	267	.08
EBT	2	3400	537	.16	891	.26*
EBR	d	1700	525	.31	352	.21
WBL	3	5100	587	.12	415	.08*
WBT	2	3400	885	.26*	828	.24
WBR	d	1700	138	.08	158	.09
Right Turn Adjustment			EBR	.03*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.88		.82

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative - Existing Improvement

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17*
NBT	3	5100	1154	.23	1631	.32
NBR	f		202		313	
SBL	2	3400	332	.10	485	.14
SBT	3	5100	2060	.43*	1479	.34*
SBR	0	0	157		236	
EBL	2	3400	209	.06	292	.09
EBT	2	3400	647	.19*	872	.26*
EBR	d	1700	594	.35	366	.22
WBL	2	3400	566	.17*	495	.15*
WBT	2	3400	798	.23	908	.27
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.03		.97

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative - Alt. 1 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17*
NBT	3	5100	1154	.23	1631	.32
NBR	1	1700	202	.12	313	.18
SBL	2	3400	332	.10	485	.14
SBT	3	5100	2060	.40*	1479	.29*
SBR	d	1700	157	.09	236	.14
EBL	2	3400	209	.06	292	.09*
EBT	3	5100	647	.13*	872	.17
EBR	d	1700	594	.35	366	.22
WBL	2	3400	566	.17*	495	.15
WBT	2	3400	798	.23	908	.27*
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.13*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				1.00		.87

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative - Alt. 2 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17*
NBT	3	5100	1154	.23	1631	.32
NBR	1	1700	202	.12	313	.18
SBL	2	3400	332	.10	485	.14
SBT	3	5100	2060	.40*	1479	.29*
SBR	d	1700	157	.09	236	.14
EBL	2	3400	209	.06	292	.09*
EBT	3	5100	647	.13*	872	.17
EBR	1	1700	594	.35	366	.22
WBL	2	3400	566	.17*	495	.15
WBT	2	3400	798	.23	908	.27*
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.10*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION	.97	.87

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative - Alt. 3 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17
NBT	3	5100	1154	.23	1631	.32*
NBR	f		202		313	
SBL	2	3400	332	.10	485	.14*
SBT	4	6800	2060	.30*	1479	.22
SBR	d	1700	157	.09	236	.14
EBL	2	3400	209	.06	292	.09
EBT	2	3400	647	.19*	872	.26*
EBR	d	1700	594	.35	366	.22
WBL	2	3400	566	.17*	495	.15*
WBT	2	3400	798	.23	908	.27
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.90		.92

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative (IRVINE ISEC)-Alt.4

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17
NBT	3	5100	1154	.23	1631	.32*
NBR	f		202		313	
SBL	2	3400	332	.10	485	.14*
SBT	4	6800	2060	.30*	1479	.22
SBR	d	1700	157	.09	236	.14
EBL	2	3400	209	.06	292	.09
EBT	2	3400	647	.19*	872	.26*
EBR	1	1700	594	.35	366	.22
WBL	2	3400	566	.17*	495	.15*
WBT	2	3400	798	.23	908	.27
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.04*		
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION .87 .92

291 . Jeffrey Rd. at Alton Pkwy.

ITAM 12 P2035 Cumulative - Alt. 5 Improvements

	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	415	.12*	586	.17*
NBT	3	5100	1154	.23	1631	.32
NBR	1	1700	202	.12	313	.18
SBL	2	3400	332	.10	485	.14
SBT	3	5100	2060	.40*	1479	.29*
SBR	d	1700	157	.09	236	.14
EBL	2	3400	209	.06	292	.09*
EBT	2	3400	647	.19*	872	.26
EBR	d	1700	594	.35	366	.22
WBL	3	5100	566	.11*	495	.10
WBT	2	3400	798	.23	908	.27*
WBR	d	1700	166	.10	197	.12
Right Turn Adjustment			EBR	.07*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.94		.87

Attachment C

Alternative 5 – SYNCHRO Operational Analysis Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	785	271	233	1430	112	417	613	117	179	716	464
Future Volume (veh/h)	317	785	271	233	1430	112	417	613	117	179	716	464
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	317	785	271	233	1430	0	417	613	0	179	716	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	1637	695	338	1565	0	500	1062	0	274	990	0
Arrive On Green	0.11	0.32	0.32	0.10	0.31	0.00	0.10	0.30	0.00	0.08	0.28	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	317	785	271	233	1430	0	417	613	0	179	716	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	7.2	9.9	9.1	5.2	21.7	0.0	6.5	11.7	0.0	4.0	14.6	0.0
Cycle Q Clear(g_c), s	7.2	9.9	9.1	5.2	21.7	0.0	6.5	11.7	0.0	4.0	14.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	387	1637	695	338	1565	0	500	1062	0	274	990	0
V/C Ratio(X)	0.82	0.48	0.39	0.69	0.91	0.00	0.83	0.58	0.00	0.65	0.72	0.00
Avail Cap(c_a), veh/h	387	1637	695	430	1589	0	500	1062	0	274	990	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.7	21.7	16.0	34.9	26.7	0.0	35.3	23.7	0.0	35.7	26.0	0.0
Incr Delay (d2), s/veh	13.0	0.2	0.4	3.2	8.4	0.0	11.5	2.3	0.0	5.4	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.7	4.2	2.6	11.3	0.0	3.5	6.0	0.0	2.1	7.8	0.0
LnGrp Delay(d),s/veh	47.7	22.0	16.4	38.1	35.1	0.0	46.9	26.0	0.0	41.1	30.6	0.0
LnGrp LOS	D	C	B	D	D		D	C		D	C	
Approach Vol, veh/h		1373			1663			1030			895	
Approach Delay, s/veh		26.8			35.5			34.5			32.7	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	28.0	11.9	29.8	12.0	26.4	13.0	28.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	23.5	9.5	23.5	7.5	21.5	8.5	24.5
Max Q Clear Time (g_c+I1), s	6.0	13.7	7.2	11.9	8.5	16.6	9.2	23.7
Green Ext Time (p_c), s	0.0	2.5	0.2	9.5	0.0	2.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	1234	397	267	983	211	418	925	129	251	775	357
Future Volume (veh/h)	504	1234	397	267	983	211	418	925	129	251	775	357
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1976	1863	1863	1976
Adj Flow Rate, veh/h	504	1234	397	267	983	0	418	925	0	251	775	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	1488	653	368	1150	0	519	1071	0	337	1050	0
Arrive On Green	0.17	0.29	0.29	0.11	0.23	0.00	0.10	0.30	0.00	0.10	0.30	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	504	1234	397	267	983	0	418	925	0	251	775	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	11.3	18.1	15.3	6.0	14.8	0.0	6.5	19.7	0.0	5.7	15.8	0.0
Cycle Q Clear(g_c), s	11.3	18.1	15.3	6.0	14.8	0.0	6.5	19.7	0.0	5.7	15.8	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	597	1488	653	368	1150	0	519	1071	0	337	1050	0
V/C Ratio(X)	0.84	0.83	0.61	0.72	0.86	0.00	0.81	0.86	0.00	0.74	0.74	0.00
Avail Cap(c_a), veh/h	602	1488	653	400	1176	0	519	1071	0	337	1050	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.0	26.4	19.2	34.6	29.7	0.0	35.1	26.3	0.0	35.1	25.3	0.0
Incr Delay (d2), s/veh	10.6	4.1	1.6	5.9	6.3	0.0	9.0	9.3	0.0	8.7	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.0	7.3	3.2	7.6	0.0	3.5	11.0	0.0	3.1	8.3	0.0
LnGrp Delay(d),s/veh	42.6	30.5	20.8	40.5	36.0	0.0	44.1	35.6	0.0	43.8	30.0	0.0
LnGrp LOS	D	C	C	D	D		D	D		D	C	
Approach Vol, veh/h		2135			1250			1343			1026	
Approach Delay, s/veh		31.6			36.9			38.3			33.4	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	28.2	12.6	27.4	12.3	27.7	17.9	22.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.8	23.7	8.8	22.7	7.8	22.7	13.5	18.0
Max Q Clear Time (g_c+I1), s	7.7	21.7	8.0	20.1	8.5	17.8	13.3	16.8
Green Ext Time (p_c), s	0.0	1.1	0.1	2.4	0.0	2.4	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	34.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	425	884	181	283	1874	153	587	885	138	148	537	525
Future Volume (veh/h)	425	884	181	283	1874	153	587	885	138	148	537	525
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1976	1863	1863	1976
Adj Flow Rate, veh/h	425	884	181	283	1874	0	587	885	0	148	537	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	476	2057	885	366	1895	0	664	1020	0	191	746	0
Arrive On Green	0.14	0.40	0.40	0.11	0.37	0.00	0.13	0.29	0.00	0.06	0.21	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	425	884	181	283	1874	0	587	885	0	148	537	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	13.4	13.8	6.3	8.8	40.3	0.0	12.7	26.1	0.0	4.7	15.5	0.0
Cycle Q Clear(g_c), s	13.4	13.8	6.3	8.8	40.3	0.0	12.7	26.1	0.0	4.7	15.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	476	2057	885	366	1895	0	664	1020	0	191	746	0
V/C Ratio(X)	0.89	0.43	0.20	0.77	0.99	0.00	0.88	0.87	0.00	0.78	0.72	0.00
Avail Cap(c_a), veh/h	476	2057	885	504	1895	0	664	1020	0	191	746	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.6	23.6	13.2	47.9	34.3	0.0	46.9	37.2	0.0	51.3	40.4	0.0
Incr Delay (d2), s/veh	19.0	0.1	0.1	5.0	18.0	0.0	13.4	9.9	0.0	17.9	5.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	6.5	2.9	4.5	21.9	0.0	6.6	14.2	0.0	2.7	8.2	0.0
LnGrp Delay(d),s/veh	65.6	23.8	13.3	52.8	52.3	0.0	60.3	47.1	0.0	69.2	46.3	0.0
LnGrp LOS	E	C	B	D	D		E	D		E	D	
Approach Vol, veh/h		1490			2157			1472			685	
Approach Delay, s/veh		34.4			52.3			52.4			51.2	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	35.7	15.7	48.5	18.6	27.2	19.2	45.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.6	31.2	15.6	39.6	14.1	22.7	14.7	40.5
Max Q Clear Time (g_c+I1), s	6.7	28.1	10.8	15.8	14.7	17.5	15.4	42.3
Green Ext Time (p_c), s	0.0	1.6	0.4	19.6	0.0	1.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	640	1565	334	405	1163	202	415	828	158	267	891	352
Future Volume (veh/h)	640	1565	334	405	1163	202	415	828	158	267	891	352
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1976	1863	1863	1976
Adj Flow Rate, veh/h	640	1565	334	405	1163	0	415	828	0	267	891	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	720	1616	688	474	1253	0	500	963	0	325	944	0
Arrive On Green	0.21	0.32	0.32	0.14	0.25	0.00	0.10	0.27	0.00	0.09	0.27	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	640	1565	334	405	1163	0	415	828	0	267	891	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	16.3	27.3	13.3	10.3	20.1	0.0	7.3	20.0	0.0	6.9	22.2	0.0
Cycle Q Clear(g_c), s	16.3	27.3	13.3	10.3	20.1	0.0	7.3	20.0	0.0	6.9	22.2	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	720	1616	688	474	1253	0	500	963	0	325	944	0
V/C Ratio(X)	0.89	0.97	0.49	0.85	0.93	0.00	0.83	0.86	0.00	0.82	0.94	0.00
Avail Cap(c_a), veh/h	727	1616	688	474	1253	0	500	963	0	325	944	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.6	30.3	19.1	37.9	33.1	0.0	39.7	31.1	0.0	40.0	32.3	0.0
Incr Delay (d2), s/veh	12.9	15.5	0.5	14.1	12.1	0.0	11.2	9.9	0.0	15.4	18.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	15.1	6.2	5.8	10.8	0.0	3.9	11.1	0.0	4.0	13.2	0.0
LnGrp Delay(d),s/veh	47.5	45.8	19.7	52.0	45.2	0.0	50.9	41.0	0.0	55.4	50.9	0.0
LnGrp LOS	D	D	B	D	D		D	D		E	D	
Approach Vol, veh/h		2539			1568			1243			1158	
Approach Delay, s/veh		42.8			47.0			44.3			51.9	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	28.5	16.4	32.6	13.0	28.0	22.8	26.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	24.0	11.9	28.1	8.5	23.5	18.5	21.5
Max Q Clear Time (g_c+I1), s	8.9	22.0	12.3	29.3	9.3	24.2	18.3	22.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	0.0	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	1154	202	332	2060	157	566	798	166	209	647	594
Future Volume (veh/h)	415	1154	202	332	2060	157	566	798	166	209	647	594
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1976	1863	1863	1976
Adj Flow Rate, veh/h	415	1154	202	332	2060	0	566	798	0	209	647	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	1954	830	426	1932	0	600	910	0	258	750	0
Arrive On Green	0.13	0.38	0.38	0.12	0.38	0.00	0.12	0.26	0.00	0.08	0.21	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	415	1154	202	332	2060	0	566	798	0	209	647	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	12.0	18.1	6.9	9.4	38.0	0.0	11.2	21.6	0.0	6.0	17.6	0.0
Cycle Q Clear(g_c), s	12.0	18.1	6.9	9.4	38.0	0.0	11.2	21.6	0.0	6.0	17.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	441	1954	830	426	1932	0	600	910	0	258	750	0
V/C Ratio(X)	0.94	0.59	0.24	0.78	1.07	0.00	0.94	0.88	0.00	0.81	0.86	0.00
Avail Cap(c_a), veh/h	441	1954	830	578	1932	0	600	910	0	258	750	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.2	24.5	14.0	42.5	31.0	0.0	43.7	35.6	0.0	45.5	38.0	0.0
Incr Delay (d2), s/veh	28.7	0.5	0.2	4.8	40.7	0.0	23.5	11.7	0.0	17.3	12.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	8.5	3.2	4.7	25.0	0.0	6.5	12.0	0.0	3.5	9.9	0.0
LnGrp Delay(d),s/veh	72.0	25.0	14.2	47.3	71.7	0.0	67.2	47.3	0.0	62.9	50.5	0.0
LnGrp LOS	E	C	B	D	F		E	D		E	D	
Approach Vol, veh/h		1771			2392			1364			856	
Approach Delay, s/veh		34.8			68.3			55.6			53.5	
Approach LOS		C			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	29.7	16.4	42.4	16.0	25.2	16.8	42.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.0	25.2	16.3	33.5	11.5	20.7	12.3	37.5
Max Q Clear Time (g_c+I1), s	8.0	23.6	11.4	20.1	13.2	19.6	14.0	40.0
Green Ext Time (p_c), s	0.0	0.8	0.5	12.6	0.0	0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	586	1631	313	485	1479	236	495	908	197	292	872	366
Future Volume (veh/h)	586	1631	313	485	1479	236	495	908	197	292	872	366
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1937	1863	1863	1976	1863	1863	1976	1863	1863	1976
Adj Flow Rate, veh/h	586	1631	313	485	1479	0	495	908	0	292	872	0
Adj No. of Lanes	2	3	1	2	3	0	3	2	0	2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	633	1627	710	530	1475	0	555	952	0	334	902	0
Arrive On Green	0.18	0.32	0.32	0.15	0.29	0.00	0.11	0.27	0.00	0.10	0.25	0.00
Sat Flow, veh/h	3442	5085	1647	3442	5253	0	5003	3632	0	3442	3632	0
Grp Volume(v), veh/h	586	1631	313	485	1479	0	495	908	0	292	872	0
Grp Sat Flow(s),veh/h/ln	1721	1695	1647	1721	1695	0	1668	1770	0	1721	1770	0
Q Serve(g_s), s	16.7	32.0	13.4	13.9	29.0	0.0	9.8	25.2	0.0	8.4	24.4	0.0
Cycle Q Clear(g_c), s	16.7	32.0	13.4	13.9	29.0	0.0	9.8	25.2	0.0	8.4	24.4	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	633	1627	710	530	1475	0	555	952	0	334	903	0
V/C Ratio(X)	0.93	1.00	0.44	0.92	1.00	0.00	0.89	0.95	0.00	0.87	0.97	0.00
Avail Cap(c_a), veh/h	633	1627	710	530	1475	0	555	952	0	334	903	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.1	34.0	20.0	41.7	35.5	0.0	43.9	35.9	0.0	44.6	36.8	0.0
Incr Delay (d2), s/veh	19.6	22.9	0.4	20.6	24.1	0.0	16.5	19.9	0.0	21.8	22.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	18.4	6.2	8.1	16.8	0.0	5.3	14.9	0.0	5.0	14.7	0.0
LnGrp Delay(d),s/veh	59.8	56.9	20.4	62.3	59.6	0.0	60.4	55.9	0.0	66.4	59.6	0.0
LnGrp LOS	E	F	C	E	F		E	E		E	E	
Approach Vol, veh/h		2530			1964			1403			1164	
Approach Delay, s/veh		53.0			60.3			57.4			61.3	
Approach LOS		D			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	30.9	19.4	36.0	15.1	29.5	22.4	33.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.2	26.4	14.9	31.5	10.6	25.0	17.9	28.5
Max Q Clear Time (g_c+I1), s	10.4	27.2	15.9	34.0	11.8	26.4	18.7	31.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	57.3
HCM 2010 LOS	E



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	317	785	271	233	1542	417	730	179	1180
v/c Ratio	0.88	0.51	0.30	0.60	0.97	0.90	0.69	0.75	1.13
Control Delay	62.1	24.4	7.5	40.3	45.5	59.9	27.8	56.7	94.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	24.4	7.5	40.3	45.5	59.9	27.8	56.7	94.6
Queue Length 50th (ft)	81	117	36	57	273	74	162	46	~327
Queue Length 95th (ft)	#153	155	83	93	#381	#129	223	#94	#454
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	360	1545	892	400	1582	465	1055	240	1048
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.51	0.30	0.58	0.97	0.90	0.69	0.75	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	504	1234	397	267	1194	418	1054	251	1132
v/c Ratio	0.90	0.84	0.45	0.72	1.01	0.87	0.99	0.86	1.08
Control Delay	53.9	32.9	11.5	46.4	58.6	55.0	54.1	64.5	80.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	32.9	11.5	46.4	58.6	55.0	54.1	64.5	80.3
Queue Length 50th (ft)	128	210	80	67	~212	74	269	64	~320
Queue Length 95th (ft)	#215	264	151	#117	#312	#126	#409	#128	#446
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	560	1475	875	372	1186	483	1065	292	1045
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.84	0.45	0.72	1.01	0.87	0.99	0.86	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	425	884	181	283	2027	587	1023	148	1062
v/c Ratio	0.96	0.46	0.18	0.67	1.08	0.95	1.01	0.84	1.25
Control Delay	82.0	26.9	6.1	53.6	78.4	73.6	70.3	87.4	152.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.0	26.9	6.1	53.6	78.4	73.6	70.3	87.4	152.1
Queue Length 50th (ft)	155	171	25	98	~584	147	~384	54	~432
Queue Length 95th (ft)	#254	214	60	142	#683	#221	#530	#111	#566
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	442	1926	1029	468	1883	618	1010	177	851
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.46	0.18	0.60	1.08	0.95	1.01	0.84	1.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	640	1565	334	405	1365	415	986	267	1243
v/c Ratio	0.95	0.97	0.37	0.92	1.10	0.89	1.03	0.88	1.31
Control Delay	60.1	47.3	10.7	66.4	89.7	63.3	70.0	71.0	174.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	47.3	10.7	66.4	89.7	63.3	70.0	71.0	174.6
Queue Length 50th (ft)	186	318	69	119	~320	84	~313	78	~471
Queue Length 95th (ft)	#292	#425	131	#204	#414	#140	#440	#148	#604
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	676	1615	897	441	1242	465	957	302	951
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.97	0.37	0.92	1.10	0.89	1.03	0.88	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	415	1154	202	332	2217	566	964	209	1241
v/c Ratio	1.01	0.64	0.21	0.68	1.16	1.01	1.07	0.87	1.44
Control Delay	92.0	29.0	6.6	47.7	106.3	86.3	85.5	79.4	232.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.0	29.0	6.6	47.7	106.3	86.3	85.5	79.4	232.3
Queue Length 50th (ft)	~140	224	27	103	~615	~131	~354	69	~513
Queue Length 95th (ft)	#240	278	66	148	#713	#208	#482	#135	#649
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	410	1813	982	538	1919	558	903	240	861
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.64	0.21	0.62	1.16	1.01	1.07	0.87	1.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	586	1631	313	485	1715	495	1105	292	1238
v/c Ratio	0.99	1.00	0.35	0.98	1.17	0.96	1.17	0.94	1.36
Control Delay	77.7	57.6	11.4	80.0	117.3	75.5	121.7	84.4	201.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.7	57.6	11.4	80.0	117.3	75.5	121.7	84.4	201.1
Queue Length 50th (ft)	194	~380	73	160	~476	113	~440	96	~537
Queue Length 95th (ft)	#308	#495	134	#264	#575	#182	#572	#178	#673
Internal Link Dist (ft)		1232			1315		840		743
Turn Bay Length (ft)	465		350	250		200		250	
Base Capacity (vph)	589	1627	905	493	1465	517	944	310	908
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.00	0.35	0.98	1.17	0.96	1.17	0.94	1.36

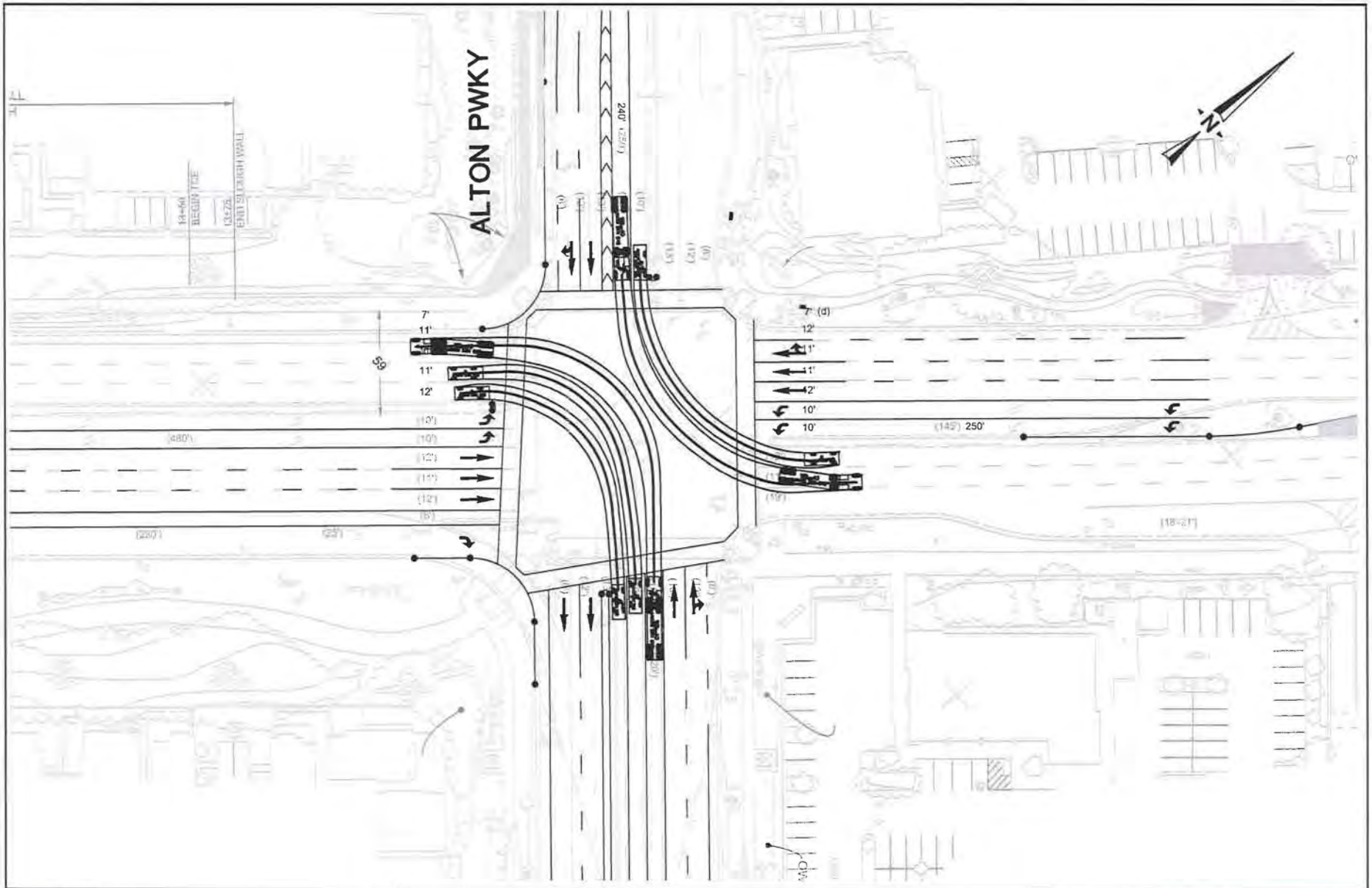
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Attachment D

AutoTurn Exhibit of Left-turn Movement Feasibility

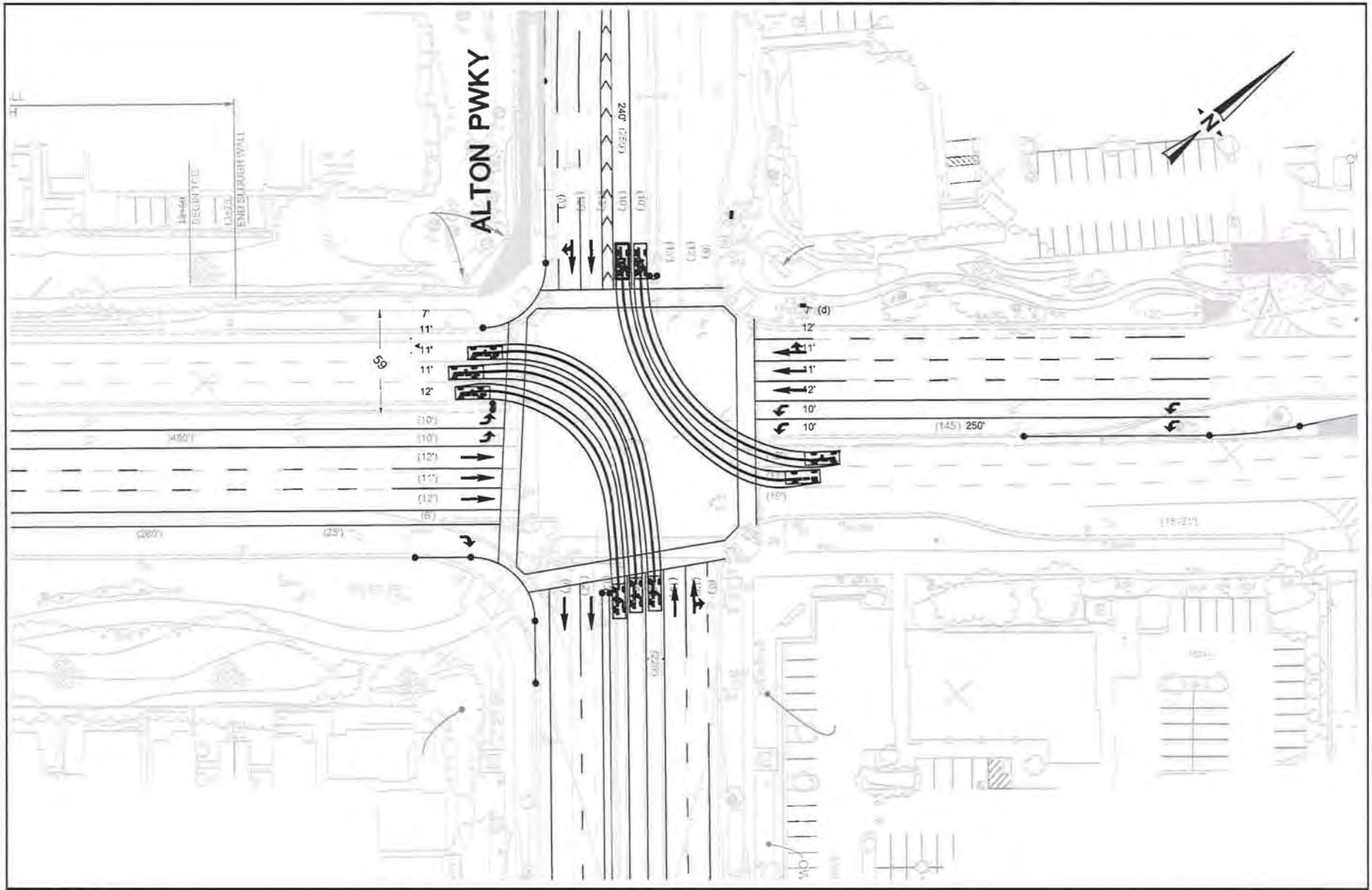


PREPARED BY:

VA CONSULTING now Stantec

JEFFREY ROAD/ALTON PARKWAY INTERSECTION IMPROVEMENTS IRVINE, CA

APPENDIX D EASTBOUND/WESTBOUND LEFT-TURN MOVEMENTS WITH WB-40

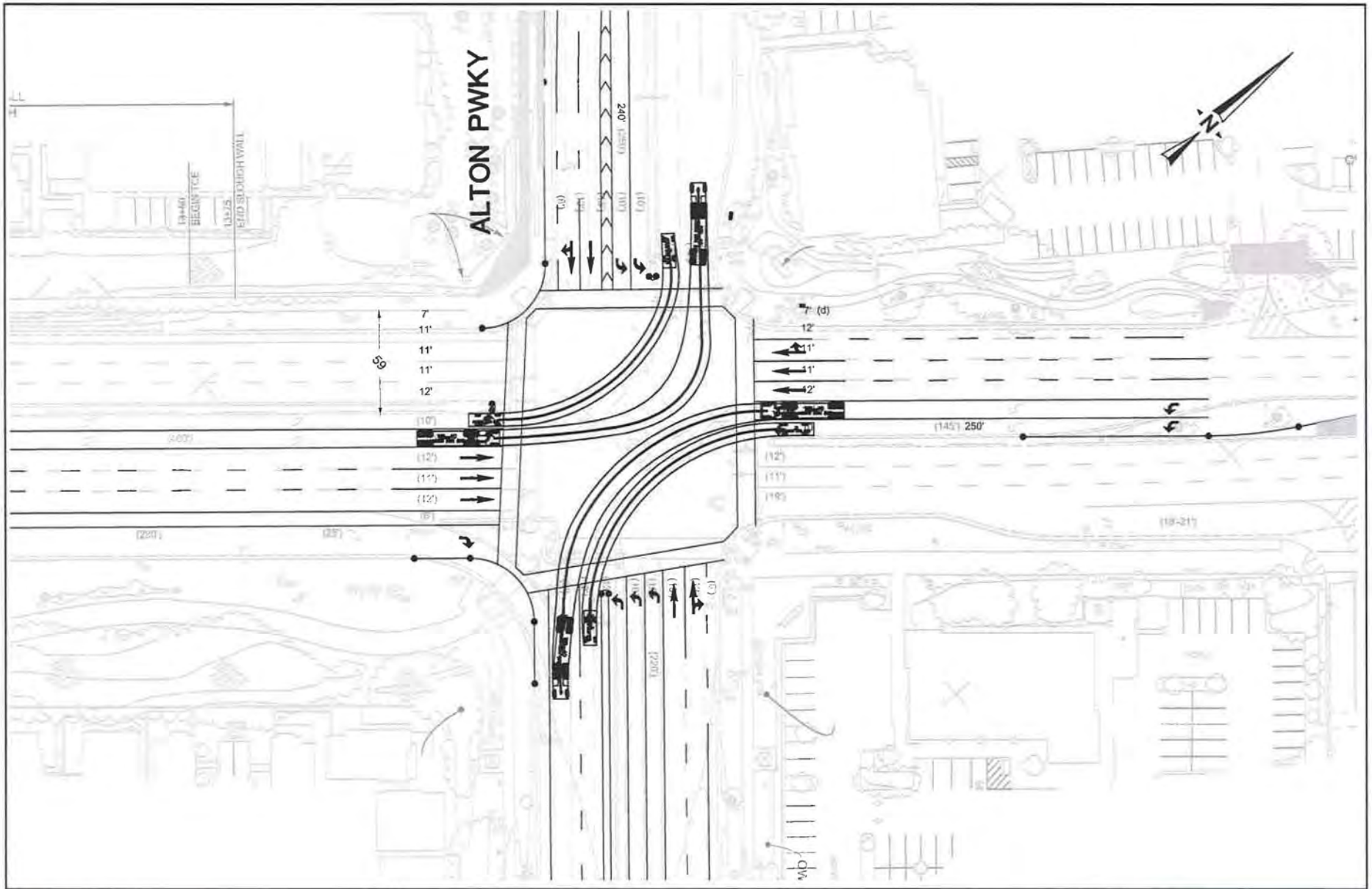


PREPARED BY:

VA CONSULTING ROW Stantec

JEFFREY ROAD/ALTON PARKWAY INTERSECTION IMPROVEMENTS IRVINE, CA

APPENDIX D EASTBOUND/WESTBOUND LEFT-TURN MOVEMENTS WITH PASSENGER CARS



PREPARED BY:

VA CONSULTING now Stantec

JEFFREY ROAD/ALTON PARKWAY INTERSECTION IMPROVEMENTS IRVINE, CA

APPENDIX D

NORTHBOUND/SOUTHBOUND LEFT-TURN MOVEMENTS

Attachment E

Response to Transportation Design Procedures Considerations for Triple Left-turns

Response to Considerations for use of Triple Left-turns as Discussed in Section TDP-1, page 8, **City of Irvine Transportation Design Procedures, February 2007**

Design Considerations

- Widths of receiving lanes.

Same as existing SB lanes on Jeffrey Road: No.1 lane – 12', No.2 lane – 11', No.3 lane – 11', bike lane 7'.

- Width of intersection (to accommodate three vehicles abreast).

Adequate ROW width is available. Westbound Alton Parkway approach will be designed and reconstructed accordingly.

- Clearance between opposing left-turn movements during concurrent maneuvers.

Has been analyzed using AutoTurn CADD software and determined that EB/WB left-turns can occur simultaneously with appropriate clearance.

- Pavement marking visibility.

No specific concerns. Pavement markings anticipated to be visible and effective.

- Placement of stop bars for left-turning and through vehicles.

No specific concerns. Limit line for left-turns and adjacent through vehicles on westbound approach will be delineated by back of crosswalk.

- Weaving movements downstream of turn.

Minimal. Nearest downstream (approx. 1,050 ft.) turning movement is SBLT on Jeffrey Road at Quailcreek intersection with less than 100 vph in either peak hour. First exit on the right is at Jeffrey/I-405 NB on-ramp (approximately 2,000 feet downstream). A weaving analysis for SB Jeffrey Road between Alton Parkway and Quailcreek (provided in Appendix F) for existing 2015 conditions with a triple left-turn on westbound Alton Parkway indicates that the weaving LOS is A for both peak hours. This high LOS is not anticipated to decline to unacceptable levels in future years. It should be noted that both segments of Jeffrey Road between Alton Parkway and Quailcreek and Quailcreek to the I-405 Freeway are longer than is required to provide a design speed (50 mph – 600 feet) lane drop and merge taper.

- Potential for pedestrian conflict.

Impact on pedestrian safety anticipated to be minimal. Existing small pork chop island with unprotected crosswalk will be removed by elimination of NB free right-turn and replaced with conventional dedicated NB right-turn lane. This will increase the length of the pedestrian crossing. If necessary, a leading pedestrian signal phase could be provided.

Operational Considerations

- Backup from a downstream signal on the receiving roadway.

The next downstream traffic signal on Jeffrey Road receiving the westbound triple left-turns (from Alton Parkway) is at Quailcreek, approximately 1,050' south of Alton Parkway. This is a T-intersection with only one side-street approach (westbound) so there is good level of service (LOS) at the intersection under existing conditions; ICU 0.71-LOS C in the am peak hour and ICU 0.62-LOS B in the pm peak hour. Because of the high peak hour LOS at the Jeffrey Road/Quailcreek intersection and distance of the southbound approach from Alton Parkway, significant downstream backup at the intersection is not anticipated to occur and is not a concern.

- Relative turning movement distribution at a downstream intersection that would compromise the ability of the receiving lanes to store the left turning vehicles.

There are no turning movement distributions downstream that would impact the ability of the receiving lanes on southbound Jeffrey Road from accommodating the left-turn volumes from westbound Alton Parkway. The nearest turning movement on Jeffrey Road south of Alton is a left-turn at the signalized Quailcreek intersection, 1,050' to the south. The storage length of this left-turn pocket is 190' and the existing am and pm peak hour volumes for the southbound left-turn are 41 vph and 90 vph, respectively, and the length of the pocket is consistent with the City policy of 1 foot of storage per peak hour vehicle and the minimum length for a major arterial roadway (150').

- Heavy volumes from other approaches that are also accommodated by the roadway that receives the left turns.

During peak hours, all movements at the Jeffrey/Alton intersection that provide access to southbound Jeffrey Road and the I-405 Freeway are heavy volumes. These movements include the southbound through, eastbound right, and westbound left-turn movements. This is particularly the case during the am peak hour. However for the reasons discussed above, and because these movements are controlled by signal phasing at the Jeffrey/Alton intersection that essentially only allows one of these movements to occur at a time, this is not a concern.

- Upstream effects that could make it difficult to distribute the approaching left turns over the three left turning lanes (e.g. a heavy single lane exit ramp from a freeway).

There are no significant upstream (or downstream) conditions that will make it difficult or unlikely that the left-turn volumes will distribute evenly over the three (3) proposed left-turn lanes on Alton Parkway. The nearest egress driveway from the Oak Creek Shopping Center is 250' east of the beginning of the westbound left-turn pocket. There is minimal downstream weaving on Jeffrey Road between Alton Parkway and the I-405 NB Freeway Ramp (approximately 1,000' south of Quailcreek). Vehicles in the No.1 (inside) left turn lane have two roadway segments along Jeffrey Road, each approximately 1,000 feet long, to accomplish a total of two (2) lane changes between Alton Parkway and the I-405 Freeway NB on-ramp if freeway access is their desired movement.

Attachment F

Weaving Analysis of Existing (2015) Peak Hour Conditions with Triple Left-turns (Alt. 5)

HCS 2010: Freeway Weaving Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Kelly Tran
Agency/Co.:	Stantec Consulting Services
Date Performed:	11/29/2016
Analysis Time Period:	AM Peak Hour
Freeway/Dir of Travel:	Southbound Jeffrey Rd
Weaving Location:	Btw. Alton Pkwy & Quailcreek
Analysis Year:	2015
Description:	Jeffrey/Alton Westbound Triple Left Turn

Inputs

Segment Type	C-D Roadway/ Multilane Highways	
Weaving configuration	One-Sided	
Number of lanes, N	3	ln
Weaving segment length, LS	1050	ft
Freeway free-flow speed, FFS	50	mi/h
Minimum segment speed, SMIN	25	mi/h
Freeway maximum capacity, cIFL	2250	pc/h/ln
Terrain type	Level	
Grade	0.00	%
Length	0.00	mi

Conversion to pc/h Under Base Conditions

	Volume Components				
	VFF	VRF	VFR	VRR	
Volume, V	90	2	73	324	veh/h
Peak hour factor, PHF	0.94	0.94	0.94	0.94	
Peak 15-min volume, v15	24	1	19	86	
Trucks and buses	2	2	2	2	%
Recreational vehicles	1	1	1	1	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.988	0.988	0.988	0.988	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	97	2	79	349	pc/h

Volume ratio, VR 0.154

Configuration Characteristics

Number of maneuver lanes, NWL	2	ln
Interchange density, ID	0.0	int/mi
Minimum RF lane changes, LCRF	1	lc/pc
Minimum FR lane changes, LCFR	2	lc/pc
Minimum RR lane changes, LCRR		lc/pc
Minimum weaving lane changes, LCMIN	160	lc/h
Weaving lane changes, LCW	256	lc/h
Non-weaving vehicle index, INW	0	
Non-weaving lane change, LCNW	83	lc/h
Total lane changes, LCALL	339	lc/h

Weaving and Non-Weaving Speeds

Weaving intensity factor, W 0.093

Average weaving speed, SW	47.9	mi/h
Average non-weaving speed, SNW	48.0	mi/h

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	48.0	mi/h
Weaving segment density, D	3.7+	pc/mi/ln
Level of service, LOS	A	
Weaving segment v/c ratio	0.087	
Weaving segment flow rate, v	521	veh/h
Weaving segment capacity, cW	5985	veh/h

Limitations on Weaving Segments

If limit reached, see note.

	Minimum	Maximum	Actual	Note
Weaving length (ft)	300	4068	1050	a,b
		Maximum	Analyzed	
Density-based capacty, cIWL (pc/h/ln)		2250	2019	c
		Maximum	Analyzed	
v/c ratio		1.00	0.087	d

Notes:

a. In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
b. Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
c. The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
d. Volumes exceed the weaving segment capacity. The level of service is F.

HCS 2010: Freeway Weaving Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Kelly Tran
Agency/Co.:	Stantec Consulting Services
Date Performed:	11/29/2016
Analysis Time Period:	PM Peak Hour
Freeway/Dir of Travel:	Southbound Jeffrey Rd
Weaving Location:	Btw. Alton Pkwy & Quailcreek
Analysis Year:	2015
Description:	Jeffrey/Alton Westbound Triple Left Turn

Inputs

Segment Type	C-D Roadway/ Multilane Highways	
Weaving configuration	One-Sided	
Number of lanes, N	3	ln
Weaving segment length, LS	1050	ft
Freeway free-flow speed, FFS	50	mi/h
Minimum segment speed, SMIN	25	mi/h
Freeway maximum capacity, cIFL	2250	pc/h/ln
Terrain type	Level	
Grade	0.00	%
Length	0.00	mi

Conversion to pc/h Under Base Conditions

	Volume Components				
	VFF	VRF	VFR	VRR	
Volume, V	103	6	37	272	veh/h
Peak hour factor, PHF	0.94	0.94	0.94	0.94	
Peak 15-min volume, v15	27	2	10	72	
Trucks and buses	2	2	2	2	%
Recreational vehicles	1	1	1	1	%
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2	
Heavy vehicle adjustment, fHV	0.988	0.988	0.988	0.988	
Driver population adjustment, fP	1.00	1.00	1.00	1.00	
Flow rate, v	111	6	40	293	pc/h

Volume ratio, VR 0.102

Configuration Characteristics

Number of maneuver lanes, NWL	2	ln
Interchange density, ID	0.0	int/mi
Minimum RF lane changes, LCRF	1	lc/pc
Minimum FR lane changes, LCFR	2	lc/pc
Minimum RR lane changes, LCRR		lc/pc
Minimum weaving lane changes, LCMIN	86	lc/h
Weaving lane changes, LCW	182	lc/h
Non-weaving vehicle index, INW	0	
Non-weaving lane change, LCNW	75	lc/h
Total lane changes, LCALL	257	lc/h

Weaving and Non-Weaving Speeds

Weaving intensity factor, W 0.074

Average weaving speed, SW	48.3	mi/h
Average non-weaving speed, SNW	48.7	mi/h

Weaving Segment Speed, Density, Level of Service and Capacity

Weaving segment speed, S	48.6	mi/h
aving segment density, D	3.1+	pc/mi/ln
Level of service, LOS	A	
Weaving segment v/c ratio	0.073	
Weaving segment flow rate, v	445	veh/h
Weaving segment capacity, cW	6101	veh/h

Limitations on Weaving Segments

If limit reached, see note.

	Minimum	Maximum	Actual	Note
Weaving length (ft)	300	3561	1050	a,b
		Maximum	Analyzed	
Density-based capacty, cIWL (pc/h/ln)		2250	2058	c
		Maximum	Analyzed	
v/c ratio		1.00	0.073	d

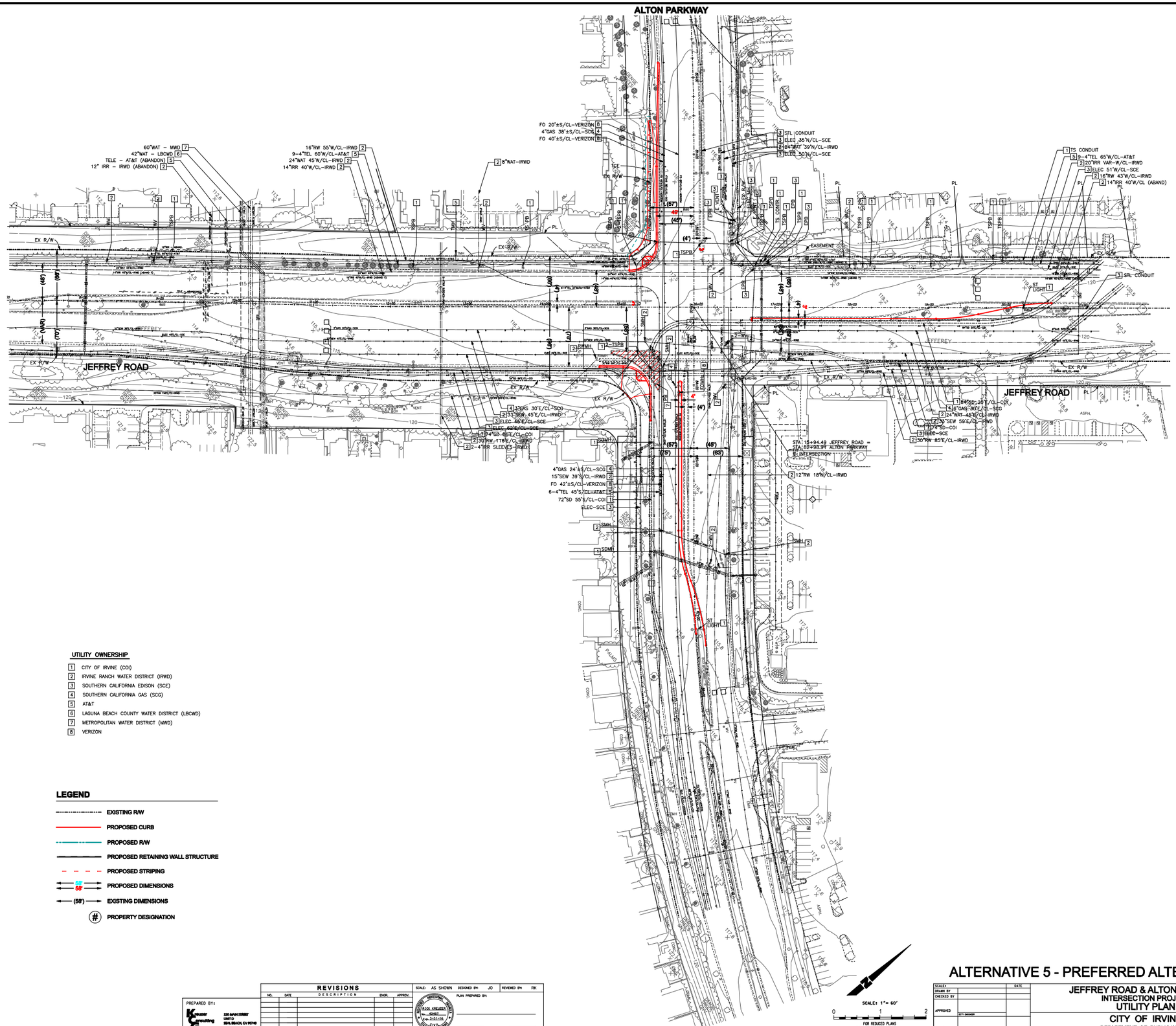
Notes:

a. In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
b. Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
c. The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
d. Volumes exceed the weaving segment capacity. The level of service is F.

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Existing Utility Plan and Prior Rights Summary

PROJECT REPORT ATTACHMENT D



UTILITY OWNERSHIP

1. CITY OF IRVINE (COI)
2. IRVINE RANCH WATER DISTRICT (IRWD)
3. SOUTHERN CALIFORNIA EDISON (SCE)
4. SOUTHERN CALIFORNIA GAS (SCG)
5. AT&T
6. LAGUNA BEACH COUNTY WATER DISTRICT (LBCWD)
7. METROPOLITAN WATER DISTRICT (MWD)
8. VERIZON

LEGEND

- EXISTING R/W
- PROPOSED CURB
- PROPOSED R/W
- PROPOSED RETAINING WALL STRUCTURE
- PROPOSED STRIPING
- PROPOSED DIMENSIONS (58' / 58')
- (58') EXISTING DIMENSIONS
- (#) PROPERTY DESIGNATION

ALTERNATIVE 5 - PREFERRED ALTERNATIVE

REVISIONS				
NO.	DATE	DESCRIPTION	ENGR.	APPROV.

SCALE: AS SHOWN | DESIGNED BY: JO | DRAWN BY: RK | CHECKED BY:

PREPARED BY: Kreuzer Consulting Group, 330 MAIN STREET, UNIT D, SEAL BEACH, CA 90740, 714-656-0130

PLAN PREPARED BY:

R.C.E. No. DATE

SCALE: DATE
DRAWN BY
CHECKED BY
APPROVED CITY ENGINEER
APPROVED BOARD MEMBER

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
UTILITY PLAN
CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

L:\1109-Irvine\004-Alton_Jeffrey_Intersection\Design\Sheets misc\Concept Plan Alt 5 Utility Plan.dgn
3/4/2017 3:11:39 PM SCALE: 60.000000 / IN. USER: pgass
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TEXTSCR.TBL

CITY OF IRVINE- Jeffery Road and Alton Parkway Intersection.

OVERLAND PACIFIC & CUTLER, INC.

Utility Tracking - Existing Facility Prior Rights

*** I have found no indication the existing facilities have been moved within the last ten years. City of Irvine would be responsible for 2nd move in a ten year period.**

3/26/2015

Utility	Utility Company Name	Contact Info	Prior Rights	Conflict	Comments
Telephone	**AT&T DISTRIBUTION** 3939 E Coronado Street. Anaheim, CA 92807	**Craig Akin - Planner** (714) 666-5698 ca1818@ATT.COM	**All facilities are within City of Irvine Public Street Right of Way (Franchise).**	None. Protect in Place.	Conversations and emails with Craig Akin indicate all AT&T facilities are within Franchise. I also researched City Files and found no easement information. Liability appears to be with Utility Provider.
Telephone	**VERIZON WIRELESS** 10640 Sepulveda Boulevard, Suite 1 Mission Hills, CA 91345	**Matthew Kang - Engineer** (818) 898.2352 matt.kang@cableeng.com	**All facilities are within City of Irvine Public Street Right of Way (Permit).**	None. Protect in Place.	Conversation and emails with Matt Kang. Verizon Wireless (VZW) does not have a Franchise Agreement in place with the jurisdiction to cover their existing facilities at this intersection. VZW would have obtained an encroachment permit from the jurisdiction to construct. VZW has a state franchise agreement.
Water and Sewer	**IRVINE RANCH WATER DISTRICT** 15600 Sand Canyon Avenue Irvine, CA 92619	**Ray Thatcher-ROW** (949) 453.5602 **Chris Kessler - Planner** (949) 453-5441 Kessler@irwd.com	**Yes there is an Easement for a 16" effluent water line within work area.** **All other facilities are within City of Irvine Public Street Right of Way (Franchise).**	Adjust water valves to grade. Relocate Air Vac Assembly.	Conversations and emails with Ray Thatcher indicate 16' effluent water line has prior rights. All other Irvine Ranch Water District facilities in construction area are within Franchise. I also researched City Files and found no other easement information.
Electrical	**SOUTHERN CALIFORNIA EDISON** 14155 Bake Parkway Irvine, CA 92618	**Sup Chomsevi - Planner** (949) 458-4623 Sup.Chomsevi@sce.com	**All facilities are within City of Irvine Public Street Right of Way (Franchise).**	Adjust manhole to grade. Relocate pull boxes. Relocate vault vents.	Edison would not discuss details without filing proper work order request. All facilities appear to be within City Public Street Right of Way per field visits. I also researched City Files and found no easement information. Liability appears to be with Utility Provider.
Gas - Distribution	**SOUTNERN CALIFORNIA GAS** 1919 State College Boulevard Anaheim, CA 92806	**Wilson Baldelomar - Planner** (714) 634-5091 Wbaldelomar@semprautilities.com	**All facilities are within City of Irvine Public Street Right of Way (Franchise).**	None. Protect in Place.	Per as built maps and field review, all Gas facilities are within City Right of Way. Wilson could not comment on the record without filing a proper work order request. I also researched City Files and found no easement information. Liability appears to be with Utility Provider.
Cable TV	**COX COMMUNICATIONS**	**Gary MCclaran -** (949) 279.8147 Gary.Mclaren@cox.com	**All facilities are within City of Irvine Public Street Right of Way (Franchise).**	None. Protect in Place.	I requested as built maps and had conversations with Gary MCClaran. Gary could not find any easements within working area. Field review indicate all Cox Communication facilities are within Franchise. I also researched City Files and found no easement information. Liability appears to be with Utility Provider.
Water	**LAGUNA BEACH COUNTY WATER DISTRICT**	**Nelson Granados -Planner** **(949)338.8191** **Eric Callahan - Crew Chief** (949) 241.7067 Ecallahan@lbcwd	**Yes**	None. Protect in Place.	Laguna Beach County Water District has an existing 42" transmission main located within a perpetual non exclusive easement within project boundaries. Approximately 510' W. of intersection on Jeffrey Rd.

Water	**SOUTH COAST WATER DISTRICT**	**Greg Pennington - Transmission Supervisor** (949) 499-4555 ex. 3421 Gpennington@scwd.org	**Yes**	None. Protect in Place.	Per LBCWD " Eric Callahan. SCWD has a 60" water line parallel with theirs in an easement position. Approximately 510' W. of intersection on Jeffrey Rd. Greg Pennington confirmed this to be correct.
Tw telecom-Level 3	**Tw telecom-LEVEL 3**	**Gerry Issasi - SR/OSP Engineer (949) 275-1419 gerardo.issasi@twtelecom.com**	**No Facilities within working area.**		I requested as built maps and discussed project with Gerry Issasi. Tw telecom-Level 3 is located on the S.E. side of Jeffrey Road and Alton but not within the working area. FYI- Tw telecom was purchased by Level 3 but the complete name change is still a work in progress.
Water	**ORANGE COUNTY WATER DISTRICT**	**Joshua Long- Engineering Intern** (714) 378-3200 Jlong@ocwd.com	**No Facilities within working area.**		
Gas -Transmission	**SOUTNERN CALIFORNIA GAS**	**Rosalyn Squires - Planner** (818) 701-4546 RSquires@semprautilities.com	**No Facilities within working area.**		

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Project Cost Estimates

PROJECT REPORT ATTACHMENT E

CITY OF IRVINE

Jeffrey Road/Alton Parkway
Intersection Improvements
Preliminary Project Cost Estimate

PREFEERED ALTERNATIVE

ALTERNATIVE 5

- add S/B defacto right
- add W/B left

I.CONSTRUCTION

Item	Description	Unit	Unit Cost	Quantity	Cost
	A.ROADWAY IMPROVEMENTS				
1	Mobilization	LS	$75,000	1	$75,000
2	Clearing and Grubbing	LS	$30,000	1	$30,000
3	Remove Curb & Gutter	LF	$9.50	410	$3,895
4	Remove Curb	LF	$7.50	1,170	$8,775
5	Remove Sidewalk	SF	$5.00	2,261	$11,305
6	Remove Concrete Driveway	SF	$5.00	0	$0
7	Remove Median Hardscape	SF	$5.00	2,750	$13,750
8	Remove Tree	EA	$750	3	$2,250
9	Remove Catch Basin	EA	$1,000	0	$0
10	Excavation	CY	$75.00	2,235	$167,625
11	Cold Plane Roadway	SF	$0.75	21,987	$16,490
12	Asphalt Concrete	TON	$85.00	293	$24,905
13	Aggregate Base	TON	$50.00	890	$44,500
14	ARHM Overlay	TON	$90.00	423	$38,070
15	Curb and Gutter	LF	$40.00	410	$16,400
16	Median Curb	LF	$25.00	1,097	$27,425
17	Median Hardscape	SF	$30.00	1,440	$43,200
18	Sidewalk/Ramps	SF	$7.00	2,393	$16,751
19	Concrete Driveway	SF	$12.00	0	$0
19	Adjust Valve to Grade	EA	$650	3	$1,950
20	Relocate Water Meter	EA	$650	0	$0
21	Misc. Utility Adjustments/Relocations	LS	$35,000	1	$35,000
22	Relocate Street Light	EA	$6,000	1	$6,000
23	Relocate Bus Stop	EA	$1,500	1	$1,500
24	Parkway Landscaping & Irrigation	SF	$15.00	2,880	$43,200
25	Median Landscaping & Irrigation	SF	$15.00	1,950	$29,250
26	Replace Turf/Groundcover in TCE Areas	SF	$6.00	1,400	$8,400
27	Catch Basin w/Local Depression	EA	$12,500	0	$0
28	Storm Drain Connector Pipe	LF	$200.00	0	$0
29	Filterra Bioretention System	EA	$20,000	1	$20,000
30	Prepare/Implement SWPPP	LS	$20,000	1	$20,000
30	Traffic Signal Modification W/Video Detection	LS	$350,000	1	$350,000
31	Reconstruct Traffic Loops	EA	$400	3	$1,200
32	Signing, Striping and Markings	LS	$20,000	1	$20,000
33	Traffic Control	LS	$100,000	1	$100,000
	Subtototal Construction				**$1,176,841**
	Construction Contingency (20%)				$235,368
	Design Engineering				$241,000
	Construction Engineering and Management				$202,713
	TOTAL CONSTRUCTION				***$1,855,923***

II. RIGHT OF WAY ACQUISITION

Total

Item	Description	Unit	Unit Cost	Quantity	Cost
1	AP#452-055-03 (Irvine Co.) - TCE	SF	$5.00	1,392	$6,960
	Subtototal R/W				**$6,960**
	R/W Contingency (20%)				$1,392
	R/W Management				$14,380
	TOTAL R/W ACQUISITION				***$22,732***

PROJECT TOTAL				***$1,878,655***

CITY OF IRVINE

Jeffrey Road/Alton Parkway
Intersection Improvements
Preliminary Project Cost Estimate

ALTERNATIVE 4

- add S/B through/defacto right
- add E/B right

I.CONSTRUCTION

Item	Description	Unit	Unit Cost	Quantity	Cost
	A.ROADWAY IMPROVEMENTS				
1	Mobilization	LS	$85,000	1	$85,000
2	Clearing and Grubbing	LS	$45,000	1	$45,000
3	Remove Curb & Gutter	LF	$9.50	1,536	$14,592
4	Remove Curb	LF	$7.50	320	$2,400
5	Remove Sidewalk	SF	$5.00	8,488	$42,440
6	Remove Concrete Driveway	SF	$5.00	1,260	$6,300
7	Remove Median Hardscape	SF	$5.00	516	$2,580
8	Remove Tree	EA	$750	19	$14,250
9	Remove Catch Basin	EA	$1,000	2	$2,000
10	Excavation	CY	$75.00	3,250	$243,750
11	Cold Plane Roadway	SF	$0.75	91,100	$68,325
12	Asphalt Concrete	TON	$85.00	1,247	$105,995
13	Aggregate Base	TON	$50.00	1,807	$90,350
14	ARHM Overlay	TON	$90.00	1,384	$124,560
15	Curb and Gutter	LF	$40.00	1,536	$61,440
16	Median Curb	LF	$25.00	270	$6,750
17	Median Hardscape	SF	$30.00	550	$16,500
18	Sidewalk/Ramps	SF	$7.00	8,378	$58,646
19	Concrete Driveway	SF	$10.00	1,260	$12,600
19	Adjust Valve to Grade	EA	$650	4	$2,600
20	Relocate Water Meter	EA	$650	1	$650
21	Misc. Utility Adjustments/Relocations	LS	$40,000	1	$40,000
22	Relocate Street Light	EA	$6,000	1	$6,000
23	Relocate Bus Stop	EA	$1,500	1	$1,500
24	Retaining Wall	SF	$75	1,920	$144,000
25	Parkway Landscaping & Irrigation	SF	$15.00	2,900	$43,500
26	Median Landscaping & Irrigation	SF	$15.00	1,425	$21,375
27	Replace Turf/Groundcover in TCE Areas	SF	$6.00	7,740	$46,440
28	Catch Basin w/Local Depression	EA	$12,500	2	$25,000
29	Storm Drain Connector Pipe	LF	$200.00	25	$5,000
30	Filterra Bioretention System	EA	$20,000	1	$20,000
31	Prepare/Implement SWPPP	LS	$40,000	1	$40,000
32	Traffic Signal Modification w/Video Detection	LS	$250,000	1	$250,000
33	Reconstruct Traffic Loops	EA	$400	3	$1,200
34	Signing, Striping and Markings	LS	$20,000	1	$20,000
35	Traffic Control	LS	$100,000	1	$100,000
	Subtotal Construction				**$1,770,743**
	Construction Contingency (20%)				$354,149
	Design Engineering				$241,000
	Construction Engineering and Management				$202,713
	TOTAL CONSTRUCTION				***$2,568,605***

II. RIGHT OF WAY ACQUISITION

Total

Item	Description	Unit	Unit Cost	Quantity	Cost
1	AP#452-055-03 (Irvine Co.) - Part Take	SF	$35.00	878	$30,730
2	AP#452-055-03 (Irvine Co.) - TCE	SF	$10.00	7,003	$70,030
3	AP#452-053-09 (Alton Square) - Part Take	SF	$50.00	390	$19,500
4	AP#452-053-09 (Alton Square) - TCE	SF	$10.00	590	$5,900
5	AP#452-053-06 (Alton Square) - TCE	SF	$10.00	1,436	$14,360
6	AP#452-053-07 (Alton Square) - TCE	SF	$10.00	945	$9,450
	Subtotal R/W				**$149,970**
	R/W Contingency (20%)				$29,994
	R/W Management				$57,520
	TOTAL R/W ACQUISITION				***$237,484***

PROJECT TOTAL				***$2,806,089***

CITY OF IRVINE

Jeffrey Road/Alton Parkway
Intersection Improvements
Preliminary Project Cost Estimate

ALTERNATIVE 3
- add S/B through/defacto right

I.CONSTRUCTION

Item	Description	Unit	Unit Cost	Quantity	Cost
	A.ROADWAY IMPROVEMENTS				
1	Mobilization	LS	$75,000	1	$75,000
2	Clearing and Grubbing	LS	$30,000	1	$30,000
3	Remove Curb & Gutter	LF	$9.50	1,120	$10,640
4	Remove Curb	LF	$7.50	260	$1,950
5	Remove Sidewalk	SF	$5.00	6,198	$30,990
6	Remove Concrete Driveway	SF	$5.00	1,260	$6,300
7	Remove Median Hardscape	SF	$5.00	516	$2,580
8	Remove Tree	EA	$750	19	$14,250
9	Remove Catch Basin	EA	$1,000	2	$2,000
10	Excavation	CY	$75.00	1,700	$127,500
11	Cold Plane Roadway	SF	$0.75	31,890	$23,918
12	Asphalt Concrete	TON	$85.00	377	$32,045
13	Aggregate Base	TON	$50.00	1,147	$57,350
14	ARHM Overlay	TON	$90.00	590	$53,100
15	Curb and Gutter	LF	$40.00	1,120	$44,800
16	Median Curb	LF	$25.00	270	$6,750
17	Median Hardscape	SF	$30.00	550	$16,500
18	Sidewalk/Ramps	SF	$7.00	6,378	$44,646
19	Concrete Driveway	SF	$12.00	1,260	$15,120
19	Adjust Valve to Grade	EA	$650	3	$1,950
20	Relocate Water Meter	EA	$650	1	$650
21	Misc. Utility Adjustments/Relocations	LS	$30,000	1	$30,000
22	Relocate Street Light	EA	$6,000	1	$6,000
23	Concrete Slough Wall	SF	$50	1,020	$51,000
24	Parkway Landscaping & Irrigation	SF	$15.00	4,494	$67,410
25	Median Landscaping & Irrigation	SF	$15.00	1,425	$21,375
26	Replace Turf/Groundcover in TCE Areas	SF	$6.00	3,977	$23,862
27	Catch Basin w/Local Depression	EA	$12,500	2	$25,000
28	Storm Drain Connector Pipe	LF	$200.00	25	$5,000
29	Filterra Bioretention System	EA	$20,000	1	$20,000
30	Prepare/Implement SWPPP	LS	$40,000	1	$40,000
31	Traffic Signal Modification w/Video Detection	LS	$250,000	1	$250,000
32	Reconstruct Traffic Loops	EA	$400	3	$1,200
33	Signing, Striping and Markings	LS	$15,000	1	$15,000
34	Traffic Control	LS	$75,000	1	$75,000
	Subtototal Construction				**$1,228,886**
	Construction Contingency (20%)				$245,777
	Design Engineering				$241,000
	Construction Engineering and Management				$202,713
	TOTAL CONSTRUCTION				***$1,918,376***

II. RIGHT OF WAY ACQUISITION

Total

Item	Description	Unit	Unit Cost	Quantity	Cost
1	AP#452-055-03 (Irvine Co.) - Part Take	SF	$35.00	125	$4,375
2	AP#452-055-03 (Irvine Co.) - TCE	SF	$3.50	1,006	$3,521
3	AP#452-053-09 (Alton Square) - Part Take	SF	$50.00	390	$19,500
4	AP#452-053-09 (Alton Square) - TCE	SF	$5.00	590	$2,950
5	AP#452-053-06 (Alton Square) - TCE	SF	$5.00	1,436	$7,180
6	AP#452-053-07 (Alton Square) - TCE	SF	$5.00	945	$4,725
	Subtototal R/W				**$42,251**
	R/W Contingency (20%)				$8,450
	R/W Management				$57,520
	TOTAL R/W ACQUISITION				***$108,221***

	PROJECT TOTAL				***$2,026,597***

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Landscape Concept Plan

PROJECT REPORT ATTACHMENT F



ALTON SOUTH PARKWAY
WEST OF JEFFREY

RESTORE GROUNDCOVER &
IRRIGATION TO MATCH EXISTING.
SEE PHOTO A.

AP 452-055-02
OWNER: IRVINE APARTMENT
& COMMUNITIES

AP 452-055-03
OWNER: IRVINE COMPANY

ALTON PARKWAY

NOTES:

R REMOVE EXISTING TREE



JEFFREY MEDIAN

AP 452-053-09
OWNER: ALTON SQUARE LP

AP 452-053-06
OWNER: ALTON SQUARE LP

AP 452-053-07
OWNER: ALTON SQUARE LP

RESTORE GROUNDCOVER &
IRRIGATION TO MATCH EXISTING.
SEE PHOTO B.

PLANT NEW JACARANDA
(24" BOX)

JEFFREY ROAD

AP 466-141-07
OWNER: CITY OF IRVINE

RESTORE GROUNDCOVER &
IRRIGATION TO MATCH EXISTING.
SEE PHOTO C.

AP 466-141-14
OWNER: CITY OF IRVINE

AP 466-151-01
OWNER: CITY OF IRVINE

AP 466-151-05
OWNER: IRVINE COMPANY

AP 466-151-02
OWNER:
IRVINE COMPANY



SOUTH CORNER PARKWAY



ALTON MEDIAN

RESTORE GROUNDCOVER &
IRRIGATION TO MATCH EXISTING.
SEE PHOTO D.

ALTERNATIVE 5 - PREFERRED ALTERNATIVE

SCALE: 1"= 40'

0 1 2

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

PREPARED BY:
Kreuzer Consulting Group
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

		DATE
SCALE:		
DRAWN BY		
CHECKED BY		
APPROVED	CITY ENGINEER	
APPROVED	DESIGN MANAGER	

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION PROJECT
LANDSCAPE CONCEPT PLAN

CITY OF IRVINE
DEPARTMENT OF PUBLIC WORKS

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TEXTSUB.TBL
weight 100.plt
3/6/2017

On File with Public Works Department

CITY OF IRVINE

JEFFREY RD / ALTON PKWY INTERSECTION IMPROVEMENT

DRAINAGE REPORT

February 2017

Prepared For:

City of Irvine
Department of Public Works
1 Civic Center Plaza
Irvine, CA 92606-5207

Prepared by:

Stantec Consulting Services, Inc.
46 Discovery, Suite 250
Irvine, CA. 92618

Project Report Attachment G

On File with Public Works Department

Preliminary
Water Quality Management Plan Amendment
(WQMP)

Project Name:

JEFFREY ROAD/ALTON PARKWAY INTERSECTION IMPROVEMENT PROJECT

JEFFREY ROAD & ALTON PARKWAY

PA 12 & PA 15

Prepared for:

CITY OF IRVINE

ONE CIVIC CENTER PLAZA

IRVINE, CA 92606-5208

(949) 724-6000



Prepared by:

STANTEC CONSULTING SERVICES, INC.

Engineer Roger Chung, P.E. **Registration No.** C65388

46 DISCOVERY, SUITE 250

IRVINE, CA 92618

949-474-1400

MARCH 1, 2017

Project Report Attachment H

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Preliminary Plans (Preferred Alternative)

PROJECT REPORT ATTACHMENT I

PRELIMINARY PLANS FOR THE IMPROVEMENT OF THE JEFFREY ROAD & ALTON PARKWAY INTERSECTION

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE MOST CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF IRVINE STANDARD DRAWINGS, CITY OF IRVINE STANDARD SPECIFICATIONS, THE UNIFORM BUILDING CODE, THE WORK AREA TRAFFIC CONTROL HANDBOOK (W.A.T.C.H. MANUAL), CALTRANS STANDARD SPECIFICATIONS, ADA, CALIFORNIA MUTCD AND TITLE 24.
2. THE CONTRACTOR SHALL TELEPHONE THE CITY OF IRVINE INSPECTIONS (949) 724-6500 AND THE CITY OF IRVINE TRAFFIC OPERATIONS (949) 724-7649, AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO STARTING CONSTRUCTION.
3. ALL UNDERGROUND FACILITIES SHALL BE INSTALLED PRIOR TO SURFACING OF STREETS. THE INSTALLATION OF ALL UNDERGROUND FACILITIES CROSSING EXISTING ARTERIAL STREETS REQUIRES BORING OR JACKING, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. ANY EXISTING PAVEMENT DISTURBED BY THE CONSTRUCTION OF UNDERGROUND INSTALLATIONS SHALL BE COVERED BY A PERMIT ISSUED BY THE CITY OF IRVINE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR AND COORDINATE THE RELOCATION OF ANY EXISTING UTILITIES DEEMED NECESSARY BY THE PROPOSED IMPROVEMENT.
6. WHENEVER IT BECOMES NECESSARY TO TUNNEL UNDER EXISTING IMPROVEMENTS, THE CONTRACTOR SHALL SUPPORT THOSE IMPROVEMENTS IN A MANNER APPROVED BY THE CITY ENGINEER, OR THE CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE THOSE IMPROVEMENTS IN ACCORDANCE WITH THE CITY OF IRVINE STANDARD DRAWINGS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE NEW SEWER LATERALS CONSTRUCTED AND TO STAMP THE CURB WITH AN "S" ABOVE THE NEW LATERAL. INDIVIDUAL SEWER AND WATER SERVICES SHALL NOT BE LOCATED UNDER A DRIVEWAY.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND STAMP THE CURB ON EACH SIDE OF THE STREET WITH THE APPROPRIATE LETTER: "E" FOR EDISON, "T" FOR TELEPHONE, ETC., WHEREVER UNDERGROUND FACILITIES CROSS A STREET.
9. PRIOR TO PLACING OF UNDERGROUND UTILITIES, THE LOCATION OF ALL UNDERGROUND FACILITIES (ELECTRICAL, TELEPHONE, CABLE TV, GAS, ETC.) SHALL BE ADDED TO IMPROVEMENT PLANS.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (BY POTHOLING OR OTHER MEANS). CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) (800) 422-4133 AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION TO LOCATE EXISTING UTILITIES.
11. ALL CONCRETE WORK AS SHOWN ON PLANS (CURB & GUTTER, STORM DRAIN, PIPE, MANHOLES, SIDEWALK, ETC.) SHALL BE EXTRA STRENGTH CONCRETE WITH 7 SACK TYPE II CEMENT OR 6 SACK TYPE V CEMENT, UNLESS DEEMED UNNECESSARY BY SULPHATE CONTENT TESTS AS APPROVED BY THE CITY OF IRVINE.
12. CONTRACTOR SHALL OBTAIN ANY REQUIRED O.S.H.A. PERMITS PRIOR TO ANY EXCAVATIONS.
13. ARROW BOARDS SHALL BE USED ON ANY LANE CLOSURES ON ARTERIAL STREETS.
14. SLURRY BACKFILL SHALL BE REQUIRED WHEN TUNNELING UNDER CURB AND GUTTER. SLURRY BACKFILL IS REQUIRED AROUND ALL MANHOLE CONSTRUCTION WITHIN PAVED STREETS.
15. THE FOLLOWING SIGN SHALL BE POSTED AT ALL STREET INTERSECTIONS AND TRACT ENTRANCES.

    MAINTENANCE OF THIS STREET AND RIGHT-OF-WAY
    IS THE DEVELOPER'S RESPONSIBILITY.
    DEVELOPER ---------- PHONE ----------

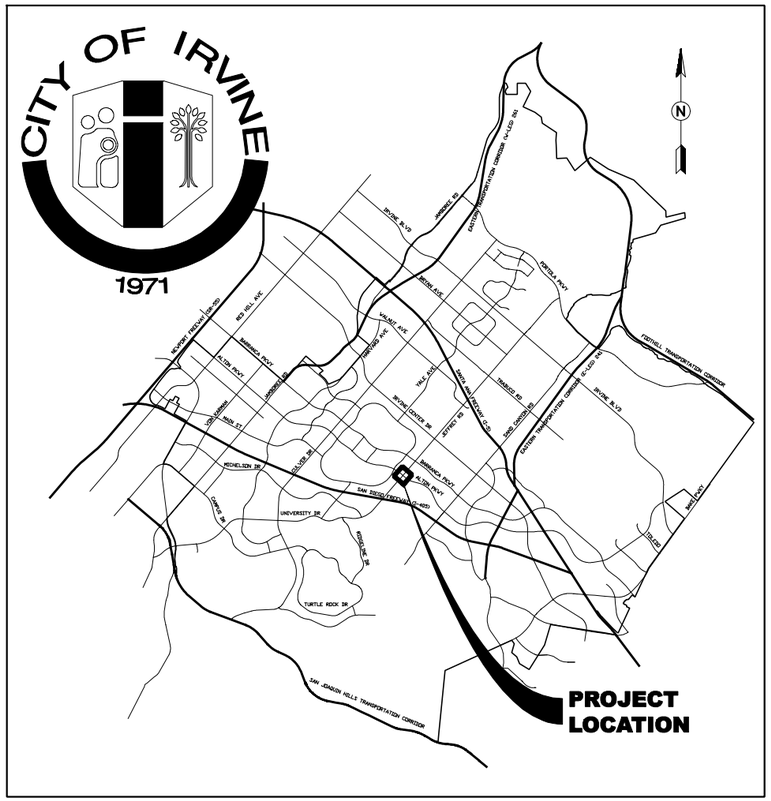
    THE SIGN SHALL HAVE 3" HIGH (MINIMUM) LETTERING AND MUST BE INSTALLED PRIOR TO ANY OCCUPANCY. DEVELOPERS SHALL REMOVE SIGNS AT THE TIME OF CITY ACCEPTANCE OF STREET IMPROVEMENTS.
16. STREET CONSTRUCTION AND IMPROVEMENTS SHALL NOT BE OPENED FOR PUBLIC USE UNTIL ACCEPTED BY THE CITY.
17. ALL IMPROVEMENTS AND TRAFFIC SIGNAL WORK WITHIN THE STATE RIGHT-OF-WAY SHALL CONFORM TO CURRENT CALTRANS STANDARD SPECIFICATIONS.
18. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON PLANS, THE DESIGN ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK.
19. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL PIPES WALLS, ETC. ARE ADEQUATELY BRACED DURING CONSTRUCTION.
20. ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY'S INSPECTOR.
21. PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE, EXISTING SURVEY MONUMENTS SHALL BE NOTED AND DOCUMENTED BEFORE CONSTRUCTION. IF MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL PAY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER TO RESET SUCH MONUMENTS, UNLESS OTHERWISE SPECIFIED OR DESIGNATED.
22. CONSTRUCTION ACTIVITIES MAY OCCUR BETWEEN 7:00 A.M. AND 7:00 P.M. MONDAYS THROUGH FRIDAYS, AND 9:00 A.M. AND 6:00 P.M. ON SATURDAYS. NO CONSTRUCTION ACTIVITIES SHALL BE PERMITTED OUTSIDE OF THESE HOURS OR ON SUNDAYS AND FEDERAL HOLIDAYS UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.
23. NO WORK MAY OCCUR ON ARTERIAL STREETS BEFORE 9:00 A.M. OR CONTINUE AFTER 3:00 P.M. UNLESS A TEMPORARY WAIVER IS GRANTED BY THE CHIEF BUILDING OFFICIAL OR HIS OR HER AUTHORIZED REPRESENTATIVE.
24. IF THE CONTRACTOR WISHES TO ENGAGE IN CRUSHING OPERATIONS AT THE PROJECT SITE, HE OR SHE MUST PROVIDE A WRITTEN REQUEST AND OBTAIN THE CITY'S WRITTEN APPROVAL PRIOR TO AWARD OF THE CONSTRUCTION CONTRACT. THE WRITTEN REQUEST MUST STATE THE PROPOSED LOCATION OF THE CRUSHER AND THE SOURCE OF RUBBLE TO BE CRUSHED. THE CITY HAS THE OPTION TO PERMIT OR PROHIBIT CRUSHING OPERATIONS FOR UNTREATED BASE MATERIAL IN THE IMMEDIATE VICINITY OF THE PROJECT SITE. IF ALLOWED, THE CRUSHING OPERATION MUST BE IN COMPLIANCE WITH SECTION 200-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

STORM DRAIN NOTES:

1. STATION SHOWN AS (0 + 00) ARE STORM DRAIN STATIONS AND ARE INDEPENDENT OF ALL CENTERLINE STATIONS.
2. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CITY OF IRVINE STANDARD DRAWINGS, CITY OF IRVINE STANDARD SPECIFICATIONS, ALL APPLICABLE GENERAL NOTES AND THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA WHERE APPLICABLE.
3. ALL TRENCH EXCAVATIONS SHALL CONFORM TO STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS.
4. ALL PIPES SHALL BE BEDDED IN ACCORDANCE WITH DETAILS SHOWN ON STD PLAN 318 UNLESS OTHERWISE NOTED.
5. THE CITY OF IRVINE INSPECTION DEPARTMENT SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS (48 HOURS) PRIOR TO START OF WORK AT (949) 724-6500. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO START OF CONSTRUCTION.
6. R.C.P. SHALL CONFORM TO APPLICABLE A.S.T.M. STANDARDS.
7. ALL FILL MATERIAL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION AS DETERMINED BY CALIFORNIA TEST METHODS 216F.
8. ALL MATERIAL TESTING FOR THE DRAINAGE FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR OR DEVELOPER IN ACCORDANCE WITH THE NUMBER, LOCATION, AND FREQUENCY REQUESTED BY THE CITY INSPECTOR.

INDEX OF DRAWINGS

SHEET	DESCRIPTION
1	TITLE SHEET
2	STREET PLANS
3	UTILITY PLANS
4-5	STRIPING PLANS



LOCATION MAP

PRELIMINARY - NOT FOR CONSTRUCTION

PLAN CHECK NO.

PERMIT NO.

PROJECT NO.

SHEET 1 OF 5

NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
7					
6					
5					
4					
3					
2					
1					

PLAN PREPARED BY:
Kreuzer Consulting Group
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

DRAWN BY: DATE
DESIGNED BY: DATE
CHECKED BY: DATE
RECOMMENDED BY: DATE

APPROVED BY: CITY ENGINEER
MARK L CARROLL R.C.E. NO. 31515 DATE

APPROVED BY: ORANGE COUNTY FIRE MARSHAL
DATE

APPROVED BY: IRVINE RANCH WATER DISTRICT SANITARY SEWER FACILITIES
DATE

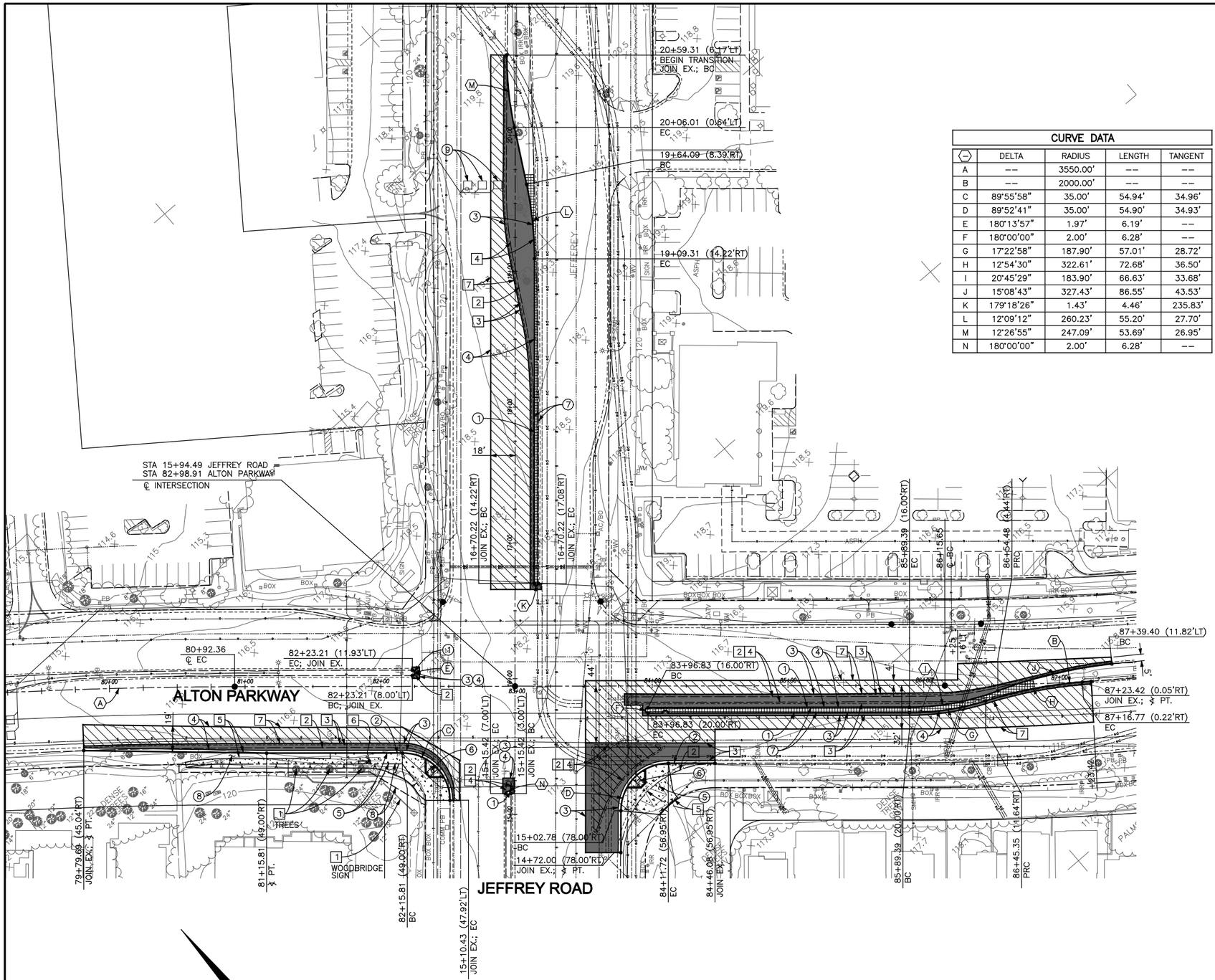
APPROVED BY: IRVINE RANCH WATER DISTRICT WATER FACILITIES
DATE

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION IMPROVEMENTS
TITLE SHEET

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PATH =
DWG =
VIEW =

SHEET REVISED: 8/15/07



CURVE DATA				
Ⓒ	DELTA	RADIUS	LENGTH	TANGENT
A	--	3550.00'	--	--
B	--	2000.00'	--	--
C	89°55'58"	35.00'	54.94'	34.96'
D	89°52'41"	35.00'	54.90'	34.93'
E	180°13'57"	1.97'	6.19'	--
F	180°00'00"	2.00'	6.28'	--
G	17°22'58"	187.90'	57.01'	28.72'
H	12°54'30"	322.61'	72.68'	36.50'
I	20°45'29"	183.90'	66.63'	33.68'
J	15°08'43"	327.43'	86.55'	43.53'
K	179°18'26"	1.43'	4.46'	235.83'
L	12°09'12"	260.23'	55.20'	27.70'
M	12°26'55"	247.09'	53.69'	26.95'
N	180°00'00"	2.00'	6.28'	--

REMOVAL NOTES

1. PROTECT IN PLACE.
2. REMOVE CURB AND GUTTER.
3. REMOVE ROADWAY.
4. REMOVE MEDIAN ISLAND IMPROVEMENTS.
5. REMOVE SIDEWALK AND/OR ACCESS RAMP.
6. RELOCATE BENCH AND TRASH RECEPTACLE.
7. COLD PLANE EXISTING ROADWAY TO A DEPTH OF 2" BELOW PROPOSED FINISH SURFACE (FS).

CONSTRUCTION NOTES

1. CONSTRUCT TYPE B-8 MEDIAN CURB PER CITY OF IRVINE STD. PLAN NO. 200.
2. CONSTRUCT TYPE A-2 CURB AND GUTTER PER CITY OF IRVINE STD. PLAN NO. 200.
3. FURNISH AND PLACE 0.35'AC/1.10'AB STRUCTURAL SECTION. LEAVE 2" BELOW PROPOSED ROADWAY FS.
4. FURNISH AND PLACE 2" ARHM OVERLAY.
5. CONSTRUCT PCC SIDEWALK PER CITY OF IRVINE STD. PLAN NO. 201.
6. CONSTRUCT CURB ACCESS RAMP PER CITY OF IRVINE STD. PLAN NO. 205.
7. CONSTRUCT MEDIAN STAMPED PATTERN CONCRETE.
8. CONSTRUCT LANDSCAPE AND IRRIGATION IMPROVEMENTS.
9. RECONSTRUCT TRAFFIC LOOPS.

LEGEND

- NEW ROADWAY STRUCTURAL SECTION
- LIMITS OF COLD PLANING
- PROPOSED PCC IMPROVEMENTS
- PROPOSED MEDIAN HARDSCAPE IMPROVEMENTS

PATH =
DWG =
VIEW =

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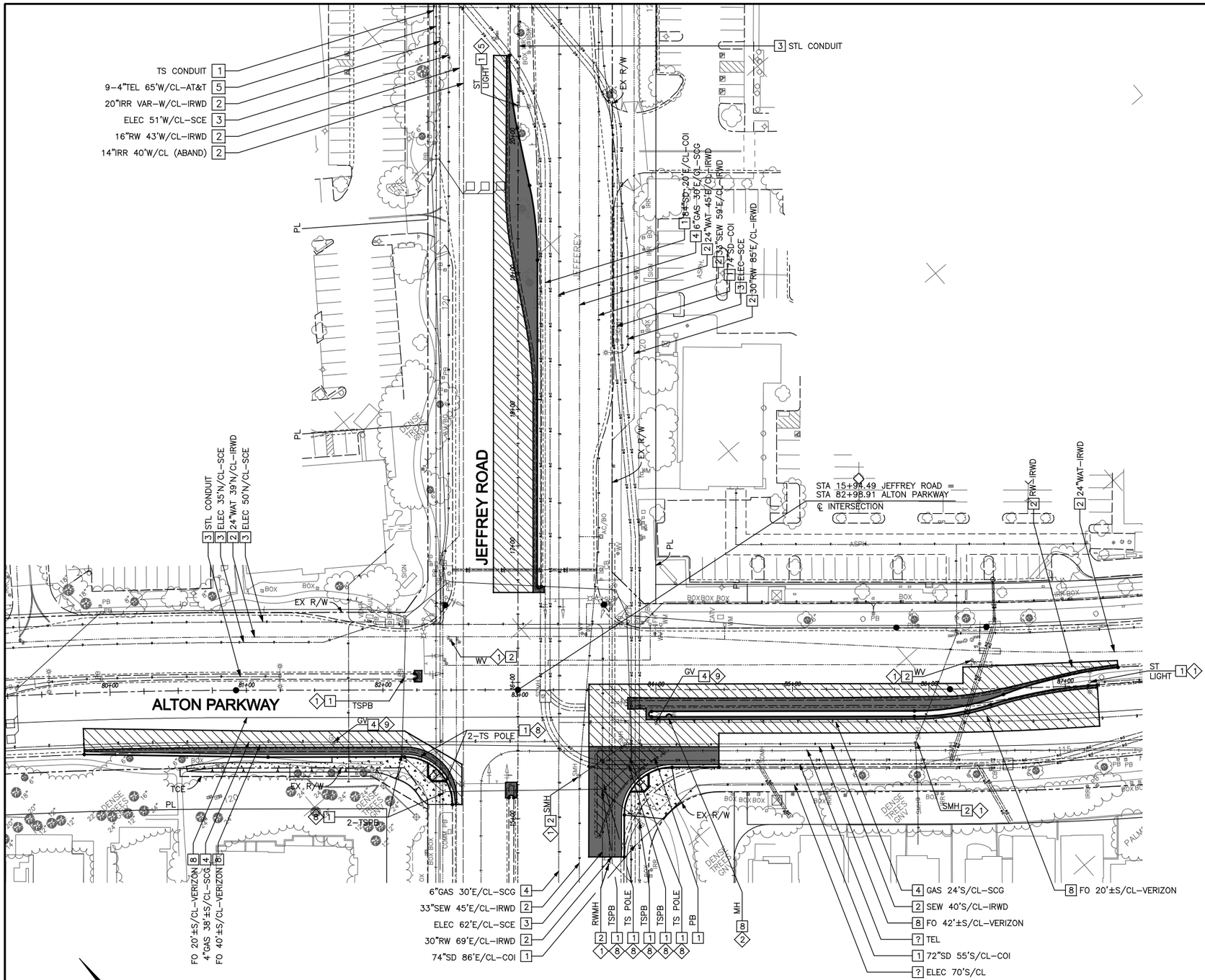
PLAN PREPARED BY:
Kreuzer Consulting Group
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

PRELIMINARY

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION IMPROVEMENTS
STREET IMPROVEMENT PLAN

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. -
CIP NO. -----
PERMIT NO. -
SHEET 2 OF 5



UTILITY OWNERSHIP

1. CITY OF IRVINE (COI)
2. IRVINE RANCH WATER DISTRICT (IRWD)
3. SOUTHERN CALIFORNIA EDISON (SCE)
4. SOUTHERN CALIFORNIA GAS (SCG)
5. AT&T
6. LAGUNA BEACH COUNTY WATER DISTRICT (LBCWD)
7. METROPOLITAN WATER DISTRICT (MWD)
8. VERIZON

UTILITY NOTES

1. PROTECT IN PLACE
2. ADJUST MANHOLE TO GRADE (BY OTHERS)
3. ADJUST WATER VALVE TO GRADE
4. RELOCATE PULL BOX (BY OTHERS)
5. RELOCATE STREET LIGHT AND APPURTENANCES (CITY COST)
6. RELOCATE AIR VAC ASSEMBLY (BY OTHERS)
7. RELOCATE EXISTING VENTS (BY OTHERS)
8. RELOCATE/REPLACE TRAFFIC SIGNAL EQUIPMENT
9. ADJUST GAS VALVE TO GRADE

LEGEND

- NEW ROADWAY STRUCTURAL SECTION
- LIMITS OF COLD PLANING
- PROPOSED PCC IMPROVEMENTS
- PROPOSED CURB & GUTTER

SCALE: 1"= 40'

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FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

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DWG =
VIEW =

PRELIMINARY

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DESIGNED BY: DATE
CHECKED BY: DATE

PLAN PREPARED BY:

Kreuzer Consulting Group
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION IMPROVEMENTS
UTILITY PLAN

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO. –
CIP NO. ––––––
PERMIT NO. –
SHEET 3 OF 5

ALTON PARKWAY

JEFFREY ROAD

EX R/W

PL

TCE

VARIES 17'–18'

MATCH LINE STA 84+75.00 SEE SHEET 5

STA 15+94.49 JEFFREY ROAD =
STA 82+98.91 ALTON PARKWAY
℄ INTERSECTION

SCALE: 1"= 40'

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FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

VIEW = DWG = PATH =

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DRAWN BY: DATE

DESIGNED BY: DATE

CHECKED BY: DATE

PLAN PREPARED BY:

Kreuzer Consulting Group

320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

PRELIMINARY

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION IMPROVEMENTS
STRIPING PLAN

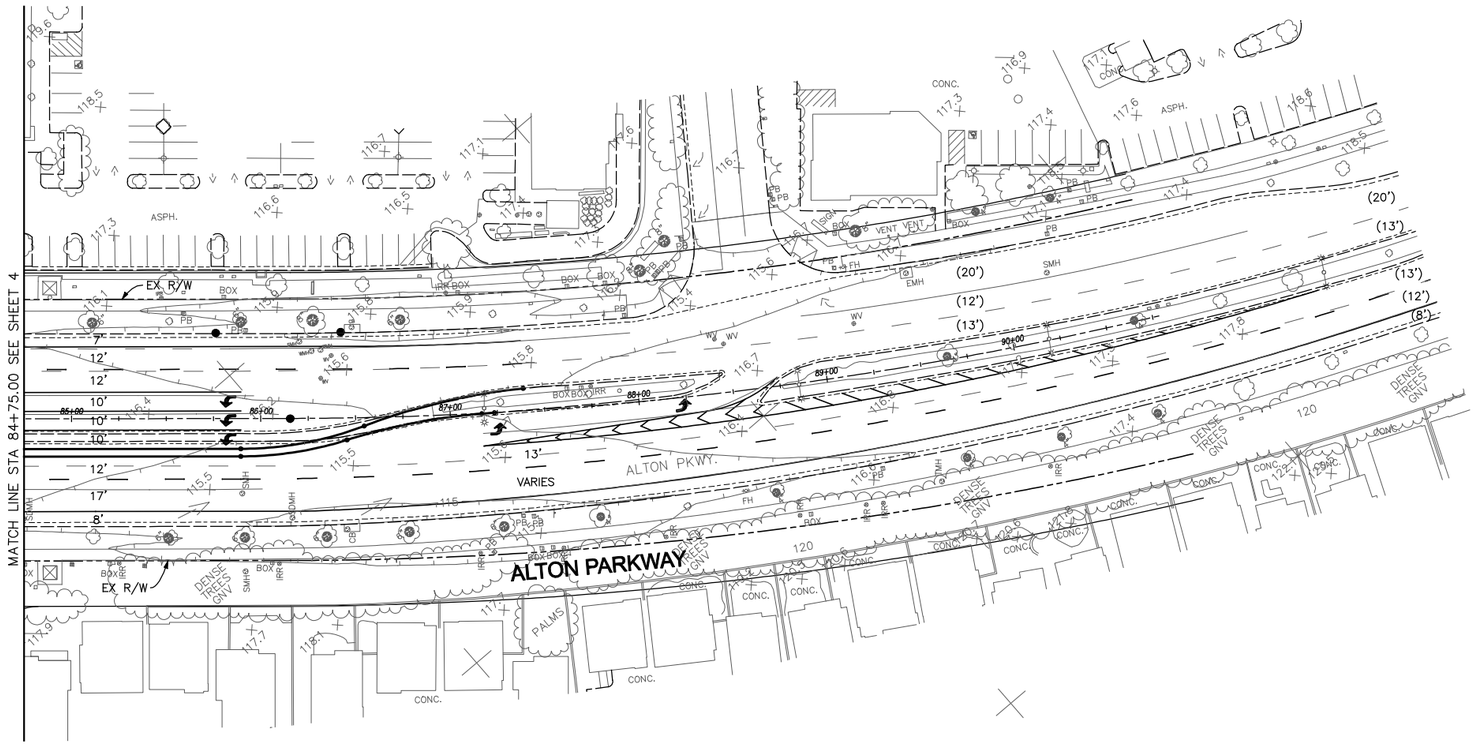
CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO.
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CIP NO.
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PERMIT NO.
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SHEET
4
OF 5



VIEW = DWG = PATH =

SCALE: 1"= 40'

0 1 2

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES

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DRAWN BY:	DATE
DESIGNED BY:	DATE
CHECKED BY:	DATE

PLAN PREPARED BY:

Kreuzer Consulting Group
320 MAIN STREET
UNIT D
SEAL BEACH, CA 90740
714-656-0160

PRELIMINARY

JEFFREY ROAD & ALTON PARKWAY
INTERSECTION IMPROVEMENTS
STRIPING PLAN

CITY OF IRVINE
PUBLIC WORKS DEPARTMENT

PLAN CHECK NO.	-
CIP NO.	-----
PERMIT NO.	-
SHEET	5 OF 5

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

On File with Public Works Department

UPDATED PRELIMINARY GEOTECHNICAL EVALUATION JEFFREY/ALTON INTERSECTION IMPROVEMENT PROJECT INTERSECTION OF JEFFREY ROAD AND ALTON PARKWAY IRVINE, CALIFORNIA

PREPARED FOR:
Kreuzer Consulting Group
320 Main Street, Unit D
Seal Beach, California 90740

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

March 2, 2017
Project No. 209152002

Project Report Attachment J

JEFFREY / ALTON INTERSECTION IMPROVEMENT

Environmental Document

PROJECT REPORT ATTACHMENT K

Notice of Exemption

To: ☐ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

☒ County Clerk
Orange County Registrar-Recorder/County Clerk
12 Civic Center Plaza, Room 101
Santa Ana, CA 92701

From: City of Irvine
Public Works Department
PO Box 19575
Irvine, CA 92623-9575

Project Title: Jeffrey/Alton Intersection Improvement Project

Project Location – Specific: The Jeffrey Road/Alton Parkway intersection is located on the border of the Woodbridge and Oak Creek planning areas, adjacent to the Alton Square and Oak Creek shopping centers, in the City of Irvine.

Project Location - City: Irvine **Project Location - County:** Orange

Description of Nature, Purpose, and Beneficiaries of Project: The purpose of the proposed project is to reduce existing and future traffic congestion at Jeffrey Road and Alton Parkway intersection. The project is not anticipated to generate traffic. The Jeffrey Road/Alton Parkway intersection currently operates at an acceptable level of service (LOS D) or better in the AM and PM peak hours. However, without the proposed project improvements, the intersection is expected to degrade to an unacceptable LOS E by 2017 in the AM peak hours. The proposed improvements at Jeffrey Road and Alton Parkway would improve the intersection to an acceptable LOS D in both the AM and PM peak hours over the next 20 years. The project would include: conversion of the existing northbound Jeffrey Road free right-turn lane to a standard right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient width to function as a defacto right-turn lane, and the addition of a third westbound left-turn lane on Alton Parkway. In addition the proposed project would include improvements to pavement, curb, gutter, sidewalk, pedestrian ramps, medians, striping, signing, markings, traffic signals, and landscaping.

Name of Public Agency Approving Project: City of Irvine

Name of Person or Agency Carrying Out Project: City of Irvine

Exempt Status: (*check one*)

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 1, Section 15301(c), of the California Environmental Quality Act (CEQA) Guidelines (Public Resources Code Section 21084).
- ☐ Statutory Exemptions. State code number:

Reasons why project is exempt: The project is exempt per Class I, Section 15301(c), of the CEQA Guidelines because it consists of minor alterations to existing public structures/facilities that involve negligible expansion of use beyond that currently existing. The proposed project involves adding an additional through lane on southbound Jeffrey Road at Alton Parkway through the intersection for the purpose of reducing traffic congestion. The uses of the existing facilities will remain unchanged.

Lead Agency
Contact Person: _____ Area Code/Telephone/Extension: _____

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☒ Yes ☐ No

Signature: _____ Date: _____ Title: _____

☒ Signed by Lead Agency Date received for filing at OPR:

☐ Signed by Applicant

Task and Brief Description	Reference	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks
					Initial	Date	
AIR QUALITY							
The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques would reduce fugitive dust generation (and thus the PM_{10} component). Applicable Rule 403 measures are as follows: • Apply nontoxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). • Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.) • All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 ft of freeboard in accordance with the requirements of CVC Section 23114 (freeboard refers to vertical space between the top of the load and the top of the trailer). • Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.	Air Quality Memorandum (March 2017)	City of Irvine City Engineer/ Construction Contractor	During construction				
BIOLOGICAL RESOURCES							
Any vegetation removal or trimming should take place outside of the active nesting bird season (February 15–August 31) when feasible to ensure compliance with the MBTA and the California Fish and Game Code. If vegetation removal or trimming (or other work activities that could potentially disturb nesting birds) will take place during this period, a qualified biologist should conduct a nesting bird survey prior to work activities to ensure that birds are not engaged in active nesting within the disturbance limits of the project. If nesting birds are discovered during preconstruction surveys, the biologist should identify an appropriate buffer (evaluated based on the circumstances and specific bird species) wherein no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest or the nest is determined to be no longer active.	MBTA and Biological Resources Memorandum (March 2017)	City of Irvine City Engineer/ Construction Contractor	During final design and construction				
Per the City Municipal Code, the City has jurisdiction over public trees in the right-of-way of public streets. As needed, per the City's Urban Forestry Guideline Manual and Section 5-7-410, the City's Arborist shall determine a suitable replacement of any removed trees at a 1:1 ratio.	City of Irvine Municipal Code Sections 5-7-405 through 5-7-410 and Biological Resources Memorandum (March 2017)	City of Irvine City Arborist/ Construction Contractor	During Construction				
CULTURAL RESOURCES							
Although unlikely, if human remains are encountered during excavation, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	State Health and Safety Code Section 7050.5 and PRC 5097.98 and Cultural Resources Technical Memorandum (March 2017)	City of Irvine City Engineer/ Construction Contractor	During construction				
GEOTECHNICAL							
Design of the project will include the following: • Conformance with current seismic design standards • Reduction of concentrated runoff conditions that could cause erosion and affect the stability of project improvements • Specific measures to reduce the potential effects of corrosive soils • Incorporation of appropriate safety measures for work in excavations	Geotechnical Evaluation (June 2014)	City of Irvine City Engineer/ Construction Contractor	During final design and construction				
PALEONTOLOGICAL RESOURCES							
The project area is underlain by Young Alluvial Fan Deposits that are Holocene to Late Pleistocene in age. The Young Alluvial Fan Deposits within the project area are considered to have low paleontological sensitivity from the surface to a depth of 10 ft, and high paleontological sensitivity below that mark. Ground-disturbing activities for the project are expected to extend no deeper than 6 ft. Therefore, LSA recommends that no paleontological mitigation measures are required for this project using current project plans. In the unlikely event that fossil remains are encountered, paleontological mitigation will need to be developed (including	Paleontological Analysis (March 2017)	City of Irvine Construction Contractor/ Paleontologist	During final design and construction				

Task and Brief Description	Reference	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed		Remarks
					Initial	Date	
paleontological monitoring, collection of observed resources, preservation, stabilization and identification of collected resources, curation of resources into a museum repository, and preparation of a monitoring report of findings). If project plans change to include more substantial excavation or additional areas, this recommendation must be revisited.							
HAZARDS AND HAZARDOUS MATERIALS							
Prior to construction, the City shall collect soil screening samples for ADL in unpaved locations adjacent to the proposed ROW within the project limits, if not previously tested. The analytical results of the soil sampling will determine the appropriate handling of the soil and disposal of surplus materials. Excavated hazardous soils would require removal and disposal at a landfill permitted to accept hazardous materials.	Hazardous Waste ISA (June 2014)	City of Irvine	Prior to construction				
Prior to disturbance of pavement, the City shall conduct a traffic paint stripe survey (for lead and chromium content).	Hazardous Waste ISA (June 2014)	City of Irvine	Prior to construction				
NOISE							
Construction of the proposed project would potentially result in relatively high noise levels. The following measures would reduce short-term construction-related noise impacts resulting from the proposed project: • During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer's standards. • The project contractor shall place all stationary construction equipment so that emitted noise is directed away from receptors nearest the project site. • The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and receptors nearest the project site during all project construction. • During all project site construction, the construction contractor shall limit all construction-related activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturdays. No outdoor noise-generating construction activity is allowed on Sundays or federal holidays.	Noise Impact Analysis Memorandum (March 2017)	City of Irvine City Engineer/ Construction Contractor	During construction				

ADL = aerially deposited lead
City = City of Irvine
County = County of Orange
CVC = California Vehicle Code
ft = foot/feet
ISA = Initial Site Assessment
MBTA = Migratory Bird Treaty Act
MLD = Most Likely Descendent
mph = miles per hour
NAHC = Native American Heritage Commission
PM_{10} = particulate matter less than10 microns in diameter
PRC = Public Resource Code
project = Jeffrey/Alton Intersection Improvement Project
ROW = right-of-way
SCAQMD = South Coast Air Quality Management District

LSA

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 3, 2017

TO: Lisa Williams

FROM: Jason Lui

SUBJECT: Noise Impact Analysis Memorandum for the Jeffrey Road/Alton Parkway Intersection Improvement Project, City of Irvine, California

INTRODUCTION

This Noise Impact Analysis has been prepared to evaluate the potential noise impacts and abatement measures associated with the Jeffrey Road/Alton Parkway Intersection Improvement Project (project) in the City of Irvine (City) in Orange County, California. Figure 1 (all figures provided in Attachment A) shows the project location and vicinity. This report is intended to satisfy the requirements of the City for a project-specific Noise Impact Analysis by examining the impacts on off-site noise-sensitive uses and evaluating the abatement measures incorporated as part of the project design.

PROJECT DESCRIPTION

The City proposes to improve the Jeffrey Road/Alton Parkway intersection. The project is located on the border of the City's Woodbridge and Oak Creek planning areas (Area 15 and 12, respectively) (Figure 1), with Alton Square Shopping Center north of the intersection, Oak Creek Village Center east of the intersection, and both single- and multifamily residential uses south and west of the intersection. The Woodbridge Apartment Homes complex is located in the western quadrant of the intersection and the community of Oak Creek is located in the southern quadrant. Alton Square Shopping Center and Oak Creek Village Center both have driveway access from Jeffrey Road and from Alton Parkway. The Woodbridge and Oak Creek residential uses do not have direct access to Jeffrey Road or Alton Parkway within the project limits.

At the intersection, Jeffrey Road currently provides two left-turn lanes, three through lanes, and one free right-turn lane in the northbound direction. In the southbound direction, Jeffrey Road has two left-turn lanes, three through lanes, and a de-facto right-turn lane. Alton Parkway currently provides two left-turn lanes, two through lanes, and a de-facto right-turn lane in the westbound direction. In the eastbound direction, Alton Parkway has two left-turn lanes, two through lanes, and a de-facto right-turn lane. Figure 2 shows the proposed project.

The purpose of the proposed project is to reduce existing and future traffic congestion at the Jeffrey Road/Alton Parkway intersection. The project is not anticipated to generate traffic. The project would include conversion of the existing northbound Jeffrey Road free right-turn lane to a standard

right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient width to function as a de-facto right-turn lane; and addition of a third westbound left-turn lane on Alton Parkway.

Additional project features include the following:

- New pavement, curb, gutter, sidewalk, and pedestrian ramps;
- Striping, signing, and marking improvements;
- Miscellaneous utility adjustments and relocations;
- Modifications to the existing traffic signals to improve traffic operations;
- Reconstruction of the median islands on the northeast and southeast legs of the intersection;
- Protection in place of the existing Woodbridge sign/wall located on the western corner of the intersection;
- A temporary construction easement (at Assessor's Parcel Number (APN) 452-055-03 along the south side of Alton Parkway west of the intersection; and
- Minor regrading and re-establishment of disturbed landscaping and irrigation in the parkway along the south side of Alton Parkway west of the intersection.

METHODOLOGY

Evaluation of the noise impacts associated with the proposed project includes the following:

- Determining the noise impacts associated with short-term construction of the proposed project on adjacent noise-sensitive uses;
- Determining the long-term traffic noise impacts on noise-sensitive uses adjacent to the project site; and
- Determining the required abatement measures to reduce short- and long-term noise impacts.

This noise impact analysis uses the City's noise standards, including the City's General Plan Noise Element and Municipal Code, as thresholds against which potential noise impacts are evaluated.

LOCAL REGULATIONS

City of Irvine Noise Standards

General Plan

The Noise Element of the City of Irvine General Plan specifies the exterior and interior noise standards for each land use category. One of the general goals of the Noise Element is to develop

and adopt specific policies and an effective implementation program to abate and avoid excessive noise exposures in the City by requiring that effective noise abatement measures be incorporated into the design of new noise-generating and noise-sensitive land uses. Table A summarizes the City's exterior and interior noise standard for each land use category. Noise levels are expressed in Community Noise Equivalent Level (CNEL).

Table A: City of Irvine Exterior and Interior Noise Standards

Land Use Categories		dBA CNEL	
Categories	**Uses**	**Interior**[1]	**Exterior**[2]
Residential	Single-Family and Multifamily	45[3]/55[4]	65[5]
	Mobile Home	N/A	65[6]
Commercial/ Industrial	Hotel, Motel, and Transient Lodging	45	65[7]
	Commercial Retail, Bank, and Restaurant	55	N/A
	Office Building, Research and Development, Professional Offices, and City Office Building	50	N/A
	Amphitheaters, Concert Hall Auditoriums, and Meeting Hall	45	N/A
	Gymnasium (multipurpose)	50	N/A
	Sports Club	55	N/A
	Manufacturing, Warehousing, Wholesale, and Utilities	65	N/A
	Movie Theatre	45	N/A
Institutional	Hospital and School Classroom	45	65
	Church and Library	45	N/A
Open Space	Parks	N/A	65

Source: City of Irvine General Plan Noise Element (February 2005).

[1] The interior environment excludes bathrooms, toilets, closets, and corridors.

[2] The outdoor environment is limited to the private yards of single-family or multifamily residences, private patios accessed by a means of exit from inside the unit, mobile home parks, hospital patios, park picnic areas, school playgrounds, and hotel and motel recreation areas.

[3] The noise level requirement with closed windows, a mechanical ventilating system, or other means of natural ventilation, shall be provided per Chapter 12, Section 1208, of the Uniform Building Code.

[4] The noise level requirement with open windows, if they are used to meet natural ventilation requirement.

[5] Multifamily developments with balconies that do not meet the 65 dBA CNEL standard are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

[6] The exterior noise level should be such that the interior noise level will not exceed 45 dBA CNEL.

[7] Except those areas affected by aircraft noise.

CNEL = Community Equivalent Noise Level N/A = not available

dBA = A-weighted decibels

City of Irvine Municipal Code. In Section 6.8.205 of the City Municipal Code, the City limits the hours of construction to between 7:00 a.m. and 7:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. Construction activities are prohibited outside of these hours and on Sundays and federal holidays.

EXISTING CONDITIONS

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. There are noise-sensitive land uses, such as single- and multifamily residences, located immediately adjacent to the proposed project. Other land uses located in the immediate project

vicinity include commercial uses. Outdoor active use areas associated with single- and multifamily residences are located on the southeastern and southwestern corners of the Jeffrey Road/Alton Parkway intersection, respectively.

Existing Noise Levels

Ambient noise measurements were collected on February 8, 2017, to document the existing noise environment at nine locations in the project area. Noise level measurements were collected for approximately 20 minutes at each location. The values taken at each ambient noise measurement location are presented in Table B as equivalent continuous sound level in A-weighted decibels (dBA L_{eq}). Figure 2 shows noise measurement locations.

Table B: Ambient Noise Measurement Results

Monitor No.	Date	Start Time	Duration (minutes)	dBA L_{eq}	Location Description	Noise Sources
M-1	2/8/2017	3:54 p.m.	20	60.2	Woodbridge Oaks multifamily residences, 1 Knollglen #178, next to the patio	Traffic on Alton Parkway
M-2	2/8/2017	2:42 p.m.	20	61.6	Woodbridge Oaks multifamily residences, 1 Knollglen #188, next to the patio	Traffic on Jeffrey Road and Alton Parkway
M-3	2/8/2017	3:06 p.m.	20	61.8	Woodbridge Oaks multifamily residences, 1 Knollglen, in the parking lot between #191–195 and #185–188	Traffic on Jeffrey Road
M-4	2/8/2017	3:30 p.m.	20	59.4	Woodbridge Oaks multifamily residences, 1 Knollglen #191, next to the patio	Traffic on Jeffrey Road
M-5	2/8/2017	2:54 p.m.	20	57.8	Single-family residence, 134 Cherrybrook Lane, in front of the home on grass area next to the backyard	Traffic on Jeffrey Road and Alton Parkway
M-6	2/8/2017	2:25 p.m.	20	54.5	Single-family residence, 112 Danbury Lane, in front of the home next to the backyard	Traffic on Jeffrey Road and Alton Parkway
M-7	2/8/2017	3:34 p.m.	20	57.9	Single-family residence, 108 Danbury Lane, in the backyard	Traffic on Jeffrey Road and Alton Parkway
M-8	2/8/2017	4:44 p.m.	20	52.0	Single-family residences, between 84 and 86 Danbury Lane, in the courtyard	Traffic on Jeffrey Road
M-9	2/8/2017	4:28 p.m.	20	57.9	Single-family residence, 62 Danbury Lane, in the backyard	Traffic on Alton Parkway

Source: Compiled by LSA (February 2017).
dBA = A-weighted decibels
L_{eq} = equivalent continuous sound level

As shown in Table B, average daytime noise levels in the study area range from 52.0 to 61.8 dBA L_{eq}. The existing background noise environment (i.e., ambient noise) in the project area is primarily influenced by vehicle traffic on Jeffrey Road and Alton Parkway.

Existing Traffic Noise

The primary existing noise sources in the project area are transportation facilities. Traffic on Jeffrey Road and Alton Parkway is a steady source of ambient noise in the project vicinity. The existing average daily traffic (ADT) volumes were obtained from the *Traffic Analysis Memorandum* (VA Consulting, November 2016).

The Federal Highway Administration (FHWA) *Highway Traffic Noise Prediction Model* (FHWA RD-77-108) was used to evaluate existing traffic-related noise conditions in the vicinity of the project site. This model requires various parameters (including traffic volumes, vehicle mix, vehicle speed, and roadway geometry) to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Table C provides the existing traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. This simplified version of the noise model does not account for changes in topography or shielding. The specific assumptions used in developing these noise levels and the model printouts are provided in Attachment B.

Table C: Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	30,230	98	191	401	70.1
Jeffrey Road south of Alton Parkway	29,110	101	189	392	69.5
Alton Parkway west of Jeffrey Road	38,930	111	223	473	71.3
Alton Parkway east of Jeffrey Road	30,750	98	192	405	70.2

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic dBA = A-weighted decibels
CNEL = Community Noise Equivalent Level ft = feet

As shown in Table C, traffic noise along Jeffrey Road and Alton Parkway is generally moderate to high, with the 70 dBA CNEL contour extending to 98 to 101 feet from the roadway centerline along Jeffrey Road and extending to 98 to 111 feet from the roadway centerline along Alton Parkway. The 65 dBA CNEL noise contour extends to 189 to 191 feet from the roadway centerline along Jeffrey Road and extends to 192 to 223 feet from the roadway centerline along Alton Parkway. The 60 dBA CNEL contour extends to 392 to 401 feet from the roadway centerline along Jeffrey Road and extends to 405 to 473 feet from the roadway centerline along Alton Parkway.

PROJECT IMPACTS

Construction Noise

Short-term noise impacts would be associated with excavation and grading on site during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area, but would no longer occur once project construction is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on the on-site access roads. As shown in Table D, there will be a relatively high single-event noise exposure potential at a maximum level of

Table D: Typical Construction Equipment Noise Levels

Equipment Description	Spec 721.560[1] L_{max} at 50 ft	Actual Measured[2] L_{max} at 50 ft
Backhoes	80	78
Compactor (ground)	80	83
Cranes	85	81
Dozers	85	82
Dump Truck	84	76
Excavators	85	81
Flat-Bed Trucks	84	74
Front-End Loaders	80	79
Graders	85	N/A[3]
Jackhammer	85	89
Pickup Truck	55	75
Pneumatic Tools	85	85
Pumps	77	81
Rock Drill	85	81
Roller	85	80
Scrapers	85	84
Tractors	84	N/A
Vibratory Pile Driver	95	101

Source: Federal Highway Administration Roadway Construction Noise Model (January 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
[2] The maximum noise level was developed based on the average noise level measured for each piece of equipment during the CA/T program in Boston, Massachusetts.
[3] Since the maximum noise level based on the average noise level measured for this piece of equipment was not available, the maximum noise level developed based on Spec 721.560 was used.
CA/T = Central Artery/Tunnel
ft = foot/feet
L_{max} = maximum instantaneous sound level
N/A = not applicable
Spec = Specification

55 dBA maximum instantaneous noise level (L_{max}) with trucks passing at 50 feet. However, the projected construction traffic will be minimal when compared to the existing traffic volumes on Jeffrey Road and Alton Parkway. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would not be substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table D lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 86 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest

construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery, such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation, followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of an on-site front-end loader, bulldozers, water trucks, and pickup trucks. Based on the information in Table D, the maximum noise level generated by each front-end loader is assumed to be 80 dBA L_{max} at 50 feet from the front-end loader. Each bulldozer would also generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by water trucks and pickup trucks is approximately 55 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 86 dBA L_{max} at a distance of 50 feet from the active construction area.

The closest residences are located approximately 60 feet from project construction areas. The closest residences may be subject to short-term noise reaching 84 dBA L_{max} generated by construction activities near the project boundary. However, these existing residences have an existing 5- to 6-foot-high wall that surrounds the outdoor active use areas associated with single-family and multifamily residences that would reduce traffic and construction noise levels by 5 dBA or more. Therefore, the closest residences would be subject to short-term noise reaching 79 dBA L_{max} generated by construction activities near the project boundary. Compliance with the construction hours specified by the City, in combination with other equipment-related abatement described subsequently in this memorandum, would reduce the construction noise impacts to a less than significant level.

Traffic Noise Impact

The FHWA *Highway Traffic Noise Prediction Model* (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values. The existing, 2017, and 2035 traffic volumes were obtained from the *Traffic Analysis Memorandum* (VA Consulting, November 2016) for roadway segments in the project vicinity and used in the traffic noise impact analysis. Table E shows the existing with project traffic noise levels adjacent to roadway segments in the project vicinity. Tables F and G show the 2017 without and with project traffic noise levels, respectively, adjacent to roadway segments in the project vicinity. Tables H and I show the 2035 without and with project traffic noise levels, respectively, adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. This simplified version of the noise model does not account for changes in topography or shielding. The specific assumptions used in developing these noise levels and the model printouts are provided in Attachment B.

Table E: Existing With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	30,230	98	191	401	70.1
Jeffrey Road south of Alton Parkway	29,110	101	189	392	69.5
Alton Parkway west of Jeffrey Road	38,930	112	224	473	71.2[1]
Alton Parkway east of Jeffrey Road	30,750	98	192	405	70.2

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline is evaluated with site-specific information.
[1] The noise level at 50 ft from the roadway centerline is lower than the no project condition because the proposed project would widen the roadway, pushing the new outermost travel lane approximately 4 ft toward land uses along the road and away from the roadway centerline.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table F: 2017 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	31,800	100	197	414	70.3
Jeffrey Road south of Alton Parkway	30,310	103	193	402	69.7
Alton Parkway west of Jeffrey Road	44,690	120	244	518	71.9
Alton Parkway east of Jeffrey Road	37,600	109	218	462	71.1

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline is evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table G: 2017 With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	31,800	100	197	414	70.3
Jeffrey Road south of Alton Parkway	30,310	103	193	402	69.7
Alton Parkway west of Jeffrey Road	44,690	121	244	518	71.8[1]
Alton Parkway east of Jeffrey Road	37,600	109	218	462	71.1

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline is evaluated with site-specific information.
[1] The noise level at 50 ft from the roadway centerline is lower than the no project condition because the proposed project would widen the roadway, pushing the new outermost travel lane approximately 4 ft toward land uses along the road and away from the roadway centerline.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table H: 2035 Without Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	32,620	102	200	421	70.4
Jeffrey Road south of Alton Parkway	32,700	107	203	423	70.0
Alton Parkway west of Jeffrey Road	48,720	126	258	549	72.2
Alton Parkway east of Jeffrey Road	43,200	118	239	507	71.7

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline is evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Table I: 2035 With Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Jeffrey Road north of Alton Parkway	32,620	102	200	421	70.4
Jeffrey Road south of Alton Parkway	32,700	107	203	423	70.0
Alton Parkway west of Jeffrey Road	48,720	127	258	549	72.1[1]
Alton Parkway east of Jeffrey Road	43,200	118	239	507	71.7

Source: LSA (February 2017).
Note: Traffic noise within 50 ft of the roadway centerline is evaluated with site-specific information.
[1] The noise level at 50 ft from the roadway centerline is lower than the no project condition because the proposed project would widen the roadway, pushing the new outermost travel lane approximately 4 ft toward land uses along the road and away from the roadway centerline.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels
ft = feet

Based on Tables E, G, and I, with project implementation, traffic noise along roadway segments in the project vicinity would either be the same as the segments' corresponding without project scenarios, or would move the 70, 65, and 60 dBA CNEL contours outward by up to 1 foot from the roadway centerline of Jeffrey Road and Alton Parkway.

The closest single-family residences are located east of Jeffrey Road south of Alton Parkway approximately 168 feet from the centerline of Jeffrey Road and 105 feet from the centerline of Alton Parkway. Also, the closest multifamily residences are located west of Jeffrey Road and south of Alton Parkway, approximately 116 feet from the centerline of Jeffrey Road and 112 feet from the centerline of Alton Parkway. Table J shows the existing, 2017, and 2035 with and without project traffic noise levels at the closest single and multifamily residences along Jeffrey Road south of Alton Parkway.

Table J: Modeled Traffic Noise Levels at the Closest Residence

Land Use	Roadway	Existing (2013) Modeled Noise Levels[1]			2017 Modeled Noise Levels[1]			2035 Modeled Noise Levels[1]		
		Without Project	With Project	Change (dBA)	Without Project	With Project	Change (dBA)	Without Project	With Project	Change (dBA)
Single-Family Residence (without wall)	Jeffrey Road	66.7	66.7	0.0	66.8	66.8	0.0	67.0	67.0	0.0
	Alton Parkway	69.5	69.5	0.0	70.2	70.2	0.0	70.7	70.7	0.0
Single-Family Residence (with wall)	Jeffrey Road	61.7	61.7	0.0	61.8	61.8	0.0	62.0	62.0	0.0
	Alton Parkway	64.5	64.5	0.0	65.2	65.2	0.0	65.7	65.7	0.0
Multifamily Residences (without wall)	Jeffrey Road	69.1	69.1	0.0	69.2	69.2	0.0	69.5	69.5	0.0
	Alton Parkway	69.9	70.0	0.1	70.5	70.5	0.0[2]	70.8	70.8	0.0[2]
Multifamily Residences (with wall)	Jeffrey Road	64.1	64.1	0.0	64.2	64.2	0.0	64.5	64.5	0.0
	Alton Parkway	64.9	65.0	0.1	65.5	65.5	0.0[2]	65.8	65.8	0.0[2]

Source: LSA (February 2017).

[1] Noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. Noise levels are measured in dBA CNEL.

[2] Change in noise level is less than 0.1 and negligible.

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

Because these existing residences have an existing 5- to 6 foot-high wall, which would reduce noise levels by 5 dBA or more, single- and multifamily residences would be exposed to an exterior traffic noise level of 62.0 and 64.5 dBA CNEL, respectively, from Jeffrey Road, and 65.7 and 65.8 dBA CNEL, respectively, from Alton Parkway. However, as shown in Table J, the proposed project would increase noise levels by up to 0.1 dBA. This increase in noise levels would not be perceptible to the human ear in an outdoor environment and would not result in any significant noise impacts.

Based on the typical sound level reductions of buildings identified in *Protective Noise Levels, Condensed Version of the Environmental Protection Agency (EPA) Levels Document* (November 1978, EPA-550/9-79-100), standard building construction in Southern California would provide 24 dBA[1] or more in noise reduction from exterior to interior with windows and doors closed. With windows and doors open, the exterior-to-interior noise reduction drops to 12 dBA[2] or more. The closest single-family residence would be exposed to an interior level of 38.0 dBA CNEL from Jeffrey Road and 41.7 dBA CNEL from Alton Parkway. The closest multifamily residence would be exposed to an interior level of 40.5 dBA CNEL from Jeffrey Road and 41.8 dBA CNEL from Alton Parkway. These interior noise levels would not exceed the City interior noise standard of 45 dBA CNEL.

Therefore, traffic noise impacts on noise-sensitive land uses would be considered less than significant. No abatement measures are required.

[1] The national average is 25 dBA.

[2] The national average is 15 dBA.

STANDARD CONDITIONS

Construction Activity

Construction of the proposed project would potentially result in relatively high noise levels. The following measures would reduce short-term construction-related noise impacts resulting from the proposed project:

- During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.

- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from the receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and receptors nearest the project site during all project construction.

- During all project site construction, the construction contractor shall limit all construction-related activities to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturdays. No outdoor noise-generating construction activity is allowed on Sundays or federal holidays.

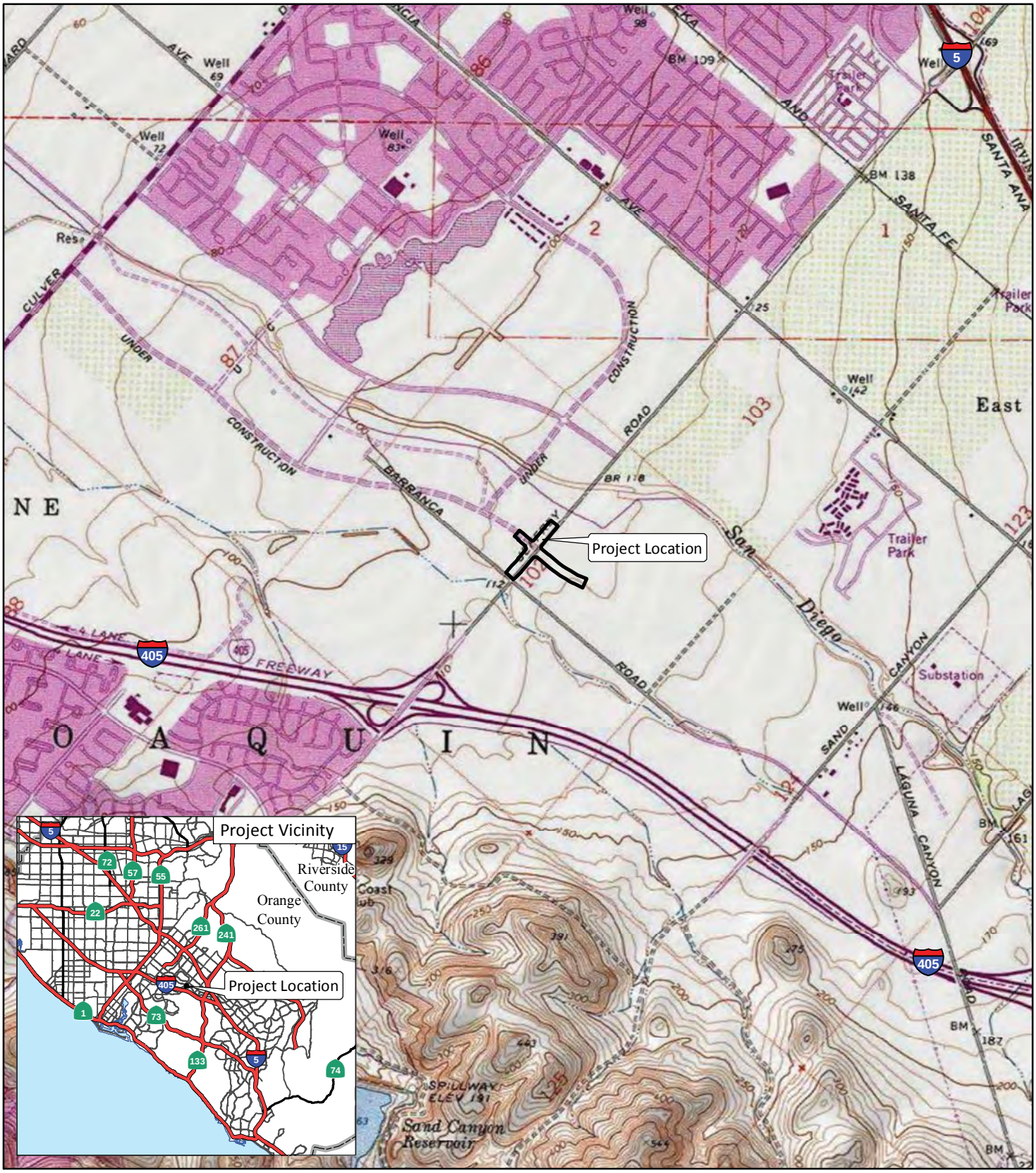
Attachments: A: Figures 1 and 2
B: FHWA Traffic Noise Model Printouts

ATTACHMENT A

FIGURES 1 AND 2

Figure 1—Project Location and Vicinity

Figure 2—Proposed Project and Noise Monitoring Locations



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

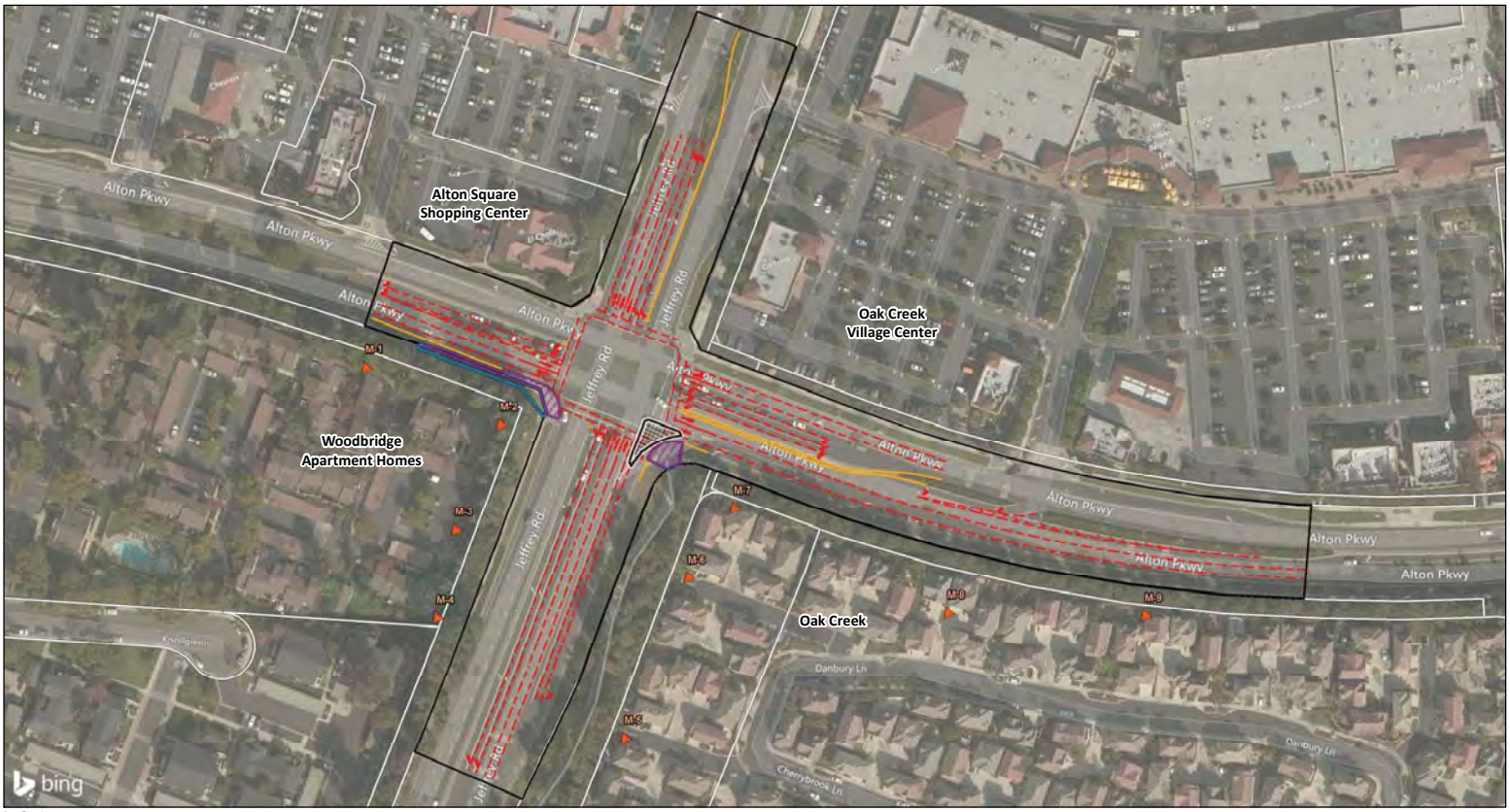
FEET

SOURCE: USGS 7.5' Quad - Tustin (1981), CA

I:\KRE1401\GIS\ProjectLocation.mxd (2/10/2017)

Jeffrey/Alton Intersection Improvement Project

Project Location and Vicinity



LSA

LEGEND

- Noise Monitoring Locations
- Project Area & Existing Right of Way
- Proposed Curb
- Proposed Striping
- Proposed Parkway Area
- Proposed Removal Area
- Proposed Temporary Construction Easement
- Parcels

0 60 120
FEET

SOURCE: Bing (2014); Kreuzer (02/2017)

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FIGURE 2

Jeffrey Road/Alton Parkway
Intersection Improvement Project

Proposed Project and Noise Monitoring Locations

ATTACHMENT B

FHWA TRAFFIC NOISE MODEL PRINTOUTS

TABLE Existing NP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 53 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
101.7	194.3	406.1	868.8

TABLE Existing NP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 57 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
114.9	222.4	466.5	998.9

TABLE Existing NP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29300 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.3	186.4	392.2	840.5

TABLE Existing NP-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - Existing NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.1	186.0	391.4	838.6

TABLE Existing P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - Existing P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 58.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
104.6	195.8	406.7	868.8

TABLE Existing P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38000 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 62.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
117.7	223.8	467.0	998.8

TABLE Existing P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29300 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.3	186.4	392.2	840.5

TABLE Existing P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - Existing P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.1	186.0	391.4	838.6

TABLE 2017 NP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2017 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 53 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
112.4	220.0	462.9	991.9

TABLE 2017 NP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2017 NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 57 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
124.9	246.2	519.0	1112.7

TABLE 2017 NP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2017 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
99.5	196.3	414.0	887.5

TABLE 2017 NP-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2017 NP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
97.1	190.8	401.9	861.4

TABLE 2017 P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2017 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 58.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
115.0	221.3	463.4	991.9

TABLE 2017 P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2017 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 62.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
127.5	247.4	519.5	1112.6

TABLE 2017 P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2017 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31800 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
99.5	196.3	414.0	887.5

TABLE 2017 P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2017 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30400 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
97.1	190.8	401.9	861.4

TABLE 2035 NP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2035 NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 53 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
120.9	240.1	507.2	1087.9

TABLE 2035 NP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2035 NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 57 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
130.8	259.9	549.2	1178.0

TABLE 2035 NP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2035 NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
100.8	199.4	420.8	902.3

TABLE 2035 NP-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2035 NP

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
100.9	199.8	421.6	904.2

TABLE 2035 P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road North of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 58.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
123.4	241.3	507.6	1087.7

TABLE 2035 P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Jeffrey Road South of Alton Parkway
NOTES: Jeffrey/Alton Intersection Improvement - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 62.5 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
133.2	261.1	549.6	1177.8

TABLE 2035 P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway West of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32600 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
100.8	199.4	420.8	902.3

TABLE 2035 P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/12/2015
ROADWAY SEGMENT: Alton Parkway East of Jeffrey Road
NOTES: Jeffrey/Alton Intersection Improvement - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32700 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 45 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
100.9	199.8	421.6	904.2

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 3, 2017

TO: Lisa Williams

FROM: Sarah Rieboldt, Ph.D.

SUBJECT: Paleontological Analysis of the Jeffrey Road/Alton Parkway Intersection Improvement Project, City of Irvine, California

INTRODUCTION

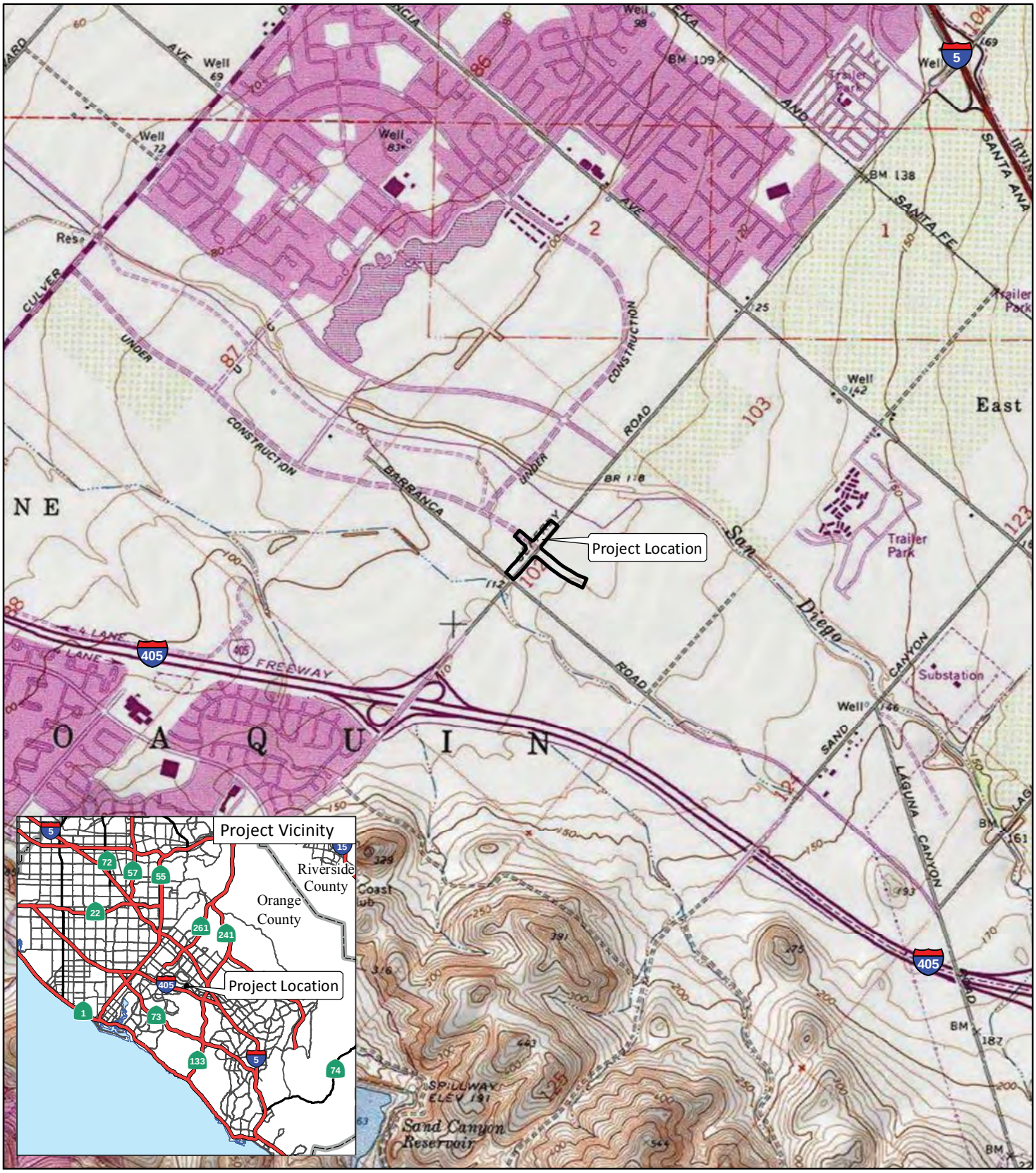
The City of Irvine (City) proposes the Jeffrey Road/Alton Parkway Intersection Improvement Project (project). Figure 1 depicts the project area on the United States Geological Survey (USGS) *Tustin, California* 7.5-minute topographic quadrangle map (USGS, 1981) of the San Joaquin Land Grant.

This memorandum was prepared to address the potential for paleontological impacts in the project area and to make recommendations as to whether mitigation measures may be necessary to avoid impacts to paleontological resources, as required under the California Environmental Quality Act (CEQA). This paleontological analysis was conducted according to the guidelines established by the Society of Vertebrate Paleontology (SVP; 2010).

PROJECT DESCRIPTION

The City proposes to improve the Jeffrey Road/Alton Parkway intersection. The project is located on the border of the City's Woodbridge and Oak Creek planning areas (Areas 15 and 12, respectively) (Figure 1), with Alton Square Shopping Center north of the intersection, Oak Creek Village Center east of the intersection, and both single and multifamily residential uses south and west of the intersection. The Woodbridge Apartment Homes complex is located in the western quadrant of the intersection and the community of Oak Creek is located in the southern quadrant. Alton Square Shopping Center and Oak Creek Village Center both have driveway access from Jeffrey Road and from Alton Parkway. The Woodbridge and Oak Creek residential uses do not have direct access to Jeffrey Road or Alton Parkway within the project limits.

At the intersection, Jeffrey Road currently provides two left-turn lanes, three through lanes, and one free right-turn lane in the northbound direction. In the southbound direction, Jeffrey Road has two left-turn lanes, three through lanes, and a de-facto right-turn lane. Alton Parkway currently provides two left-turn lanes, two through lanes, and a de-facto right-turn lane in the westbound direction. In the eastbound direction, Alton Parkway has two left-turn lanes, two through lanes, and a de-facto right-turn lane.



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Tustin (1981), CA

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Jeffrey/Alton Intersection Improvement Project

Project Location and Vicinity

The purpose of the proposed project is to reduce existing and future traffic congestion at the Jeffrey Road/Alton Parkway intersection. The project is not anticipated to generate traffic. The project would include conversion of the existing northbound Jeffrey Road free right-turn lane to a standard right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient width to function as a de-facto right-turn lane; and addition of a third westbound left-turn lane on Alton Parkway. Additional project features include the following:

- New pavement, curb, gutter, sidewalk, and pedestrian ramps;
- Striping, signing, and marking improvements;
- Miscellaneous utility adjustments and relocations;
- Modifications to the existing traffic signals to improve traffic operations;
- Reconstruction of the median islands on the northeast and southeast legs of the intersection;
- Protection in place of the existing Woodbridge sign/wall located on the western corner of the intersection;
- A temporary construction easement at Assessor's Parcel Number (APN) 452-055-03 along the south side of Alton Parkway west of the intersection; and
- Minor regrading and re-establishment of disturbed landscaping and irrigation in the parkway along the south side of Alton Parkway west of the intersection.

Current project plans indicate that excavation associated with this project is expected to reach a depth of 3 feet (ft) for the road widening and approximately 6 ft for storm drains and catch basins in two locations (Kreuzer Consulting Group, personal communication, February 2017).

METHODS

LSA examined geologic maps of the project area and reviewed relevant geological and paleontological literature, including the memorandum prepared for a previous alternative design for this project (Rieboldt, 2014). This research was conducted to determine which geologic units are present within the project area and whether fossils have been recovered from those or similar geologic units elsewhere in the region. The results of a fossil locality search conducted through the Natural History Museum of Los Angeles County (LACM) for the previous alternative (Rieboldt, 2014) were also reviewed to determine the status and extent of previously recorded paleontological resources within and surrounding the project area.

RESULTS

The project is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast-trending structural block that extends from the Transverse Ranges in the north to the tip of Baja California in the south and includes the Los Angeles Basin (California Geological Survey, 2002; Norris and Webb, 1976). This province is characterized by mountains and valleys that trend in a northwest-southeast direction, roughly parallel to the San Andreas Fault. The total width of the province is approximately 225 miles, extending from the Colorado Desert in the east, across the continental shelf, to the Southern Channel Islands (i.e., Santa

Barbara, San Nicolas, Santa Catalina, and San Clemente) (Sharp, 1976). It contains extensive pre-Cenozoic (more than 66 million years ago [Ma]) igneous and metamorphic rock covered by limited exposures of Cenozoic (less than 66 Ma) sedimentary deposits (Norris and Webb, 1976).

Within this larger region, the project is located in the Los Angeles Basin, a broad alluvial lowland bounded to the north and east by the San Gabriel and Santa Ana Mountains, respectively, and by the Pacific Ocean to the southwest (Yerkes et al., 1965). The basin is underlain by a structural depression that has discontinuously accumulated thousands of feet of marine and terrestrial deposits since the Late Cretaceous (approximately 100.5 Ma) (Yerkes et al., 1965). Over millions of years, the basin has experienced episodes of subsidence, deposition, uplift, erosion, and faulting, all of which have resulted in very complex geology (Yerkes et al., 1965). The surface of the basin slopes gently southwestward toward the ocean, interrupted in various places by low hills and traversed by several large rivers (Sharp, 1976; Yerkes et al., 1965), including the Los Angeles River, the Rio Hondo, the San Gabriel River, and the Santa Ana River.

Geologic mapping by Morton and Miller (2006) indicates that the project area is underlain by Young Alluvial Fan Deposits that are Holocene to Late Pleistocene in age (less than 126,000 years ago). They consist of unconsolidated to moderately consolidated silt, sand, pebbles, cobbles, and boulders (Morton and Miller, 2006). These sediments were eroded from higher elevations, carried by flooding streams and debris flows, and deposited in a fan or lobe shape at the base of the hills. These deposits have been slightly to moderately dissected by erosional gullies, and they are mapped over the entire project area (Figure 2).

Although Holocene (less than 11,700 years ago) deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200 to 11,700 years ago; Walker et al., 2012) are considered scientifically important (SVP, 2010), and fossils from this time interval are not very common. These Holocene deposits overlie older, Pleistocene deposits, which have produced scientifically important fossils elsewhere in the region (Jefferson 1991a, 1991b; Miller 1971; Reynolds and Reynolds 1991; Springer et al. 2009). These older, Pleistocene deposits span the end of the Rancholabrean North American Land Mammal Age (NALMA), which dates from 11,000 to 240,000 years ago (Sanders et al., 2009) and was named for the Rancho La Brea fossil site in central Los Angeles. The presence of *Bison* defines the beginning of the Rancholabrean NALMA (Bell et al. 2004), but fossils from this time also include other large and small mammals, reptiles, fish, invertebrates, and plants (Jefferson 1991a, 1991b; Miller 1971; Reynolds and Reynolds 1991; Springer et al. 2009). There is a potential to find these types of fossils in the older sediments of this geologic unit, which may be encountered below a depth of approximately 10 ft. Therefore, these deposits are assigned a low paleontological sensitivity above a depth of 10 ft and a high sensitivity below that mark.

According to the locality search conducted by the LACM in 2014, there are no known fossil localities within the boundaries of the project. The LACM reports that the project area is underlain by deposits of younger Quaternary alluvium. These deposits typically do not contain scientifically significant vertebrate fossils, at least in the uppermost layers, but may overlie older Quaternary alluvium that may contain important fossils. The museum does not have any records of localities within the project area; however, there are localities nearby from the older Quaternary alluvium deposits. The closest locality in these deposits is LACM 7713, located southeast of the project area



LSA

LEGEND

Project Location

Qyf - Young Alluvial Fan Deposits
- a - sandy
- c - conglomerate
- s - silty

N

0 100 200
FEET

SOURCE: Bing Maps (2013)

I:\KRE1401\GIS\Geology.mxd (2/16/2017)

FIGURE 2

Jeffrey/Alton Intersection Improvement Project

Geology Map

on the western side of State Route 133 (SR-133) at the southern end of the interchange with Interstate 405 (I-405). This locality produced a specimen of a ground sloth (Mylodontidae) from an unstated but shallow depth. The next closest locality is LACM 4219, which is west-southwest of the project area in a roadcut for State Route 55 (SR-55) near Santa Isabel Avenue. This locality produced specimens of turtle (Testudinata) and camel (Camelidae) from a depth of 30 ft. The next closest locality is LACM 1339, located southwest of the project area along Adams Avenue east of the Santa Ana River. This locality yielded specimens of mammoth (*Mammuthus*) and camel (Camelidae) from a depth of approximately 15 ft. The LACM believes that shallow excavations in the younger Quaternary beach sands in the project area are unlikely to recover any scientifically important vertebrate fossils. However, deeper excavations, or excavations into the Quaternary Terrace Deposits or Capistrano Formation, may encounter scientifically significant vertebrate remains and should be monitored to recover those remains. The results letter from the LACM is provided in Attachment A.

RECOMMENDATIONS

The project area is underlain by Young Alluvial Fan Deposits that are Holocene to Late Pleistocene in age. The Young Alluvial Fan Deposits within the project area are considered to have low paleontological sensitivity from the surface to a depth of 10 ft, and high paleontological sensitivity below that mark. Ground-disturbing activities for the project are expected to extend no deeper than 6 ft. Therefore, LSA recommends that no paleontological mitigation measures are required for this project using current project plans. In the unlikely event that fossil remains are encountered, paleontological mitigation will need to be developed (including paleontological monitoring, collection of observed resources, preservation, stabilization and identification of collected resources, curation of resources into a museum repository, and preparation of a monitoring report of findings). If project plans change to include more substantial excavation or additional areas, this recommendation must be revisited.

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Attachment: A: Paleontological Locality Search Results from the Natural History Museum of Los Angeles County

ATTACHMENT A

PALEONTOLOGICAL LOCALITY SEARCH RESULTS FROM THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007
tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

11 August 2014

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Attn: Dr. Sarah Rieboldt, Paleontologist

re: Paleontological Resources Records Check for the proposed Jeffrey / Alton Intersection Improvement Project, LSA project number KRE1401, in the City of Irvine, Orange County, project area

Dear Sarah:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Jeffrey / Alton Intersection Improvement Project, LSA project number KRE1401, in the City of Irvine, Orange County, project area as outlined on the portion of the Tustin USGS topographic quadrangle map that you sent to me via e-mail on 18 July 2014. We do not have any vertebrate fossil localities that lie within the project boundaries, but we do have localities nearby from the same sedimentary units that may occur as subsurface deposits in the proposed project area.

The entire proposed project area has surficial deposits composed of younger Quaternary Alluvium, primarily derived as alluvial fan deposits from the hills to the east. These deposits usually do not contain significant vertebrate fossils, at least in the uppermost layers, but they may be underlain by older Quaternary deposits. Our closest vertebrate fossil locality from these older Quaternary deposits is LACM 7713, southeast of the proposed project area on the western side of the Laguna Freeway (Highway 133) at the southern end of the interchange with the San Diego Freeway (I-405), that produced a fossil specimen of ground sloth, Mylodontidae, from unstated but shallow depth. Our next closest fossil vertebrate localities from older Quaternary deposits are LACM 4219, west-southwest of the proposed project area in a road-cut for the Newport

Freeway near Santa Isabel Avenue, that produced fossil specimens of turtle, Testudinata, and camel, Camelidae, in coarse poorly sorted friable sands about 30 feet below the grade of Newport Boulevard, and LACM 1339, just south of due west of the proposed project area along Adams Avenue near the top of the mesa bluffs east of the Santa Ana River, that produced fossil specimens of mammoth, *Mammuthus*, and camel, Camelidae, in sand approximately 15 feet below the top of the mesa that is overlain by shell bearing silts and sands, and.

Grading or shallow excavations in the uppermost few feet of the younger Quaternary alluvial sediments in the proposed project site area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations at the proposed project site area, however, may well encounter significant vertebrate fossils in older Quaternary sediments. Any substantial excavations below the uppermost layers, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 3, 2017

TO: Lisa Williams

FROM: Ivan Strudwick, RPA

SUBJECT: Cultural Resources Technical Memorandum for the Jeffery Road/Alton Parkway Intersection Improvement Project, City of Irvine, Orange County, California

This LSA memorandum documents the results of a cultural resources study conducted for the Jeffrey Road/Alton Parkway Intersection Improvement Project (project) in the City of Irvine (City), Orange County, California.

PROJECT DESCRIPTION

The City proposes to improve the Jeffrey Road/Alton Parkway intersection. The project is located on the border of the City's Woodbridge and Oak Creek planning areas (Areas 15 and 12, respectively) (Figure 1; all figures provided in Attachment A), with Alton Square Shopping Center north of the intersection, Oak Creek Village Center east of the intersection, and both single- and multifamily residential uses south and west of the intersection. The Woodbridge Apartment Homes complex is located in the western quadrant of the intersection and the community of Oak Creek is located in the southern quadrant. Alton Square Shopping Center and Oak Creek Village Center both have driveway access from Jeffrey Road and from Alton Parkway. The Woodbridge and Oak Creek residential uses do not have direct access to Jeffrey Road or Alton Parkway within the project limits.

At the intersection, Jeffrey Road currently provides two left-turn lanes, three through lanes, and one free right-turn lane in the northbound direction. In the southbound direction, Jeffrey Road has two left-turn lanes, three through lanes, with a de-facto right-turn lane. Alton Parkway currently provides two left-turn lanes, two through lanes, and a de-facto right-turn lane in the westbound direction. In the eastbound direction, Alton Parkway has two left-turn lanes, two through lanes, and a de-facto right-turn lane. Figure 2 shows the proposed project.

The purpose of the proposed project is to reduce existing and future traffic congestion at the Jeffrey Road/Alton Parkway intersection. The project is not anticipated to generate traffic. The project would include conversion of the existing northbound Jeffrey Road free right-turn lane to a standard right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient width to function as a de-facto right-turn lane; and addition of a third westbound left-turn lane on Alton Parkway.

Additional project features include the following:

- New pavement, curb, gutter, sidewalk, and pedestrian ramps;
- Striping, signing, and marking improvements;
- Miscellaneous utility adjustments and relocations;
- Modifications to the existing traffic signals to improve traffic operations;
- Reconstruction of the median islands on the northeast and southeast legs of the intersection;
- Protection in place of the existing Woodbridge sign/wall located on the western corner of the intersection;
- A temporary construction easement at Assessor's Parcel Number (APN) 452-055-03 along the south side of Alton Parkway west of the intersection; and
- Minor regrading and re-establishment of disturbed landscaping and irrigation in the parkway along the south side of Alton Parkway west of the intersection.

The project area is located on the United States Geological Survey (USGS) *Tustin, California* topographic quadrangle map (USGS 1981) within Township 6 South, Range 9 West, primarily in the east-central portion of Irvine Section 102. The project area is situated at an elevation of 113 to 121 feet above mean sea level.

RECORD SEARCH

On February 1, 2017, a record search for the study area and the 0.5-mile radius around it was completed at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, located at California State University, Fullerton (Attachment B). The SCCIC houses the pertinent archaeological and historic site and survey information necessary to: (1) establish the extent and status of cultural resources previously documented in the project area, if any, and (2) note what site types might be expected to occur in the project area based on the existing data from known cultural resource sites located within a 0.5-mile radius.

The results of the record search indicate that eight previous studies include the project area (Table A). These studies include three surveys (Gothold and Maguire 1973; Cottrell 1977; LSA 1981), one monitoring report (Breece 1990), and four overview reports (Archaeological Research, Inc. [ARI] 1976; Strozier 1978; Schroth 1979; Padon 1985). Two surveys (Kyle 2004; Bonner 2007) were conducted outside but directly adjacent to the project area. No resources were recorded in the project area as a result of these previous studies.

However, three mapped archaeological resources (P-30-543, P-30-1580, and P-30-100021) have been recorded within 0.5 mile of the project area. Site P-30-543 is located approximately 0.25 mile northeast of the current project area. The site was originally recorded as "… a few scrapers, hammerstones and debitage," with a total of 14 artifacts observed (Cottrell 1976). The site record

Table A: Results of Record Search

Previous Studies in the Project Area		
Reference	**OR No.[1]**	**Type of Study**
Gothold and Maguire (1973)	2534	Annual Report
ARI (1976)	2534	Annual Report
Cottrell (1977)	233	Survey
Strozier (1978)	2225	Overview
Schroth (1979)	305	Overview
LSA (1981)	761	Survey
Padon (1985)	847	Inventory
Breece (1990)	1096	Monitoring
Previous Studies Adjacent to the Project Area		
Kyle (2004)	3244	Survey
Bonner (2007)	3675	Survey
Previous Studies Within 0.5 Mile of the Project Area (Includes 10 Overview Reports)		
OR-41, 486, 586, 1085, 1127, 1164, 1232, 1419, 1463, 1633, 1857, 1889, 1995, 2197, 2261, 2473, 2636, 3267, 3874, 4157, 4373, 4545		

[1] OR is the Information Center code for Orange County, the county in which the study occurred. References are listed in the References section and by OR number in Appendix B.

ARI = Archaeological Research, Inc.

was updated by Evans (1991), who found only two artifacts. The site was updated a third time by Strudwick (1994), who observed no artifacts at the site location. Site disturbance, including disking (Evans 1991) and the rechannelization of San Diego Creek (Strudwick 1994), were noted on the two site updates.

Site P-30-1580 is a lithic and shell scatter recorded by Brown (2000) in an area measuring over 100 meters long by only 3–5 meters wide along a bicycle trail south of Interstate 405, approximately 0.4 mile southwest of the project area. A site record update (Brown 2001) including subsurface testing showed that P-30-1580 was highly disturbed probably due to the construction of the bike trail. Site P-30-100021, located 0.375 mile northeast of the project area, is a lithic scatter recorded by Evans (1991). The site has not been updated since it was originally recorded.

The record search also shows that a total of 22 additional cultural resource studies have been conducted within 0.5 mile of the project area. These studies primarily include surveys, site assessments, and overviews, as well as constraints analyses and resource catalogs. Nearly half (10) of the 22 studies are overviews. The results of the record search indicate the entire project area has been included in many cultural resource studies, including surveys.

Online aerial photographs were also reviewed for this project (www.historicaerials.com). The earliest aerial photograph, dated 1938, shows the project area was agricultural with no buildings in the vicinity. Subsequent aerial photographs (1946, 1952, 1953, and 1963) show no change until 1972, when a one-lane Jeffrey Road is visible, having been constructed sometime between 1963 and 1972. In 1972, however, the surrounding area is still completely agricultural. By 1980, Jeffrey Road is

a divided two-lane road, and a divided two-lane Alton Parkway has been constructed west of Jeffrey Avenue. At this time, the project area is still undeveloped and appears not to have been used agriculturally for some time, although some nearby areas are still used agriculturally. Also, in 1980, tract homes are present over 0.5 mile north of the project area. By 1994, Alton Parkway has been extended east of Jeffrey Road. Also by 1994, the area west of Jeffrey Road exhibits construction. A housing development has been constructed south of Alton Parkway and a business center exists north of Alton Parkway, although the area east of Jeffrey Road is still agricultural. By 2002, all portions of the project area have been completely developed. Aerial photographs show little change in the project area after 2002. Thus, aerial photographs show that the oldest buildings in the project vicinity were constructed sometime between 1980 and 1994. As such, no buildings in or adjacent to parcels that will be impacted are more than 50 years old.

SURVEY

Typically, an archaeological and/or architectural survey is completed after a record search is conducted. However, in this case, neither survey was conducted because the project area consists entirely of modern, built environment. No native sediment that could contain archaeological material is visible.

CONCLUSIONS

No cultural resources were identified within the study area by the record search conducted at the SCCIC. Due to the modern, built environment of the project area and the lack of exposed natural sediment, a cultural resource survey was not conducted. Because the project area has been disturbed at depth, the area is not sensitive for cultural resources.

REFERENCES

Archaeological Research, Inc. (ARI)

1976 *Annual Report to The Irvine Company from Archaeological Research, Inc.* Archaeological Research, Inc. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-2534).

Bonner, Wayne H.

2007 *Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC, Candidate LA2520A (SCE Tower – Aki Nursery), 6900 Alton Parkway, Irvine, Orange County, California.* Michael Brandman Associates. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-3675).

Breece, William H.

1990 *Archaeological Monitoring at the IUSD Project Site, Irvine.* LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-1096).

Brown, Joan

2000 State of California Department of Parks and Recreation Site Record Form for P-30-001580. On file, South Central Coastal Information Center, California State University, Fullerton.

2001 State of California Department of Parks and Recreation Site Record Update for P-30-001580. On file, South Central Coastal Information Center, California State University, Fullerton.

Cottrell, Marie G.
1976 State of California Department of Parks and Recreation Site Record Form for P-30-000543. On file, South Central Coastal Information Center, California State University, Fullerton.

1977 *Archaeological Survey Report for Village 12 and Village 14 (ORA-508 and ORA-543).* Archaeological Resource Management Corp. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-233).

Evans, Stuart
1991 State of California Department of Parks and Recreation Site Record Update for P-30-000543. On file, South Central Coastal Information Center, California State University, Fullerton.

Gothold, Jane, and John Maguire
1973 *Pacific Coast Archaeological Society Survey along the North Side of the San Diego Freeway.* Pacific Coast Archaeological Society. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-8).

Kyle, Carolyn E.
2004 *Cultural Resource Assessment for AT&T Wireless Facility 950-013-522E located in the City of Irvine, Orange County, California.* Kyle Consulting. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-3244).

LSA Associates, Inc.
1981 *Cultural Resource Assessment Village 12 Development Site, Irvine, California.* LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton. (Info. Center No. OR-761).

Padon, Beth
1985 *Archaeological Resource Inventory, City of Irvine and its Sphere of Influence.* LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-847).

Schroth, Adella
1979 *The History of Archaeological Research on Irvine Ranch Property: The Evolution of a Company Tradition*. Archaeological Resource Management Corp. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-305).

Strozier, Hardy
1978 *The Irvine Company Planning Process and California Archaeology – A Review and Critique*. The Irvine Company. On file, South Central Coastal Information Center, California State University, Fullerton (Info. Center No. OR-2225).

Strudwick, Ivan H.
1994 State of California Department of Parks and Recreation Site Record Update for P-30-000543. LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton.

United States Geological Survey (USGS)
1981 *Tustin, California* 7.5-minute quadrangle map. U.S. Geological Survey, Denver, Colorado, 80225.

Attachments: A: Figures 1 and 2

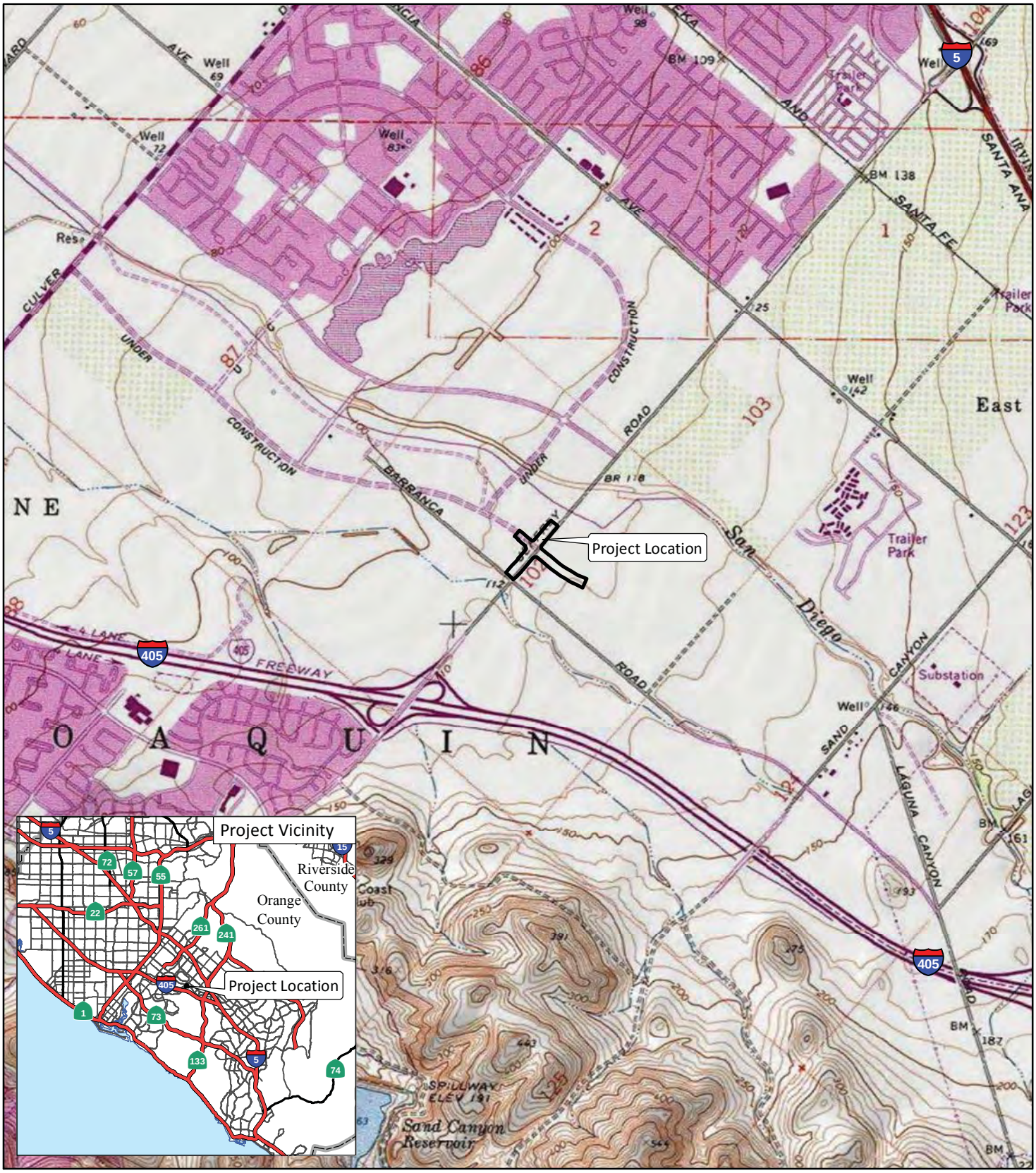
B: Record Search Results

ATTACHMENT A

FIGURES 1 AND 2

Figure 1—Project Location

Figure 2—Proposed Project Features



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Tustin (1981), CA

I:\KRE1401\GIS\ProjectLocation.mxd (2/10/2017)

Jeffrey/Alton Intersection Improvement Project

Project Location and Vicinity



LSA

LEGEND

- Project Area & Existing Right of Way
- Proposed Curb
- Proposed Striping
- Proposed Parkway Area
- Proposed Island Removal
- Proposed Temporary Construction Easement
- Parcels

0 60 120
FEET

SOURCE: Bing (2014); Kreuzer (02/2017)

I:\KRE1401\GIS\ProposedProject_Alt5.mxd (3/1/2017)

FIGURE 2

Jeffrey Road/Alton Parkway
Intersection Improvement Project

Proposed Project

ATTACHMENT B

RECORD SEARCH RESULTS

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

2/1/2017 Records Search File No.: 17229.3260

Ivan H. Strudwick
LSA
20 Executive Park, Suite 200
Irvine, CA 92614

Re: Records Search Results for the Jeffrey-Alton Intersection Improvement Project, Irvine, Orange County, California

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Tustin, CA USGS 7.5' quadrangle. The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of records and reports are provided in the following format: ☒ custom GIS maps ☐ shape files ☐ hand-drawn maps

Resources within project area: 0	None
Resources within ½-mile radius: 3	See attached list
Reports within project area: 8	OR-8, OR-233, OR-305, OR-761, OR-847, OR-1096, OR-2225, OR-2534
Reports within ½-mile radius: 24	See attached list. 10 are overview reports.

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☐ not requested	☒ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☐ not requested	☒ nothing listed

Archaeological Determinations of Eligibility: ☐ enclosed ☐ not requested ☒ nothing listed

Historical Maps: ☒ enclosed ☐ not requested ☐ nothing listed

Ethnographic Information: ☒ not available at SCCIC

Historical Literature: ☒ not available at SCCIC

GLO and/or Rancho Plat Maps: ☒ not available at SCCIC

Caltrans Bridge Survey: ☒ not available at SCCIC; please go to http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Shipwreck Inventory: ☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: (see below) ☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Michelle Galaz
Assistant coordinator

Enclosures:

(X) Custom Maps – 1 page

(X) Resource Database Printout (list) – 1 page

(X) Report Database Printout (list) – 11 pages

(X) Historical Maps – 4 pages

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-000543	CA-ORA-000543		Site	Prehistoric	AP02 (Lithic scatter)	1976 (Cottrell, M., Archaeological Research, Inc.); 1991 (Evans, Stuart, RMW Paleo Associates, Inc.); 1994 (Strudwick, I., LSA Associates, Inc.)	LA-10429, OR-00233, OR-00761, OR-01164, OR-01419, OR-01995, OR-02261, OR-03380, OR-03860, OR-03874
P-30-001580	CA-ORA-001580	Resource Name - Bike Trail 1	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	2000 (J. Brown, RMW Paleo Associates, Inc.); 2001 (Joan C. Brown, RMW)	
P-30-100021		Resource Name - I-1; Voided - 30-100442	Other	Prehistoric	AP02 (Lithic scatter)	1991 (Stuart Evans, RMW Paleo Associates)	OR-01164

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00008		1973	Gothold, Jane and Maguire, John	Pacific Coast Archaeological Society Survey Along the North Side of the San Diego Freeway	Pacific Coast Archaeological Society Quarterly	
OR-00041		1977	Desautels, Roger	A Report on Cultural / Scientific Resources for County of Orange	EMA	
OR-00233		1977	Cottrell, Marie G.	Archaeological Survey Report for Village 12 and Village 14 (ORA-508 and ORA-543)		30-000543
OR-00305		1979	Schroth, Adella	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition	Archaeological Resource Management Corp.	30-000002, 30-000044, 30-000047, 30-000048, 30-000051, 30-000053, 30-000059, 30-000060, 30-000061, 30-000062, 30-000063, 30-000064, 30-000065, 30-000066, 30-000067, 30-000068, 30-000069, 30-000070, 30-000071, 30-000072, 30-000073, 30-000077, 30-000091, 30-000099, 30-000100, 30-000104, 30-000106, 30-000107, 30-000109, 30-000111
OR-00486		1976	Mitchell, Laura Lee	Woodbridge Observer Survey Project Report on Following Heavy Grading in the City of Irvine by the Pacific Coast Archaeological Society		30-000373
OR-00586		1980	Douglas, Ronald D.	Assessment of Cultural/scientific Resources, Village 12, Sce Hvtl Relocation, Irvine, California		30-000341
OR-00761		1981	Anonymous	Cultural Resource Assessment Village 12 Development Site Irvine, California	LSA Associates, Inc.	30-000543
OR-00847		1985	Padon, Beth	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	LSA Associates, Inc.	30-000161, 30-000349, 30-000361, 30-000383, 30-000478, 30-000494, 30-000495, 30-000496, 30-000499, 30-000545, 30-000601, 30-000734, 30-000735, 30-000767, 30-000803, 30-000804, 30-000805, 30-000806, 30-000807, 30-000808
OR-01085		1991	Jertberg, Patricia R.	Archaeological Monitoring for the State Farm Project Area	LSA Associates, Inc.	
OR-01096		1990	Breece, William H.	Archaeological Monitoring at the Iusd Project Site, Irvine	LSA Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01127	Paleo -	1991	Rosenthal, Jane	Past to Present: Cultural and Scientific Resources, an Archival Inventory Irvine Ranch Open Space Reserve Orange County, California	LSA Associates, Inc.	30-000079, 30-000184, 30-000273, 30-000310, 30-000311, 30-000312, 30-000345, 30-000384, 30-000386, 30-000476, 30-000494, 30-000495, 30-000496, 30-000501, 30-000502, 30-000523, 30-000524, 30-000547, 30-000557, 30-000705, 30-000706, 30-000707, 30-000709, 30-000720, 30-000731, 30-000734, 30-000735, 30-000736, 30-000751, 30-000767, 30-000787, 30-000798, 30-000799, 30-000800, 30-000801, 30-000802, 30-000803, 30-000804, 30-000805, 30-000811, 30-000822, 30-000932, 30-000933, 30-000939, 30-000940, 30-000941, 30-000943, 30-000996, 30-000998, 30-001000, 30-001001, 30-001006, 30-001029, 30-001032, 30-001033, 30-001034, 30-001054, 30-001055, 30-001077
OR-01164		1991	Evans, Stuart A.	A Cultural Resources Reconnaissance of the San Diego Creek Improvement/barranca Parkway Connection, Approximately 70 Acres in Irvine, Orange County, California.	RMW Paleo Associates, Inc.	30-000543, 30-001304, 30-100021
OR-01232		1988	Hall, M.C.	For the Record: Notes and Comments on "Obsidian Exchange in Prehistoric Orange County"	Pacific Coast Archaeological Society Quarterly, Vol. 24, No. 4	
OR-01419		1994	Strudwick, Ivan H. and Bradley Sturm	Cultural Resource Assessment - Planning Area 12, City of Irvine, Orange County, California	LSA Associates, Inc.	30-000543, 30-001304
OR-01463		1994	Earle, David D. E.	Newport Coast Archaeological Project: an Ethnohistoric Analysis of Population, Settlement, and Social Organization in Coastal Orange County at the End of the Late Prehistoric Period	The Keith Companies Archaeological Division	
OR-01633		1936	Robinson, Cecil V.	A History of Irrigation in Orange County. WPA Research Project #3105; Orange County California 1769-1889	WPA	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01857	Other -	1935	H.F. Strandt	Orange County California Historical Research Project: Life & Customs & Peculiar Artifacts SW Coast Indians. INCLUDES: Peculiar Artifacts of the Prehistoric Indians of the South West,1935; Life and Customs of the Southwestern Coast Indians In Prehistoric Times,1935; Burial Customs of the Orange County Indian,1935; Orange County Indians,1936		
OR-01889		1936	Bradshaw, M.F.	The California Vine Disease Bulletin No. 2; WPA Research Project #3105-1936, Santa Ana, CA	Department of Agriculture	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01995	Other - Pacific Coast Archaeological Society; Other - PCAS	1979	Mitchell, Laura Lee	A Catalogue of Significant Data Derived From Orange County Site Records	Pacific Coast Archaeological Society Quarterly	30-000001, 30-000002, 30-000003, 30-000004, 30-000005, 30-000006, 30-000007, 30-000008, 30-000009, 30-000010, 30-000011, 30-000012, 30-000013, 30-000014, 30-000015, 30-000016, 30-000017, 30-000018, 30-000019, 30-000020, 30-000021, 30-000022, 30-000023, 30-000024, 30-000025, 30-000026, 30-000027, 30-000028, 30-000029, 30-000030, 30-000031, 30-000032, 30-000033, 30-000034, 30-000035, 30-000036, 30-000037, 30-000038, 30-000039, 30-000040, 30-000041, 30-000042, 30-000043, 30-000044, 30-000045, 30-000046, 30-000047, 30-000048, 30-000049, 30-000050, 30-000051, 30-000052, 30-000053, 30-000054, 30-000055, 30-000056, 30-000057, 30-000058, 30-000059, 30-000060, 30-000061, 30-000062, 30-000063, 30-000064, 30-000065, 30-000066, 30-000067, 30-000068, 30-000069, 30-000070, 30-000071, 30-000072, 30-000073, 30-000074, 30-000075, 30-000076, 30-000077, 30-000078, 30-000079, 30-000080, 30-000081, 30-000082, 30-000083, 30-000084, 30-000085, 30-000086, 30-000087, 30-000088, 30-000089, 30-000090, 30-000091, 30-000092, 30-000093, 30-000094, 30-000095, 30-000096, 30-000097, 30-000098, 30-000099, 30-000100, 30-000101, 30-000102, 30-000103, 30-000104, 30-000105, 30-000106, 30-000107, 30-000108, 30-000109, 30-000110, 30-000111, 30-000112, 30-000113, 30-000114, 30-000115, 30-000116, 30-000117, 30-000118, 30-000119, 30-000120, 30-000121, 30-000122, 30-000123, 30-000124, 30-000125, 30-000126, 30-000127, 30-000128, 30-000129, 30-000130, 30-000131, 30-000132, 30-000133, 30-000134, 30-000135, 30-000136, 30-000137, 30-000138,

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						30-000139, 30-000140, 30-000141, 30-000142, 30-000143, 30-000144, 30-000145, 30-000146, 30-000147, 30-000148, 30-000149, 30-000150, 30-000151, 30-000152, 30-000153, 30-000154, 30-000155, 30-000156, 30-000157, 30-000158, 30-000159, 30-000160, 30-000161, 30-000162, 30-000163, 30-000164, 30-000165, 30-000166, 30-000167, 30-000168, 30-000169, 30-000170, 30-000171, 30-000172, 30-000173, 30-000174, 30-000175, 30-000176, 30-000177, 30-000178, 30-000179, 30-000180, 30-000181, 30-000182, 30-000183, 30-000184, 30-000185, 30-000186, 30-000187, 30-000188, 30-000189, 30-000190, 30-000191, 30-000192, 30-000193, 30-000194, 30-000195, 30-000196, 30-000197, 30-000198, 30-000199, 30-000200, 30-000201, 30-000202, 30-000203, 30-000204, 30-000205, 30-000206, 30-000207, 30-000208, 30-000209, 30-000210, 30-000211, 30-000212, 30-000213, 30-000214, 30-000215, 30-000216, 30-000217, 30-000218, 30-000219, 30-000220, 30-000221, 30-000222, 30-000223, 30-000224, 30-000225, 30-000226, 30-000227, 30-000228, 30-000229, 30-000230, 30-000231, 30-000232, 30-000233, 30-000234, 30-000235, 30-000236, 30-000237, 30-000238, 30-000239, 30-000240, 30-000241, 30-000242, 30-000243, 30-000244, 30-000245, 30-000246, 30-000247, 30-000248, 30-000249, 30-000250, 30-000251, 30-000252, 30-000253, 30-000254, 30-000255, 30-000256, 30-000257, 30-000258, 30-000259, 30-000260, 30-000261, 30-000262, 30-000263, 30-000264, 30-000265, 30-000266, 30-000267, 30-000268, 30-000269, 30-000270, 30-000271, 30-000272, 30-000273, 30-000274, 30-000275, 30-000276,

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-02197	Other - ; Other - J.W. Winterbourne; Other - Winterbourne campsites	1935	Winterbourne, J.W.	Preliminary Survey of Indian Camp Sites on Irvine Property	J.W. Winterbourne	30-000057, 30-000107, 30-000120, 30-000279
OR-02225	Other - Irvine Ranch	1978	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	The Irvine Company	
OR-02261		2000	Brown, Joan C.	Historic Property Survey Report for I-405/jeffery Road Trail Overcrossing Project	RMW Paleo Associates, Inc.	30-000178, 30-000342, 30-000378, 30-000379, 30-000384, 30-000386, 30-000543, 30-000822, 30-001304, 30-001424, 30-001525, 30-001526
OR-02473		2001	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sc 070-01 Orange County, California	LSA Associates, Inc.	
OR-02534		1976		Annual Report to The Irvine Company from Archaeological Research, Inc.	ARI	30-000051, 30-000064, 30-000099, 30-000100, 30-000106, 30-000119, 30-000130, 30-000184, 30-000196, 30-000197, 30-000484, 30-000518, 30-000575
OR-02636		2003	Brown, Joan C.	A Cultural Resources Literature Study and Field Reconnaissance for the Natural Treatment System Master Plan Facilities, Orange County, California	SWCA Environmental Consultants, Inc.	
OR-03244		2004	Kyle, Carolyn E.	Cultural Resource Assessment for At&t Wireless Facility 950-013-522e Located in the City of Irvine Orange County, California	Kyle Consulting	
OR-03267		2001	Shepard, Richard S. and Roger D. Mason	Cultural Resources Records Search and Constraints Analysis Report: LAX/South (Orange County) High Speed Ground Access Study, Los Angeles and Orange Counties, California	Chambers Group, Inc.	19-000088, 19-000831, 19-001575, 30-000062, 30-000113, 30-000195, 30-000373, 30-001352, 30-001538
OR-03675		2007	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA2520A (SCE Tower-Aki Nursury), 6900 Alton Parkway, Irvine, Orange County, California	Michael Brandman Associates	
OR-03874		2010	Wlodarski, Robert J.	AT&T Wireless Telecommunications Site LA3219 (Smoke Tree & Irvine Center) NE Quad of Barranca Parkway and Jeffrey Road, Irvine, Ca. 92612	Cellular Archaeological Resource Evaluations	30-000543, 30-100442

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-04157			Walker, E.F. and Robinson, Eugene	Partial List of Indian Village Sites in Lost [sic] Angeles County, with a few in Orange County. (Information from Eugene Robinson, Handwritten, in "Reconnaissance Sites 15F" looseleaf notbook of Mr. E.F. Walker, Southwest Museum, Los Angeles, California	Southwest Museum	
OR-04373	Paleo -	2011	Brunzell, David	Cultural Resources Assessment South Orange County Community College District Master Plan Irvine Valley College and Saddleback College Campuses Mission Viejo and Irvine, Orange County, California	BCR Consulting	
OR-04545		2014	Fulton, Phil	Cultural Resource Assessment Class III Inventory, Verizon Wireless Services, Barranca Facility, City of Irvine, County of Orange, California	LSA Associates, Inc.	

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 3, 2017

TO: Lisa Williams

FROM: Ingri Quon, Associate/Senior Biologist
Bo Gould, Biologist

SUBJECT: Biological Resources Technical Memorandum for the Jeffrey Road/Alton Parkway Intersection Improvement Project, City of Irvine, California

LSA has prepared this biological resources memorandum to evaluate the effect of the Jeffrey Road/ Alton Parkway Intersection Improvement Project (project) on biological resources. The technical information provided herein is for project review under the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA), the Federal Endangered Species Act, and other pertinent regulations.

PROJECT DESCRIPTION

The City of Irvine (City) proposes to improve the Jeffrey Road/Alton Parkway intersection. The project is located on the border of the City's Woodbridge and Oak Creek planning areas (Areas 15 and 12, respectively) (Figure 1; all figures provided in Attachment A), with Alton Square Shopping Center north of the intersection, Oak Creek Village Center east of the intersection, and both single- and multifamily residential uses south and west of the intersection. The Woodbridge Apartment Homes complex is located in the western quadrant of the intersection and the community of Oak Creek is located in the southern quadrant. Alton Square Shopping Center and Oak Creek Village Center both have driveway access from Jeffrey Road and from Alton Parkway. The Woodbridge and Oak Creek residential uses do not have direct access to Jeffrey Road or Alton Parkway within the project limits.

At the intersection, Jeffrey Road currently provides two left-turn lanes, three through lanes, and one free right-turn lane in the northbound direction. In the southbound direction, Jeffrey Road has two left-turn lanes, three through lanes, with a de-facto right-turn lane. Alton Parkway currently provides two left-turn lanes, two through lanes, and a de-facto right-turn lane in the westbound direction. In the eastbound direction, Alton Parkway has two left-turn lanes, two through lanes, and a de-facto right-turn lane. Figure 2 shows the proposed project.

The purpose of the proposed project is to reduce existing and future traffic congestion at the Jeffrey Road/Alton Parkway intersection. The project is not anticipated to generate traffic. The project would include conversion of the existing northbound Jeffrey Road free right-turn lane to a standard

right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient width to function as a de-facto right-turn lane; and addition of a third westbound left-turn lane on Alton Parkway.

Additional project features include the following:

- New pavement, curb, gutter, sidewalk, and pedestrian ramps;
- Striping, signing, and marking improvements;
- Miscellaneous utility adjustments and relocations;
- Modifications to the existing traffic signals to improve traffic operations;
- Reconstruction of the median islands on the northeast and southeast legs of the intersection;
- Protection in place of the existing Woodbridge sign/wall located on the western corner of the intersection;
- A temporary construction easement at Assessor's Parcel Number (APN) 452-055-03 along the south side of Alton Parkway west of the intersection; and
- Minor regrading and re-establishment of disturbed landscaping and irrigation in the parkway along the south side of Alton Parkway west of the intersection.

The project area is on the United States Geological Survey (USGS) *Tustin, California* topographic quadrangle map (USGS 1981) within Township 6 South, Range 9 West, primarily in the east-central portion of Irvine Section 102. The project area is situated at an elevation of 113 to 121 feet above mean sea level.

METHODS

Literature Review and Records Search

LSA reviewed current information from biological resource databases to identify sensitive or special-status biological resources that have the potential of occurring within or in the immediate vicinity of the project area. LSA also examined federal and State lists of sensitive species. LSA reviewed the following electronic database records on January 26, 2017:

- California Natural Diversity Database information (RareFind 5), which is administered by the California Department of Fish and Wildlife. This database covers sensitive plant and animal species as well as sensitive natural communities that occur in California. Records from nine USGS quadrangles surrounding the project site were obtained from this database to assist with the field survey.
- The California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants, which uses four specific categories, or "lists," of sensitive plant species to assist

with the conservation of rare or endangered botanical resources. All of the plants constituting California Rare Plant Ranks 1A, 1B, 2A, and 2B meet the status definitions of "threatened" or "endangered" of the CESA of the California Fish and Game Code, and are eligible for State listing. Impacts to these species must therefore be analyzed as such, pursuant to CEQA Guidelines Sections 15125 (c) and 15380. Plants in Rank 3 (limited information), in Rank 4 (limited records), or considered Locally Unusual and Significant may be analyzed under CEQA if there is sufficient information to assess potential significant impacts. Records from the nine USGS quadrangles surrounding the project site were obtained from this database to assist with the field survey.

- The United States Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) Online System, which lists all proposed, candidate, threatened, and endangered species managed by the Endangered Species Program of the USFWS that have the potential to occur on or near a particular site. This database also lists all known critical habitats, national wildlife refuges, jurisdictional wetlands, and migratory birds that could be potentially impacted by activities from a proposed project. An IPaC Resource List was generated for the project site and was used to assist with the field survey.

Field Survey

LSA Associate/Senior Biologist Ingri Quon visited the project area on January 14, 2015, to evaluate the biological resources present within the project disturbance limits. The field survey was conducted to document observed biological resources and to determine whether any previously undocumented special-status resources may be present. The entirety of the project footprint was surveyed on foot, and all biological resources observed were noted and mapped. Suitable habitat for any species of interest or concern was also duly noted. The project area was revisited on February 3, 2017, by LSA Biologist Bo Gould to confirm the condition and extent of biological resources recorded during the January 2015 site visit.

RESOURCES EVALUATED

Vegetation

The project area is entirely developed and landscaped with ornamental, nonnative plant species, including ornamental shrubs and turf grass with sweetgum (*Liquidambar styraciflua*) trees and other tree species (e.g., eucalyptus [*Eucalyptus* sp.], rusty leaf fig [*Ficus rubiginosa*], and pine [*Pinus* sp.]). Existing land uses within and adjacent to the intersection are retail (shopping centers) and high-density residential.

Wildlife

Native wildlife habitat is largely absent within the project site and the immediate vicinity. The only wildlife species observed during the field surveys include lesser goldfinch (*Spinus psaltria*) and American crow (*Corvus brachyrhynchos*).

Special-Interest Species

Special-interest species are those plants or animals that (1) are federally and/or State-listed, (2) are currently proposed for listing, or (3) have some other special designation from a resource agency or a recognized conservation organization (e.g., CNPS). None of the special-interest plant or animal

species identified in the database searches were observed or are expected to occur on site. The channelized San Diego Creek passes approximately 630 feet northeast of the project boundary, but any special-interest species (e.g., osprey, bank swallow, and bat species) possibly associated with the San Diego Creek are not expected within the project area other than incidentally in transit. No special-interest terrestrial animals are expected to occur within the project area.

Wetlands and Potential Jurisdictional Drainage Features

There are no records of wetlands or potentially jurisdictional drainage features existing on the project site, and such features were not observed during the site survey. Any v-ditch that might collect runoff from the area would not likely be under State or federal jurisdiction. The preamble to the 1986 United States Army Corps of Engineers (USACE) regulations at Code of Federal Regulations Title 33, Parts 320–330 (Federal Register, Regulatory Programs of the USACE, Final Rule, p. 41217, November 13, 1986) states the USACE does not generally consider nontidal drainage and irrigation ditches excavated on dry land to be waters of the United States.

Local Policies and Ordinances Pertaining to Biological Resources

Per the City of Irvine Municipal Code,[1] the City has jurisdiction over public trees in the right-of-way of public streets. Per the City's Urban Forestry Guideline Manual and Section 5-7-410 of the City of Irvine Municipal Code, the City's Arborist shall determine suitable replacements for any removed street trees at a 1:1 ratio.

IMPACT FINDINGS

Vegetation and Habitat Impacts

The proposed project, as currently designed (Figure 2), would not result in any impact to native habitats. Temporary and permanent impacts to ornamentally planted, nonnative vegetation may occur during project construction. The removal of any street trees would be conducted in accordance with the City's Municipal Code.

Consistency with Adopted Habitat Conservation Plans

No portion of the project site is in an area identified in an adopted Natural Community Conservation Plan, Habitat Conservation Plan, or other approved local, regional, or State habitat conservation plan. Thus, project implementation would not conflict with any adopted conservation plan.

Special-Interest Species

The proposed project is not anticipated to have any substantial adverse effect on special-interest plant or animal species. However, nearly all bird species are protected while nesting under the federal Migratory Bird Treaty Act (MBTA) and by California Fish and Game Code Sections 3503 and 3503.5. Several bird species (e.g., Cooper's hawk and hummingbird species) have the potential to use portions of the site for nesting and/or foraging.

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1 City of Irvine, Municipal Code. Code of Ordinances, Title 5—Planning, Division 7—Sustainability in Landscaping, Chapter 4—Urban Forestry, Articles a–h, all Sections 5-7-401 to 5-7-417.

Wildlife Movement

Due to the isolated and developed nature of the project site, project implementation (e.g., construction and completion) would not have a substantial impact on wildlife movement.

Jurisdictional Waters

The proposed project would not result in any impacts to jurisdictional waters.

Local Policies and Ordinances

The proposed project would not conflict with any identified policies or ordinances pertaining to biological resources.

AVOIDANCE MEASURES

Any vegetation removal or trimming should take place outside of the active nesting bird season (February 15–August 31) when feasible to ensure compliance with the MBTA and the California Fish and Game Code. If vegetation removal or trimming (or other work activities that could potentially disturb nesting birds) will take place during this period, a qualified biologist should conduct a nesting bird survey prior to work activities to ensure that birds are not engaged in active nesting within the disturbance limits of the project. If nesting birds are discovered during preconstruction surveys, the biologist should identify an appropriate buffer (evaluated based on the circumstances and specific bird species) wherein no construction activities or other disturbances are allowed to occur until after the birds have fledged from the nest or the nest is determined to be no longer active.

CONCLUSION

The proposed project will not result in any significant impacts to native habitats, and project implementation is not likely to impact any special-interest species. Adverse impacts to special-interest species and/or habitats are therefore considered to be less than significant, and no mitigation measures or further analyses pertaining to biological resources are necessary.

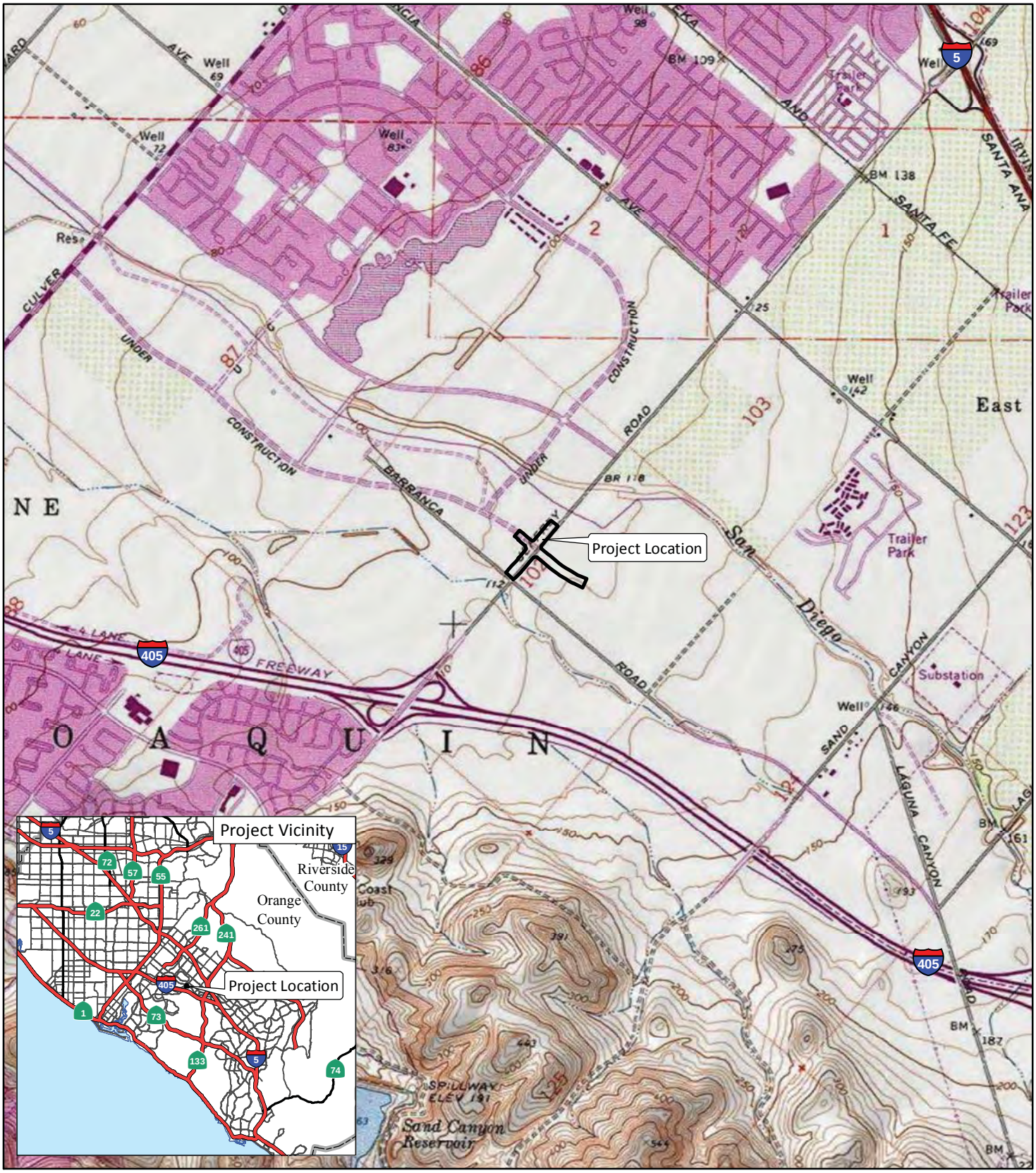
Attachments: Figures 1 and 2

ATTACHMENT A

FIGURES 1 AND 2

Figure 1—Project Location

Figure 2—Proposed Project Features



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Tustin (1981), CA

I:\KRE1401\GIS\ProjectLocation.mxd (2/10/2017)

Jeffrey/Alton Intersection Improvement Project

Project Location and Vicinity



LSA

LEGEND

- Project Area & Existing Right of Way
- Proposed Curb
- Proposed Striping
- Proposed Parkway Area
- Proposed Island Removal
- Proposed Temporary Construction Easement
- Parcels

0 60 120
FEET

SOURCE: Bing (2014); Kreuzer (02/2017)

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FIGURE 2

Jeffrey Road/Alton Parkway
Intersection Improvement Project

Proposed Project

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: March 6, 2017

TO: Lisa Williams

FROM: Amy Fischer, Principal, Air Quality/Global Climate Change Specialist
Akshay Newgi, Air Quality Specialist

SUBJECT: Air Quality and Greenhouse Gas Analysis for the Jeffrey Road/Alton Parkway Intersection Improvement Project, City of Irvine, California

INTRODUCTION

This memorandum describes the air quality and greenhouse gas (GHG) analysis completed by LSA for the Jeffrey/Alton Intersection Improvement Project (proposed project) within the City of Irvine (City) in Orange County (County), California. Figure 1 (all figures attached) shows the project location.

PROJECT DESCRIPTION

The City proposes to improve the Jeffrey Road and Alton Parkway intersection. The project is located on the border of the City's Woodbridge and Oak Creek planning areas (Areas 15 and 12, respectively) (Figure 1), with Alton Square Shopping Center north of the intersection, Oak Creek Village Center east of the intersection, and both single- and multifamily residential uses south and west of the intersection. The Woodbridge Apartment Homes complex is located in the western quadrant of the intersection, and the community of Oak Creek is located in the southern quadrant. Alton Square Shopping Center and Oak Creek Village Center both have driveway access from Jeffrey Road and Alton Parkway. The Woodbridge and Oak Creek residential uses do not have direct access to Jeffrey Road or Alton Parkway within the project limits.

At the intersection, Jeffrey Road currently provides two left-turn lanes, three through lanes, and one free right-turn lane in the northbound direction. In the southbound direction, Jeffrey Road has two left-turn lanes, three through lanes, and a de facto right-turn lane. Alton Parkway currently provides two left-turn lanes, two through lanes, and a de facto right-turn lane in the westbound direction. In the eastbound direction, Alton Parkway has two left-turn lanes, two through lanes, and a de facto right-turn lane. Figure 2 shows the proposed project.

The purpose of the proposed project is to reduce existing and future traffic congestion at the Jeffrey Road/Alton Parkway intersection. The project is not anticipated to generate traffic. The project would include conversion of the existing northbound Jeffrey Road free right-turn lane to a standard right-turn lane; widening of the existing southbound Jeffrey Road through lane to provide sufficient

width to function as a de facto right-turn lane; and addition of a third westbound left-turn lane on Alton Parkway.

Additional project features include the following:

- New pavement, curb, gutter, sidewalk, and pedestrian ramps;
- Striping, signing, and marking improvements;
- Miscellaneous utility adjustments and relocations;
- Modifications to the existing traffic signals to improve traffic operation;
- Reconstruction of the median islands on the northeast and southeast legs of the intersection;
- Protection in place of the existing Woodbridge sign/wall located on the western corner of the intersection;
- A temporary construction easement (at Assessor's Parcel Number 452-055-03) along the south side of Alton Parkway west of the intersection; and
- Minor regrading and re-establishment of disturbed landscaping and irrigation in the parkway along the south side of Alton Parkway west of the intersection.

Environmental Setting

The proposed project is located within the City of Irvine, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, including the SCAQMD, have created guidelines and requirements to conduct air quality analyses. The SCAQMD's current guidelines, included in its *California Environmental Quality Act (CEQA) Air Quality Handbook* (April 1993) and associated updates, were adhered to in the assessment of air quality impacts for the proposed project.

Air Pollution Constituents and Attainment Status

The California Air Resources Board (ARB) coordinates and oversees both State and federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the United States Environmental Protection Agency (EPA) and local air districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the ambient air quality standards (AAQS). Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table A lists the attainment status for the criteria pollutants in the Basin.

Table A: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment[1]	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: South Coast Air Quality Management District (2017). Website: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2.

[1] Except in Los Angeles County.

CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_2 = sulfur dioxide

Ozone (O_3). O_3 (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as extreme nonattainment, which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Carbon Monoxide (CO). CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as an attainment/maintenance area under the federal CO standards.

Nitrogen Oxides (NO_X). Nitrogen dioxide (NO_2), a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as nonattainment for the State NO_2 standard and as an attainment/maintenance area under the federal NO_2 standard.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The Los Angeles County portion of the Basin was redesignated as nonattainment for the State and federal standards for lead in 2010.

Particulate Matter (PM). Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (i.e., particulate matter less than 10 microns in size [PM_{10}]) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle (i.e., particulate matter less than 2.5 microns in size [$PM_{2.5}$]) levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include increased hospital admissions and emergency room visits, and premature death (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The Basin is designated nonattainment for the federal and State $PM_{2.5}$ standards and State PM_{10} standard, and attainment/ maintenance for the federal PM_{10} standard.

Reactive Organic Compounds (ROCs). ROCs; also known as ROGs and volatile organic compounds [VOCs]) are formed from the combustion of fuels and the evaporation of organic solvents. ROCs are not defined as criteria pollutants, but are a prime component of the photochemical smog reaction. Consequently, ROC accumulates in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower. There are no attainment designations for ROCs.

Sulfates. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuels) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The entire Basin is in attainment for the State standard for sulfates.

Hydrogen Sulfide (H_2S). H_2S is a colorless gas with the odor of rotten eggs. It forms during bacterial decomposition of sulfur-containing organic substances. In addition, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is unclassified for the State standard for H_2S.

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire Basin is unclassified for the State standard for visibility-reducing particles.

THRESHOLDS AND METHODOLOGY

A number of modeling tools are available to assess air quality impacts of projects. In addition, certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. SCAQMD's current guidelines, the *CEQA Air Quality Handbook* (April 1993), and associated updates, were adhered to in the assessment of air quality impacts for the proposed project.

The net increase in pollutant emissions determines the significance and impact on regional air quality as a result of the proposed project. The results also allow the local government to determine whether the proposed project will deter the region from achieving the goal of reducing pollutants in accordance with the Air Quality Management Plan (AQMP) in order to comply with federal and State AAQS.

On December 5, 2008, SCAQMD adopted an interim GHG significance threshold for projects where the lead agency is using a tiered approach for determining significance. The objective of SCAQMD's interim GHG significance threshold proposal was to achieve a GHG emission capture rate of 90 percent for all new or modified stationary-source projects.

Thresholds of Significance

Based on *Guidelines for the Implementation of CEQA*, Appendix G, Public Resources Code (PRC) Sections 15000–15387, a project would normally be considered to have a significant effect on air quality if the project would violate any AAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

In addition to the federal and State AAQS, there are daily emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its *CEQA Air Quality Handbook* (SCAQMD, April 1993) are used in this analysis. It should be noted that the emissions thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects

public health with an adequate margin of safety (EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established for the Basin:

- 75 pounds per day (lbs/day) of VOCs
- 100 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of sulfur oxides (SO_X)

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under the SCAQMD guidelines.

Regional Thresholds for Operational Emissions

The daily operational emissions "significance" thresholds for the Basin include the following:

- 55 lbs/day of VOCs
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 parts per million (ppm) or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

Localized Significance Thresholds

In addition to the significance thresholds listed above, SCAQMD also requires analysis of localized air quality impacts. For this project, the appropriate Source Receptor Area (SRA) for localized

significance thresholds (LSTs) is Irvine (SRA No. 20), according to the SRA/City table on the SCAQMD LST website.[1]

The closest sensitive land uses to the project site are residences to the west and south. These sensitive land uses are located approximately 75 feet (ft) (or less than 25 meters) from the project construction area. Therefore, the LST thresholds for a 2-acre site located within 25 meters of the nearest sensitive receptor were applied to the project. The following LST construction thresholds apply for this project:

- 131 lbs/day of NO_X at 25 meters
- 962 lbs/day of CO at 25 meters
- 7 lbs/day of PM_{10} at 25 meters
- 5 lbs/day of $PM_{2.5}$ at 25 meters

Global Climate Change

Currently, the CEQA statutes, the Office of Planing and Research (OPR) guidelines, and the CEQA Guidelines do not prescribe specific quantitative thresholds of significance or a particular methodology for performing an impact analysis. Significance criteria are left to the judgment and discretion of the Lead Agency. The discussion below provides an overview of the regulatory considerations and methodological approach for this analysis.

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and, further, states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

Appendix G of the State CEQA Guidelines indicates a project would normally have a significant effect on the environment if the project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD has proposed to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. Under the tiered approach, emissions

[1] South Coast Air Quality Management District. Localized Significance Thresholds. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

of less than 3,000 metric tons of carbon dioxide equivalent per year (MT CO_2e/yr) would result in less than significant project-level and cumulative GHG emissions.

The methodology used in this memorandum to analyze the project's potential effect on global warming includes a calculation of GHG emissions. The purpose of calculating the emissions is for information purposes because there is no quantifiable emissions threshold. Rather, the project's incremental contribution to global climate change (GCC) would be considered cumulatively significant if, due to the size or nature of the proposed project, it would generate a substantial increase in GHG emissions relative to existing conditions.

PROJECT IMPACTS

Short-Term Construction Impacts

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most roadway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils.

Construction Emissions

Detailed construction phasing information is not available for the proposed Jeffrey Road and Alton Parkway intersection improvement project. Therefore, an estimate of the construction emissions was conducted using the Road Construction Emissions Model that was developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD). The SMAQMD Road Construction Emission Model (RoadMod) is included in the models recommended by SCAQMD for roadway projects.[2] The model can be used to estimate emissions from both the vehicle exhaust and fugitive dust. The results of the peak-day emission calculations are summarized in Table B. As shown, the construction emissions would not exceed SCAQMD's CEQA thresholds. Table C summarizes the total construction emissions, in tons, generated during the proposed project's construction schedule. Emissions of CO_2 are included for the GCC discussion below. The construction emission calculations for the proposed project are included as Attachment A.

Naturally Occurring Asbestos

The project is located in Orange County, which is not among the counties listed as containing serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos during construction of the project would be minimal to none.

[2] Sacramento Metropolitan Air Quality Management District. Air Quality Modeling. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-modeling.

Table B: Peak-Day Construction Emissions (lbs/day)

Construction Phase	CO	ROGs	NO_X	PM_{10}[1]	$PM_{2.5}$[1]	CO_2
Grubbing/Land Clearing	10.4	1.3	15.3	3.2	1.1	2,212.7
Grading/Excavation	33.3	5	54.5	5.2	2.9	7,220.8
Drainage/Utilities/Sub-Grade	35.2	4.6	44.2	5	2.9	5,765
Paving	18	2	19.8	1.3	1.2	2,888.6
SCAQMD Emissions Threshold	**550**	**75**	**100**	**150**	**55**	**--**
Exceed Significance?	**No**	**No**	**No**	**No**	**No**	**N/A**

Source: LSA (February 2017).

[1] Total PM_{10} and $PM_{2.5}$ daily emission rate with implementation of fugitive dust suppression measures required under SCAQMD Rules 402 and 403.

CO = carbon monoxide
CO_2 = carbon dioxide
lbs/day = pounds per day
N/A = not applicable
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROGs = reactive organic gases
SCAQMD = South Coast Air Quality Management District

Table C: Total Construction Emissions (tons)

	CO	ROGs	NO_X	PM_{10}[1]	$PM_{2.5}$[1]	CO_2e
Total Construction	1.3	0.2	1.9	0.2	0.1	246.9

Source: LSA (February 2017).

[1] Total PM_{10} and $PM_{2.5}$ daily emission rate with implementation of fugitive dust suppression measures required under SCAQMD Rules 402 and 403.

CO = carbon monoxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROGs = reactive organic gases
SCAQMD = South Coast Air Quality Management District

Localized Significance

The following analysis was undertaken consistent with SCAQMD *Final Localized Significance Threshold Methodology* (July 2008). The closest sensitive land uses to the project site are residences to the west and south at a distance of approximately 75 ft (or less than 25 meters) from the project construction area. Table D shows the construction-related emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ compared to the LSTs for the Central Orange County Coastal area at a distance of 25 meters.

Table D shows the calculated emissions estimates for the proposed on-site construction activities are below the LSTs for CO, NO_X, PM_{10}, and $PM_{2.5}$. Therefore, the proposed project would not cause any short-term localized air quality impacts, and no mitigation is required.

Long-Term Air Quality Impacts

Long-Term Regional Air Quality Impacts

Although the project may attract vehicles to the improved facility and increase local air pollutant emissions, it would improve the traffic flow and reduce slow-moving vehicle exhaust or idling emissions. In addition, it would not construct any trip-generating land uses. Therefore, the proposed project's impact on long-term regional vehicle emissions would be negligible.

Table D: Summary of On-Site Construction Emissions, Localized Significance

Construction Activity	Emission Rates (lbs/day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Grubbing/Land Clearing	9.7	15.1	0.6	0.6
Grading/Excavation	30.4	53	2.5	2.3
Drainage/Utilities/Sub-Grade	33.3	43.9	2.4	2.3
Paving	16.7	19.5	1.2	1.1
Localized Significance Threshold (at 25 meters)	**962.0**	**131.0**	**7.0**	**5.0**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: LSA (February 2017).

CO = carbon monoxide
lbs/day = pounds per day
m = meters
NO_X = nitrogen oxide
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

Long-Term Microscale (CO Hot-Spot) Analysis

The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection and may reach unhealthful levels affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable level of service (LOS) or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of the project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Costa Mesa Station, the closest station with complete monitored CO data, showed a highest recorded 1-hour concentration of 3.0 ppm (State standard is 20 ppm) and a highest 8-hour concentration of 2.2 ppm (State standard is 9 ppm) during the past 3 years (2014–2016).

The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Because the ambient CO concentrations are much lower than the corresponding federal and State CO standards, the project would not increase the traffic volumes on Jeffrey Road or Alton Parkway, and the intersection LOS would improve with the proposed improvements, the proposed project is not expected to result in CO levels that exceed the federal or State CO standards.

Air Quality Management Plan Consistency

An AQMP describes air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. CEQA requires that certain proposed projects be analyzed for

consistency with the AQMP. For a project to be consistent with the AQMP adopted by SCAQMD, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, a project may be deemed consistent with the AQMP. As shown above, the proposed project would not generate any emissions that exceed SCAQMD thresholds. Therefore, the proposed project is consistent with the regional AQMP.

Greenhouse Gas Emissions

This section evaluates potential significant impacts to GCC that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs.

The project would improve regional traffic flow by improving the intersection of Jeffrey Road and Alton Parkway. The proposed project would not generate new vehicular traffic trips since it would not construct new homes or businesses.

In order to determine whether or not a proposed project would cause a significant effect on the environment, the impact of the project must be determined by examining the types and levels of GHG emissions generated. GHG emissions related to the roadway widening would be mainly from CO_2, nitrous oxide (N_2O), and methane (CH_4) contained in exhaust from off-road diesel construction equipment/vehicles (e.g., idling and operation of backhoes, cranes, and drilling rigs), from on-road trucks used by vendors (to deliver materials to the site) and on-site workers, and from use of portable equipment (e.g., generators). As discussed above, the short-term construction emissions were calculated using RoadMod. The total construction emissions for the proposed project are summarized in Table C. The construction GHG emissions were estimated at 247 tons (224 MT) of CO_2e using the SMAQMD model in conjunction with estimated vehicle/equipment usage schedules (Attachment A).

The GHG emissions from the proposed project are well below significance thresholds thus far suggested (e.g., 3,000 MT CO_2e/yr included in the SCAQMD suggested guidelines, December 2008). Therefore, the project's contribution to cumulative impacts would be less than significant.

Standard Conditions

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques would reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).

- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earth moving.)

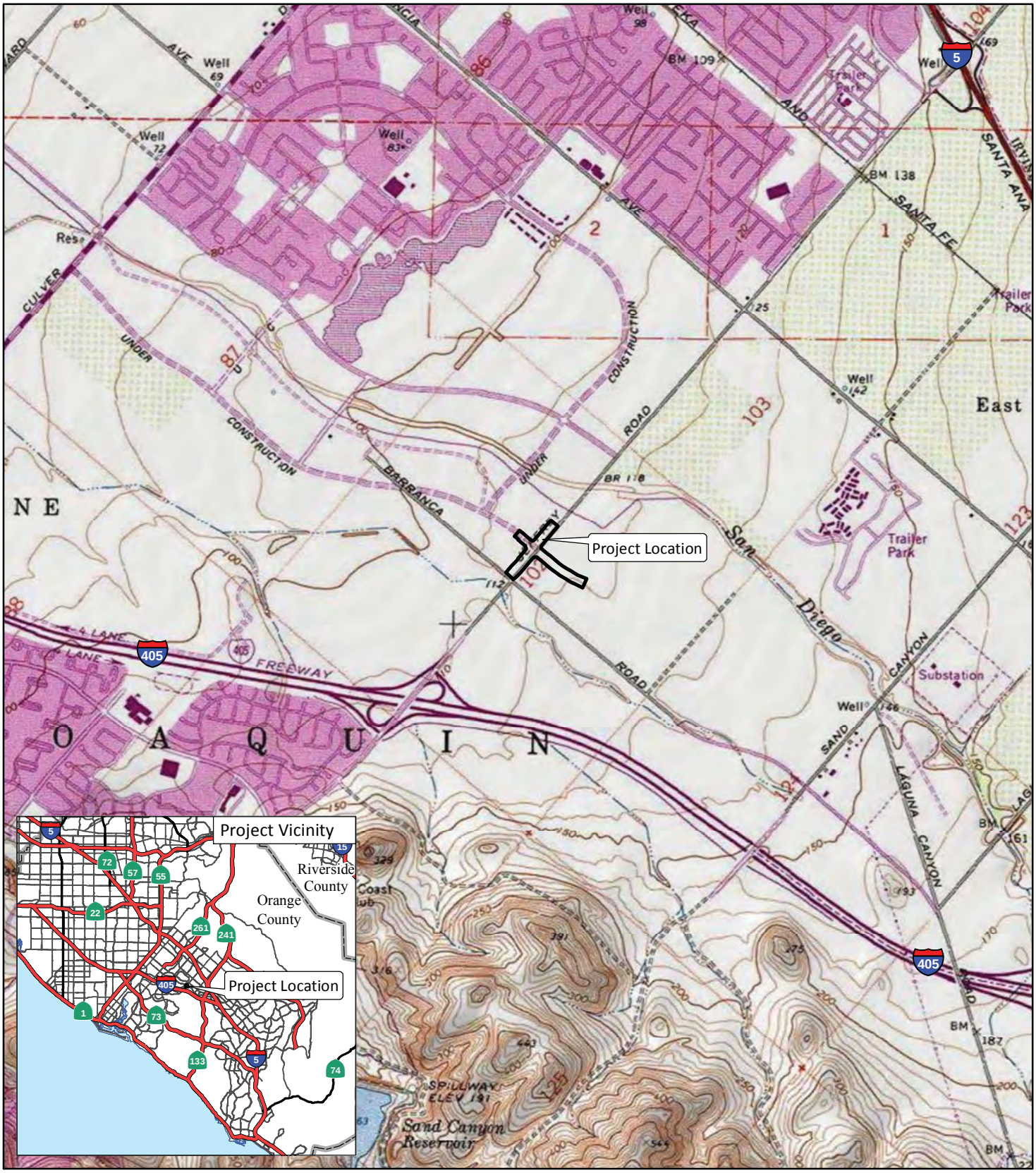
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least 2 ft of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

- Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less.

SUMMARY

As shown in the analysis presented above, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. Localized air quality impacts related to implementation of the project would also be well under the SCAQMD thresholds. GHG emissions resulting from construction and operation are estimated to be lower than the SCAQMD recommended screening threshold for commercial retail projects. Therefore, the proposed project would not result in any significant adverse impacts on the environment related to criteria pollutant emissions, localized air quality impacts, or GHG emissions.

Attachments: Figures 1 and 2
Construction Emission Calculations



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Tustin (1981), CA

I:\KRE1401\GIS\ProjectLocation.mxd (2/10/2017)

Jeffrey/Alton Intersection Improvement Project

Project Location and Vicinity



LSA

LEGEND

- Project Area & Existing Right of Way
- Proposed Curb
- Proposed Striping
- Proposed Parkway Area
- Proposed Island Removal
- Proposed Temporary Construction Easement
- Parcels

0 60 120
FEET

SOURCE: Bing (2014); Kreuzer (02/2017)

I:\KRE1401\GIS\ProposedProject_Alt5.mxd (3/1/2017)

FIGURE 2

Jeffrey Road/Alton Parkway
Intersection Improvement Project

Proposed Project

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Jeffrey Alton Improvements - Alternative 5

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.51	10.71	17.75	3.29	0.79	2.50	1.23	0.71	0.52	0.02	2,248.44	0.59	0.02	2,270.40
Grading/Excavation	5.65	35.94	62.77	5.62	3.12	2.50	3.31	2.79	0.52	0.07	7,337.81	1.67	0.10	7,409.24
Drainage/Utilities/Sub-Grade	5.25	37.42	50.58	5.46	2.96	2.50	3.28	2.76	0.52	0.06	5,836.21	1.24	0.06	5,884.02
Paving	2.39	18.53	23.06	1.55	1.55	0.00	1.40	1.40	0.00	0.03	2,937.66	0.75	0.03	2,965.95
Maximum (pounds/day)	5.65	37.42	62.77	5.62	3.12	2.50	3.31	2.79	0.52	0.07	7,337.81	1.67	0.10	7,409.24
Total (tons/construction project)	0.30	2.07	3.17	0.31	0.17	0.14	0.18	0.16	0.03	0.00	372.46	0.08	0.00	375.87

Notes:

Project Start Year ->	2017
Project Length (months) ->	6
Total Project Area (acres) ->	2
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	40
Grading/Excavation	200	0	300	0	800	40
Drainage/Utilities/Sub-Grade	0	0	0	0	560	40
Paving	0	0	0	0	400	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Jeffrey Alton Improvements - Alternative 5

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.07	0.12	0.02	0.01	0.02	0.01	0.00	0.00	0.00	14.84	0.00	0.00	13.59
Grading/Excavation	0.15	0.95	1.66	0.15	0.08	0.07	0.09	0.07	0.01	0.00	193.72	0.04	0.00	177.45
Drainage/Utilities/Sub-Grade	0.12	0.86	1.17	0.13	0.07	0.06	0.08	0.06	0.01	0.00	134.82	0.03	0.00	123.31
Paving	0.02	0.18	0.23	0.02	0.02	0.00	0.01	0.01	0.00	0.00	29.08	0.01	0.00	26.64
Maximum (tons/phase)	0.15	0.95	1.66	0.15	0.08	0.07	0.09	0.07	0.01	0.00	193.72	0.04	0.00	177.45
Total (tons/construction project)	0.30	2.07	3.17	0.31	0.17	0.14	0.18	0.16	0.03	0.00	372.46	0.08	0.00	340.99

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Woodbridge Village Association

RECEIVED
DEC 15 2016
PUBLIC WORKS DEPARTMENT

December 13, 2016

City of Irvine
Attn: Uyenly Bui, Senior Civil Engineer
One Civic Center Plaza
Irvine, CA 92623-9575

Subject: Conceptual Alignment Plan for Jeffrey Road/Alton Parkway Intersection

Dear Ms. Bui:

Thank you for meeting with the Woodbridge Village Association's (WVA) representatives on November 30, 2016 regarding the City of Irvine's proposed alignment plan for Jeffrey Road at Alton Parkway intersection. We appreciate the effort that was made by the City of Irvine to address many of the concerns of the WVA and its subcommittee on this specific project.

The WVA Board of Directors reviewed Alternative 5 during its December 7, 2016 meeting, and has authorized me to provide the Board's thoughts to you at this time.

The Board understands Alternative 5 as follows:

- No impact to east and west side of Jeffrey Road (no right of way acquisition and no loss of trees/landscape)
- Convert existing northbound free right-turn lane to standard right-turn lane
- Convert existing southbound through lane to de-facto right-turn lane
- Adding a third westbound left-turn lane (clear left turn pockets sooner; results in longer green time on Jeffrey Road; same effect as additional lane on Jeffrey Road)
- Curb line along eastbound Alton moves south 4 feet to align lanes

After review of the above details, the Board determined that it does not oppose Alternative 5 and that it prefers Alternative 5 to the previously proposed Alternative 3, which, in the Board's opinion, had much greater impacts on the Village of Woodbridge and its residents.

31 Creek Road Irvine, California 92604-4799
Main Office (949) 786-1800 FAX (949) 786-1212

Achievements

2003
City of Irvine
Universal Design Award
Wintermist Park

2000
Community
Association Institute
Local Chapter
Newsletter of the Year
Reflections

1999
Irvine Ranch
Water District
Award of Excellence
Water Management

1997
American Institute
of Architects
Orange County
Award of Excellence
Neighborhood Places

1994
Urban Land Institute
National
Large Scale Residential
Development
Award of Excellence

1991
Featured
Ninety-nine
Best Communities
in America

1990
Community
Association Institute
Association of the Year

1990
Featured
Landscape Architect
Magazine,
May Issue

30th Anniversary
1976 - 2006

ATTACHMENT 3

Ms. Uyenly Bui
December 13, 2016

At this time the Association requests that the City of Irvine continue to provide information to the Association on this project as the proposed alternatives are further developed. We look forward to engaging with the City further on this project.

Thank you again and please contact me at my office if you have any questions or if I can be of assistance at this time.

Sincerely,
ON BEHALF OF THE BOARD OF DIRECTORS

Kevin K. Chudy, CCAM, PCAM, MCM
Executive Director/Secretary
Woodbridge Village Association

KC/jdm

3.8

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: APPROVAL OF PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR DEERFIELD COMMUNITY CENTER FIRE SPRINKLER UPGRADES

Director of Public Works

City Manager

RECOMMENDED ACTION

1. Approve the construction plans, specifications and contract documents for Fire Sprinkler Building Safety Upgrades at Deerfield Community Park, Capital Improvement Project 361707.

2. Approve the Engineer's Estimate, Construction Contingency and Project Funding Summary.

3. Authorize staff to solicit competitive bids and award the construction contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures, within the approved project budget.

4. Direct staff to return with a budget appropriation for Fire Sprinkler Upgrades at other City Facilities and Community Centers.

EXECUTIVE SUMMARY

Plans, specifications, and contract documents for the Deerfield Community Center Fire Sprinkler Upgrade project are complete and ready for City Council approval. These documents are available for public review in the Public Works department. The proposed work includes the installation of a new automatic fire sprinkler system to serve the multi-purpose rooms, kitchen, restrooms and office areas at the Deerfield Community Center. Approval of the recommended actions will allow staff to proceed with solicitation of competitive bids for construction and award of a contract to the lowest responsive and responsible bidder in accordance with the City's purchasing policies and procedures within the approved project budget.

A facility condition assessment conducted in October 2014 identified City facilities that would benefit from sprinkler system upgrades. Recommended action four will allow staff to initiate engineering, preparation of cost estimates and construction plans for the additional fire system improvements.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Not applicable.

ANALYSIS

The Deerfield Community Center is located at 55 Deerwood West near the intersection of Culver and Irvine Center Drive (Attachment 1). The community center was constructed in 1979 to then current standards that did not require indoor fire sprinkler systems. The proposed project scope of work includes installation of 60 new fire sprinklers, a fire alarm system, and construction of a new 275 foot long dedicated fire service water line connecting from the adjacent street to support the proposed new fire suppression system. If approved by the City Council, construction is anticipated to begin in February 2018 with completion by April 2018. Work activity will take place primarily Monday through Friday between the hours of 7 a.m. and 3:30 p.m. Heavy construction activities will be scheduled in the early morning hours to minimize disruption to scheduled center activities.

The construction contract cost estimate prepared by the consultant design engineer for the project is $115,000. A budget allowance of $21,750 for construction engineering (inspection services) and $17,250 for construction contingency is recommended, as shown in the Project Funding Summary (Attachment 2). The City's construction contracting policies and procedures limit the award of the construction contract by staff to a maximum of 10 percent over the engineer's estimate and limit the use of the construction contingency only for unforeseen circumstances that may arise necessary to complete the work within the approved project scope and budget.

Staff is seeking City Council approval to proceed with soliciting competitive bids for construction. A copy of the Notice Inviting Bids, Construction Contract, Plans, Specifications, and the proposed Schedule of Work listing the individual bid items for this project is included as Attachment 3.

The scope of work for the Deerfield Community Center project was identified as part of a facility condition assessment conducted in 2014. This assessment concluded that the overall condition of the City's facilities was above average and identified City centers that would benefit from fire sprinkler system upgrades. Two of these centers (Rancho Senior Center and Deerfield Community Center) were programmed for funding with the last two fiscal year budgets. Three other centers (Turtle Rock Nature Center, Heritage Park and Animal Care Center) are presently undergoing Master Park Plan reviews. The remaining City facilities that were identified in the assessment are the Harvard Park Community Center and Concessions Building and the City's Operations Support Facility. These facilities will benefit from sprinkler system upgrades and staff is seeking City Council direction to return with the appropriate budget and funding recommendations for consideration by the City Council to accelerate the work on these remaining facilities.

ENVIRONMENTAL REVIEW

Pursuant to Section 4 of the City of Irvine California Environmental Quality Act (CEQA) Procedures and Article 19 of the State of California CEQA Guidelines, the proposed

project is categorically exempt from the requirements of CEQA, under State Guideline Section 15301, Class 1(d), and Existing Facilities.

ALTERNATIVES CONSIDERED

The City Council could elect not to approve the recommended actions or direct staff to defer the proposed fire sprinkler installation to a future date. These alternatives are not recommended as the project enhances the safety of the facility. The City Council may also approve the construction plans and related documents, authorize staff to solicit competitive bids and direct staff to bring back the results of the competitive bid process to the City Council for its review and consideration prior to award of the contract.

FINANCIAL IMPACT

Project expenditures to date for the preparation of plans, specifications and contract documents for the Deerfield Community Center project total $46,000. The construction contract estimate prepared by the consultant design engineer is $115,000. The recommended budget allowance of $21,750 for construction engineering and $17,250 for construction contingency brings the total estimated project cost for the construction phase to $154,000. Funding for the project is available in the City Council approved CIP 361707 from System Development Charge funds. A complete Project Funding Summary is provided in Attachment 2.

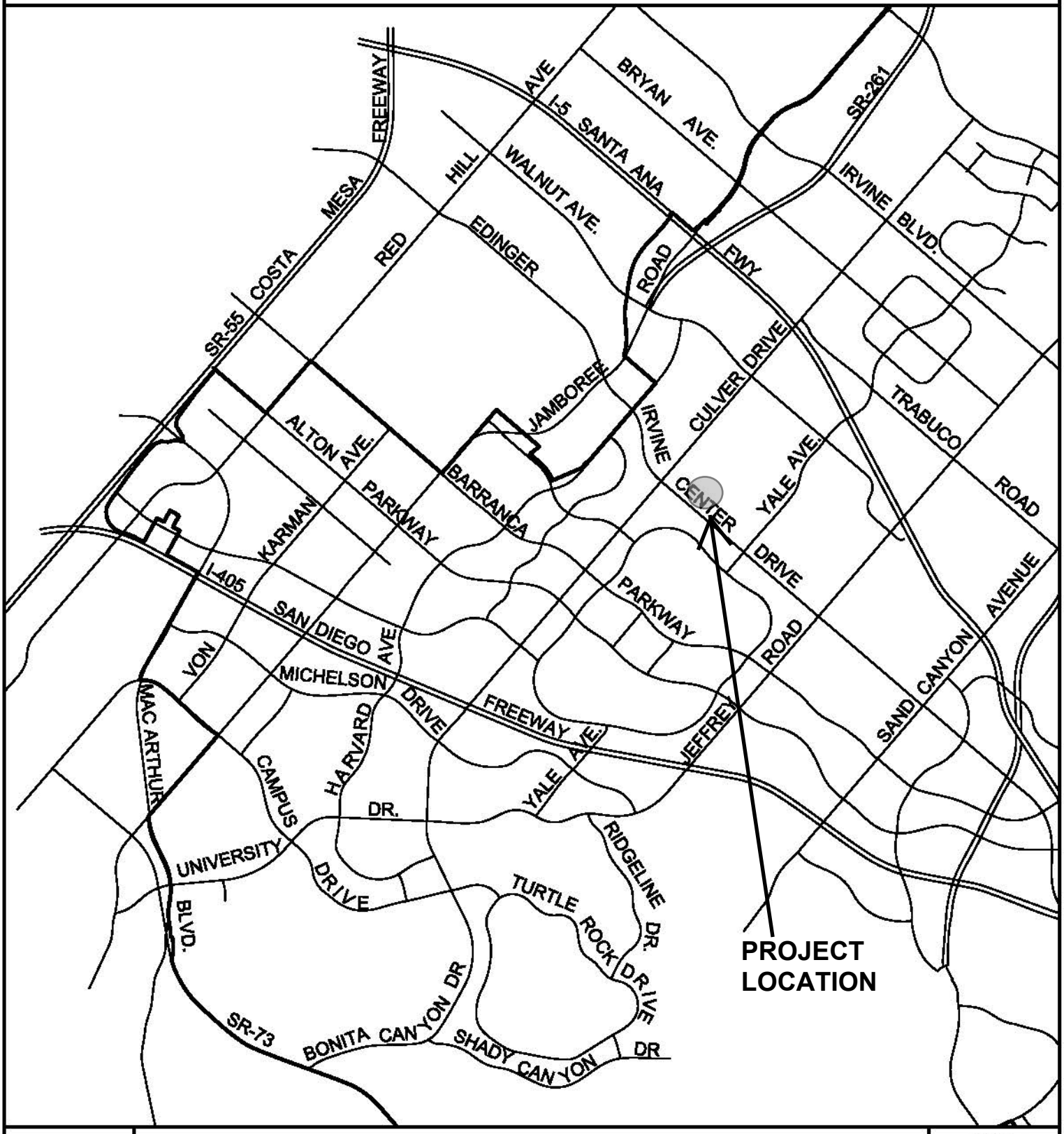
Construction cost estimates for the remaining facilities included with the condition assessment will be developed by the City's consultant engineer and presented separately for City Council consideration.

REPORT PREPARED BY Eric Gruber, Senior Project Manager

ATTACHMENTS

1. Vicinity Map
2. Project Funding Summary
3. Notice Inviting Bids, Construction Contract, Plans, Specifications and Proposed Schedule of Work

FIRE SPRINKLER SYSTEM UPGRADES AT DEERFIELD COMMUNITY CENTER



VICINITY MAP

ATTACHMENT 1

Project Funding Summary

BUILDING SAFETY UPGRADES

DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM

CIP 361707

NOVEMBER 28, 2017

Project Expenditures	
Design Engineering	$ 46,000
Construction (Engineer's Estimate)	$ 115,000
Construction Engineering	$ 21,750
Construction Contingency	$ 17,250
Total Estimated Project Cost	**$ 200,000**

Project Funding	
CIP 361707 Fiscal Year 2016-17	$ 200,000
Total Funding Available	**$ 200,000**

ATTACHMENT 2

CITY OF IRVINE

ORANGE COUNTY, CALIFORNIA

PROJECT MANUAL
FOR

BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

CITY OF IRVINE
1 CIVIC CENTER PLAZA
P.O. BOX 19575
IRVINE, CALIFORNIA 92623-9575

PREPARED BY:

CAP ARCHITECTURE INC.

_____

10/20/2017

ATTACHMENT 3

SECTION 00 01 05 - CERTIFICATION
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707

THE SPECIFICATIONS CONTAINED HEREIN HAVE BEEN PREPARED BY OR UNDER THE DIRECTION OF:

Catherine Peppard
Cap Architecture Inc.

C-29591
License No.

APPROVED BY:

James Houlihan, PE
City Engineer

51568
R.C.E. No.

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PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

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B. 00 01 05 – Certifications Sheet
C. 00 01 10 – Table of Contents
D. 00 01 15 – List of Plan Sheets
E. 00 11 13 – Notice of Inviting Bids
F. 00 21 13 – Instruction to Bidders Proposal Requirements and Conditions
G. 00 41 00 – Bidder Proposal
H. 00 50 00 – Construction Contract
I. 00 50 01 – Performance Bond
J. 00 50 02 – Payment Bond
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C. 01 40 00 – Quality Requirements
D. 01 45 33 – Code Required Special Inspections
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END OF SECTION

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A0.2	DISABLED ACCESS PLAN
A1.0	FLOOR PLAN
A2.0	REFLECTED CEILING PLAN
C1	UNDERGROUND FIRE PROTECTION PLAN - TITLE SHEET
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FP1.1	FIRE PROTECTION SITE PLAN (FOR REFERENCE ONLY)
FP2.1	FIRE PROTECTION FLOOR PLAN
FP2.2	CUT SECTION
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END OF SECTION

SECTION 00 11 13 - NOTICE INVITING BIDS
CITY OF IRVINE, CALIFORNIA

BID NO. 18-1343

NOTICE IS HEREBY GIVEN that sealed bids with online bid price submittal will be received by the Purchasing Agent of the City of Irvine, California, for furnishing all labor services, materials, tools, equipment, supplies, transportation, utilities and all other items and facilities necessary therefore, as provided in the contract documents for **Building Safety Upgrades, Deerfield Community Park – Fire Sprinkler System** together with appurtenances thereto, in strict accordance with the specifications on file at the Department of Public Works, 6427 Oak Canyon, Bldg. 1, Irvine, California 92618-5202.

DATE OF OPENING BIDS: **Bid prices for each line item of the Schedule of Work must be entered and all other required documents for the bid proposal packet (pages 00 41 00-1, 00 41 00-5 through 00 41 00-18) must be uploaded to the BidsOnline system in accordance with the instructions beginning on page 00 41 00-3 no later than XX:XX:XX a.m. on Month Date, 20XX at which time bids will be publicly read aloud at 1 Civic Center Plaza, Irvine, California, 92606-5207. No late bids will be accepted. No other method of bid submittal will be accepted.**

LOCATION OF THE WORK: The work to be performed hereunder is located in the City of Irvine, County of Orange, on **55 Deerwood West, Irvine, CA.**

DESCRIPTION OF WORK: The work to be performed shall include, but not be limited to:

Installation of new fire sprinkler system throughout the building including all trenching and demolition of associated items and repair and refill of all concrete walkways, roads, curbs and landscaping including other works required by the plans and the Special Provisions. The Engineer's construction cost estimate for the project is $115,000.00 (rounded to the nearest ten thousand).

LICENSE REQUIREMENT: **Prime Contractor must possess a valid Class B license.** At the time of submitting the bid, the Bidder shall be licensed as a contractor in accordance with the provisions of California Business and Professions Code Chapter 9, Division 3.

DEBARRED CONTRACTORS: The City of Irvine Municipal Code Section 2-12-101 *et seq.* sets forth procedures to debar Contractors from bidding or performing work on City of Irvine contracts at any tier, whether prime, subcontractor, etc. Accordingly, certain Contractors have been debarred and are listed on the City's website at www.cityofirvine.org/purchasing. Click on the link which states: "For a list of Debarred Contractors, please click here."

COMPLETION OF WORK AND LIQUIDATED DAMAGES: All work shall be completed in a total of **Thirty (30) Working Days** from the date specified in the Notice to Proceed. Liquidated damages shall be **Nine Hundred Dollars ($900)** per Calendar Day, for each and every Calendar Days delay in finishing the work in excess of the number of Working Days prescribed above.

AWARD OF CONTRACT: The award of the Contract, if it is awarded, will be to the lowest responsive and responsible Bidder whose bid complies with all the requirements prescribed. The City reserves the right, after opening bids, to reject any or all bids, to waive any informality in a bid, to make awards in the interest of the City, and to reject all other bids.

PROPOSAL GUARANTEE AND BONDS: Each bid shall be accompanied by a scanned copy of a certified or cashier's check or corporate surety bond issued by a surety company, admitted to do business in the State of California, on the form furnished by the City as guarantee that Bidder will, if an

award is made to him in accordance with the terms of his bid, promptly secure Workers' Compensation insurance, and liability insurance, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the contract ("Performance Bond") and for the payment of claims of materialmen and laborers thereunder ("Payment Bond"). Said check or bidder's bond shall be in an amount of not less than ten percent (10%) of the amount of the bid. **Bidders with the apparent three lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA, 92606 within two business days of the bid opening date.** The Performance and Payment Bonds shall be not less than one hundred percent (100%) of the total amount of the bid price named in the contract. Only bonds issued by companies admitted to do business in the State of California will be accepted in accordance with the Code of Civil Procedure Section 995.311. Failure to submit acceptable Payment and Performance Bonds as required shall result in a rejection of the bid and a forfeiture of the proposal guarantee.

PREVAILING RATES OF WAGES: **Prevailing wage requirements apply to public works projects with a value exceeding $1,000.00. The definition of "public works" is found at Labor Code Section 1720, *et seq.***

The City is subject to the provisions of law relating to public contracts in the State of California. It is agreed that all provisions of law applicable to public contracts are a part of this Agreement to the same extent as though set forth herein, and will be complied with by Contractor. Contractor shall abide by all applicable Sections of the California Labor Codes including Sections 1770 -1781, *et seq*. In accordance with the provisions of Section 1773 of the California Labor Code, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the Work is to be performed shall be in accordance with the rates posted on the Department of Industrial Relations website, found at http://www.dir.ca.gov/dirdatabases.html. The Contractor, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of this Agreement.

The City of Irvine reminds all contractors and subcontractors of the adoption of **State of California Senate Bill No. 854 (SB 854),** and encourages them to understand and comply with the requirements as set forth on the Department of Industrial Relations (DIR) website at http://www.dir.ca.gov/Public-Works/PublicWorks.html. All contractors and subcontractors who plan to bid on a public works project (including maintenance work) with a value exceeding $1,000.00 must first be registered and pay an annual fee with the DIR. The City requires all contractors and subcontractors to be registered with the DIR prior to submitting a bid on any public works project. Subject to the exceptions set forth in Labor Code Section 1725.5, bids from contractors that are not currently registered will be deemed nonresponsive. Further, the City will not award a contract to and no contractor or subcontractor will be allowed to work on a City public works project unless they are registered with the DIR pursuant to Labor Code Section 1725.5. Please visit the DIR website for further information.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

LABOR REGULATIONS: The Contractor shall comply with all applicable requirements of the California Labor Code and the City of Irvine Municipal Code.

PLANS AND SPECIFICATIONS: A full set of bid documents consisting of Notice Inviting Bids, Proposal, Contract, Specifications and Contract Plans are available for inspection without charge at the

Department of Public Works, Project Management Division, City of Irvine Operations Support Facility, 6427 Oak Canyon, Building 1, Irvine, California 92618-5202.

To obtain a copy of the bid documents, please visit the City of Irvine's website at www.cityofirvine.org/purchasing. Click on the "Supplier Registration and Bid Opportunities" link, and review the information about our online system. Next, click on the "BidsOnline" link. If you are not currently registered with the City of Irvine, please click on the "New Vendor Registration" button and then complete the electronic supplier registration process, including selecting Category Codes(s) describing the goods and/or services you provide, as well as entering your Contractors State License information. After registering your firm, click on the "Bid Opportunities" button to view and download the Bid Documents. Interested firms must be registered on the City's website and download the Bid Documents in order to submit a bid. Firms must also check the website periodically for addenda information as failure to download any and all addenda will result in bid disqualification.

SECURITY FOR COMPLETION OF WORK: The Contract Documents establish a provision for monthly progress payments based upon the percentage of work completed as determined by the Engineer. The City will retain a portion of each progress payment as security for completion of the balance of the work. At the request and expense of the successful bidder, the City will pay the amount so retained upon compliance with the requirements of California Public Contract Code § 22300 and the General Conditions.

PROJECT ADMINISTRATION: All questions relative to this project prior to opening bids shall be prepared in writing and transmitted to the attention of Eric Gruber, Senior Project Manager by email to egruber@cityofirvine.org with a copy to Mr. Brian Brown, Senior Buyer, bbrown@cityofirvine.org. No inquiries will be accepted later than five (5) business days prior to the bid opening date as this would not allow time to respond to all plan holders. No phone inquiries will be accepted.

CITY OF IRVINE

Published by:
Publication Date:

END OF SECTION

SECTION 00 21 13 - INSTRUCTION TO BIDDERS, PROPOSAL REQUIREMENTS AND CONDITIONS

1.01 CONTRACT DOCUMENTS: The Contract Documents shall consist of:

A. Permits and Agreements

B. Contract

C. Addenda

D. Instructions to Bidders, Proposal Requirements and Conditions

E. Contract Specifications

F. Contract Plans

G. Reference Specifications

H. City of Irvine Park/Public Facility Standards dated May 20, 2015,

- all of which are on file at the City of Irvine in the Public Works Department, Project Management Division, Operations Support Facility, 6427 Oak Canyon, Bldg. 1, Irvine, California, and are hereby referred to and made a part hereof.

1.02 BID PROPOSALS: To be considered, bids shall be made in accordance with the following instructions:

A. For the convenience of bidders, the “SCHEDULE OF WORK” has been posted on the City’s BidsOnline system. Bidders must enter their unit price information online in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS included herein. Unit prices must be entered online and then the extended prices and total bid price will be automatically calculated.

B. Bids shall be submitted only on bid items stated in the Bid Documents; bids on other bases will not be considered. Bids that are not submitted on the prescribed forms, and in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS may be rejected.

C. Unless called for, additive bids will not be considered.

D. Pursuant to the provisions of Public Contract Code § 4101 to 4108, inclusive, every Bidder shall set forth in its bid:

1. The Bidder shall list the name, license number and location of the place of business of each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid.

2. The bid item numbers and the percentage of the bid item subcontracted.

E. In the event additive bids are called for and the Bidder intends to use different or additional subcontractors on the additive(s), the Bidder shall fill out additional forms of the list of subcontractors and shall identify such forms with relation to whether they apply to the base or additive bids.

F. If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent (1/2%) of the Bidder's total bid, the Bidder agrees to perform that portion of work himself. The successful Bidder shall not, without the consent of the City, either:

1. Substitute any person, firm or corporation as subcontractor in place of the subcontractor designated in the original bid, or

2. Permit any subcontract to be assigned or transferred or allow the work to be performed by anyone other than the original subcontractor listed in the bid.

G. If required in the Notice Inviting Bids, bids shall be accompanied by a certified or cashier's check or an acceptable corporate bid bond on the form furnished by the City for an amount not less than ten percent (10%) of the bid, made payable to the order of the City of Irvine. The check or bid bond shall be a guarantee that the Bidder will enter into a contract and provide all required insurance and bonds if awarded the work; and in case of refusal or failure to enter into the contract, the check or bid bond shall be forfeited. The City will return Bidder's check if the project is not awarded to Bidder.

   Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and Insurance Code § 12090.

H. Before submitting a bid, bidders shall carefully examine the work site, the Contract Documents and the form of Contract and shall fully inform themselves about all existing conditions and limitations. Bidders shall include in their bids a sum to cover the cost of all work included in the Contract.

I. Bid prices must be entered and the bid proposal packet must uploaded to the BidsOnline system on or before the day and hour set for the bid opening in the Notice Inviting Bids. No other method of bid submittal will be accepted. Bidders with the three apparent lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA 92606 within two business days of the bid opening date.

J. A bid may be considered non-responsive if it does not comply with the requirements set forth in these bid documents. A responsive bid is one that complies with the solicitation in all acceptability and material respects and contains no material defects.

1.03 WITHDRAWAL OF BIDS:

Bids may be withdrawn at any time before the bid deadline, by going back into the BidsOnline system and selecting "Withdraw."

1.04 INTERPRETATION OF DRAWINGS AND DOCUMENTS; REQUEST FOR CLARIFICATION:

A. If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part to the plans and specifications, or other proposed Contract Documents, or finds discrepancies in, or omissions from, the drawings or specifications, he shall submit to the Purchasing Agent a written request for all interpretations or corrections thereof via email to the project manager and purchasing staff prior to the deadline for submitting questions, as set forth in the Notice Inviting Bids.

B. Any clarification or correction of the proposed documents will be made only by Addendum duly issued, with notice provided to all firms who downloaded the bid documents from the City's website. The City is not responsible for any other explanations or interpretations of the proposed documents.

1.05 ADDENDA TO THE CONTRACT DOCUMENTS:

A. Any addenda issued during the time of bidding, or forming a part of the Contract Documents after the Bidder has downloaded the bid documents from the City's website, shall be taken into account in the bid and shall be made a part of the Contract.

B. Addenda may be issued by the City of Irvine for any reason, including but not limited to, clarifying or correcting the Notice Inviting Bids, Special Provisions, Plans, or Bid

C. Bidders will be notified of such Addenda during the period of advertising either by email or posting on the City's website, provided however, each Bidder shall be solely responsible for obtaining any such Addenda.

D. The Bidder shall acknowledge the receipt of Addenda on the City's BidsOnline system.

1.06 BIDDER RESPONSIVENESS:

Failure of the Bidder to provide requested information in a complete and accurate manner may be considered non-responsive resulting in rejection of the bid. The use of “N/A” or “n/a” in response to any request for information without an explanation as to why that abbreviation is being used may render the bid non-responsive.

1.07 BIDDER RESPONSIBILITY:

Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Contractor is non-responsible if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor’s quality, fitness, or capacity to perform a contract with the City or any other entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; or (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider Bidder’s past conduct on City projects or on any other public or private projects upon which Bidder performed work.

1.08 BIDDER DEBARMENT:

Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Bidder shall be debarred if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor’s quality, fitness, or capacity to perform a contract with the City or any entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider past conduct of the Contractor on City projects or on any other public or private projects which Contractor performed work.

1.09 OPENING BIDS:

Bids will be publicly opened and read at the time and place set in the Notice Inviting Bids.

1.10 BID PROTEST PROCEDURES:

A. BASIS FOR PROTEST:

It is the policy of the City to ensure that free and open competition takes place in all procurement activities. If, in the course of a procurement action, an interested party has reason to believe that these conditions do not exist, the interested party may file a protest in accordance with the provisions of these procedures with the City of Irvine Purchasing Agent requesting a review of the claim and a timely resolution of the issue. Any bidder on a project for which it submitted a timely bid may protest the contract award for that project; however, subcontractors, suppliers or other third parties may not protest contract awards. Moreover, complaints about alleged ambiguity of the bid documents and/or estimates are not appropriate subject matters for bid protests.

B. BID PROTEST CONTENTS:

The bid protest shall be submitted in writing via email to the attention of the Purchasing Agent. The written protest shall include:

1. The solicitation number and project description.
2. The name, address, phone number, and email address of the protesting party.
3. A detailed statement of all the legal and factual grounds for the protest and all relevant, supporting documentation (including all written documentation). The grounds for protest must be fully supported.
4. Statement of the form of relief requested from the City.
5. Signature of an authorized representative of the protesting party.

C. DEADLINE TO SUBMIT BID PROTESTS:

Bid protests must be filed within five (5) business days after the deadline for receiving bids.

D. WHERE TO FILE:

All protests are to be directed to the City of Irvine Purchasing Agent. Protests must be submitted in writing via email to: purchasing@cityofirvine.org. A copy of the email must also be sent to the project manager whose email address is set forth in the bid documents. (A document is considered filed on a particular calendar day when it is received via email by the City of Irvine Purchasing Agent by 5:00 p.m., Pacific Standard Time, on that calendar day.) Although not required, in addition to submitting a protest via email, an original protest letter may be sent via United States Postal Service to: Attn: Purchasing Agent, City of Irvine, PO Box 19575, Irvine, CA 92623-9575.

E. BID PROTEST REVIEW:

Upon receipt, the Purchasing Agent shall consider the protest and may give notice of the protest and its basis to other persons including bidders involved in or affected by the protest. A protest shall be dismissed for failure to comply with any of the requirements set forth in the “Bid Protest Contents” section above. The Purchasing Agent shall review all material submitted with the protest. No additional material will be accepted for consideration from the protesting party unless specifically requested by the Purchasing Agent. If additional material is requested, it must be submitted by the requested date. The Purchasing Agent will respond to the protesting party via email within ten (10) business days after receipt of the protest. Final determinations shall be binding, except as otherwise provided below.

F. RECONSIDERATION OF PROTEST DECISION:

A protesting party may request the Purchasing Agent’s reconsideration of a decision prior to contract award only if one or both of the following conditions are met:

1. New information becomes available that was not previously known, or could not have been reasonably known, at the time of the original protest; and/or
2. The Purchasing Agent’s decision contains an error of law.

Any request for reconsideration of a protest decision must be submitted in writing via email to the Purchasing Agent within three (3) business days from the date of issuance of the initial decision. The request must include a detailed explanation of the basis for reconsideration as set forth above. The Purchasing Agent shall respond to the request for reconsideration within seven (7) business days from receipt of the request.

G. CONTRACT AWARD:

At its discretion, the City may delay the execution of any proposed agreement pending the resolution of a protest unless one or both of the following conditions are present:

1. The project or service being procured is urgently required; and/or
2. Failure to make prompt award will otherwise cause undue harm to the City.

H. REMEDIES:

There shall be no limitation on remedies selected by the City. Nothing contained herein shall be considered to either act as a limitation on the City's choice of remedies or confer any right upon any interested party to a remedy. In determining the appropriate remedy, the City shall consider all the circumstances surrounding the solicitation, the contract selection, and/or the contract award, including, but not limited to: the seriousness of any deficiency found to exist in the contracting process; the effect of the action of the competitive process; any urgency surrounding the contract requirement; and the effect that implementing the remedy will have on the City's overall ability to accomplish its mission. If the City determines that the award or proposed award was not made in accordance with the applicable City statues, regulations, policies, and procedures, the City may, in its sole discretion, grant any of the following or any other remedy it deems appropriate: If pre-award, reject all bids and issue a new solicitation, make a new contractor selection or award a contract consistent with applicable statues, regulations, policies, and procedures; or if post-award, refrain from extending the term of the contract or awarding task orders under an existing task order agreement; or at its sole discretion, take no further action.

1.11 AWARD OR REJECTION OF BIDS AND EXECUTION OF CONTRACT:

A. The award of the Contract will be as of the date specified in the Notice of Award issued by the City. The award of the Contract shall not constitute a binding obligation on City until the Contract has been lawfully executed by all parties and the Contractor has submitted all required insurance certificates and bonds to the City.

B. The Contractor shall not commence work in advance of the execution of the Contract and the delivery of the bonds and insurance certificates.

C. The award of the Contract, if it is awarded, will be to the responsive and responsible Bidder who submitted the lowest Bid complying with these Proposal Requirements and Conditions and with the Notice Inviting Bids. Such award, if made, will be made within ninety (90) Calendar Days after the opening of the proposals. The ninety (90) Calendar Days period shall be subject to extension for such further period as may be agreed upon in writing between the City and the Bidder(s) concerned. All bids will be compiled on the basis of the estimated quantities of work to be done as shown in SECTION 00 41 00 - Bidder Proposal. However until an award is made, the City of Irvine reserves the right to reject any and all bids or to waive any informality in bids received, if doing so is deemed to best serve the interest of the City.

1.12 CONTRACT AND BONDS:

A. The Contract, which the successful Bidder, as Contractor, will be required to execute, is included in the Section 00 50 00 – Construction Contract and should be carefully examined by the Bidder.

B. The successful Bidder, simultaneously with his execution of the Contract will be required to furnish a Payment Bond and a Performance Bond. Said bonds shall be in the form of SECTION 00 50 01 - Performance Bond and SECTION 00 50 02 - Payment Bond and based upon conditions specified in Article 1-4 of SECTION 00 72 00 - General Conditions.

C. Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and Insurance Code § 12090. Failure to submit acceptable Payment and Performance Bonds as required shall result in rejection of bid and forfeiture of the proposal guarantee.

D. All alterations, extensions of time, extra and additional work, and other changes authorized by the Contract Documents will be made without securing the consent of the surety or sureties on the Contract bonds.

E. The Contract shall be signed by the successful Bidder, and delivered to the City together with

the Contract bonds within ten (10) days of the date specified in the Notice of Award issued by the City, not including Saturdays, Sundays and legal holidays. The Contractor shall submit insurance certificates electronically in accordance with Article 6-3 of the SECTION 00 72 00 - General Conditions. The executed Contract, together with the required bonds, will be filed with the Clerk of the City of Irvine.

F. Failure of the lowest responsive and responsible Bidder to execute the Contract and file acceptable insurance certificates and bonds as provided herein within ten (10) days of award of the Contract, not including Saturdays, Sundays and legal holidays, shall be just cause for the forfeiture of the bid bond. The successful Bidder may file with the City a written notice, signed by the Bidder or his authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to him. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable certificates of insurance and bonds within the time herein before prescribed.

1.13 SPECIAL NOTICE:

Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the Work will be performed, and the Contractor must employ, so far as possible, such methods and means in the carrying out of this work as will not cause any interruption or interference with any other contractor.

1.14 BIDDERS INTERESTED IN MORE THAN ONE BID:

No person, firm or corporation shall be allowed to make or file or be interested in more than one bid as prime contractor for the same work.

1.15 BIDS TO BE LEFT ON DEPOSIT:

No Bidder may withdraw its bid for a period of ninety (90) Calendar Days after the time set for opening thereof. However, the City will return all certified checks within fifteen (15) days, not including Saturdays, Sundays and legal holidays, after the award of the Contract or rejection of the bids, as the case may be, to respective Bidders whose bids are not accepted.

1.16 NON-COLLUSION DECLARATION:

All Bidders shall submit with their bids an executed non-collusion declaration on the form provided in the bidding documents. Failure to provide completed form shall result in the bid being deemed non-responsive.

1.17 SUBSTITUTIONS:

Where the Specifications or Plans specify any material, product, thing, or service by one or more brand names, whether or not "or equal" is added, and a Bidder wishes to propose the use of another item as being equal, he shall request approval therefor as set forth in SECTION 00 72 00 - General Conditions.

1.18 REPORTING SUSPICIONS IMPROPRIETY, GROSS WASTE, FRAUD AND OTHER ACTS:

Any City and/or Great Park official, employee, and/or contractor who suspects any type of impropriety relating to purchasing or contracting activities, or gross waste, fraud, or abuse of City and/or Great Park funds or resources, a gross abuse of authority, a specified and substantial danger to public health or safety due to any act or omission of any City and/or Great Park official, employee, or contractor, or the use of a City and/or Great Park office or position or of City and/or Great Park resources for personal gain, should report the act by calling the City's Integrity Line at 866-428-1509. All such reports shall remain anonymous if desired by the reporting party. Suspected fraudulent activities include bid rigging, product substitution, theft, overcharging, false certifications and representations, and the like. Any allegations of bribery, kickbacks, gratuities, and

conflicts of interest involving City employees should also be reported.

1.19 ASSIGNMENT OF CONTRACT:

No assignment by the Contractor of any Contract to be entered into hereunder or of any part thereof, or of funds to be received thereunder by the Contractor, will be recognized by the City unless such assignment has had the prior written approval of the City and the surety has been given due notice of such assignment in writing.

1.20 OTHER REQUIREMENTS:

A. Before entering into a Contract, the Bidder to whom the Contract has been awarded shall satisfy all insurance requirements per SECTION 00 72 00 - General Conditions and such insurance shall be maintained in full force and effect at its own expense during the life of this Contract.

B. Upon request, the successful Bidder shall furnish to the City a statement of its financial condition and previous construction experience or such other evidence of his qualifications.

1.21 LABOR CODE:

PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

A. In accordance with State of California Senate Bill No. 854 (SB 854), contractors bidding on and/or engaging in the performance of public works projects (the definition of "public works" is found at Labor Code Section 1720, et seq.) shall be registered with the Department of Industrial Relations. By submitting a bid for City of Irvine Public Works project, the contractor acknowledges the above requirements and agrees to maintain a valid Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project.

   1. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

   2. Pursuant to Labor Code Section 1771.4, all bidders are hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

B. In addition to the requirement for submittal of certified payroll records to the City, contractors and subcontractors shall furnish electronic certified payroll records to the Labor Commissioner **(State of California, Division of Labor Standards Enforcement).**

C. Contractors and subcontractors shall be responsible for complying and staying current with all DIR requirements and regulations. More information on SB 854 can be found at http://www.dir.ca.gov/Public-Works/SB854.html.

D. Attention is directed to Labor Code § 1735, which reads as follows:

   No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in the Government Code §12940, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

E. The Contractor shall abide by the provisions of the California Labor Code § 1770-1781, et seq.

F. In accordance with the provisions of the California Labor Code § 1773, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the work is to be

performed has been obtained from the Director of the Department of Industrial Relations, a copy of which is on file in the office of the City Clerk of the City of Irvine and will be made available to any interested party upon request. The Contractor shall post a copy of the prevailing rate of per diem wages at the job site. The Contractor, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of the contract.

G. Failure to comply with the subject sections will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1775.

H. In accordance with of the Labor Code § 1773.1, the Contractor must make travel and subsistence payments to each worker employed in the execution of the Contract.

I. The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the City on the Contract.

J. The Contractor shall familiarize itself with the provisions of the Labor Code § 1777.5 regarding employment of apprentices, and shall be responsible for compliance therewith, including compliance by his subcontractors.

K. The Contractor and subcontractors shall comply with Labor Code § 1777.6 which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age except as provided in Labor Code § 3077, of such employee.

L. The Contractor and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the Contractor and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1813.

1.22 RESERVATION OF RIGHTS:

A. The City reserves the right to:

1. Disqualify any Bidder in accordance with the instructions herein.
2. Reject any bids, at its discretion, including bids found to be conditional or incomplete, contain irregularities or found to be not responsive to this Instruction to Bidders Proposal Requirements and Conditions.
3. Investigate the qualifications of any Bidder under consideration.
4. Require confirmation of information furnished by the Bidder.
5. Require additional evidence of Bidder’s ability to perform the Work described in this Instruction to Bidders Proposal Requirements and Conditions.
6. Contact the submitted references to confirm information provided in the bid.
7. Postpone or cancel the entire Instruction to Bidders Proposal Requirements and Conditions or a portion thereof.
8. Postpone the bid opening or award for its own convenience.
9. Award a Contract to other than the apparent low bidder.
10. Award a Contract in part or in combination of items.

11. Issue subsequent Instruction to Bidders Proposal Requirements and Conditions.
12. Seek the assistance of outside technical experts to review the bids.
13. Disqualify a bid upon evidence of collusion, with intent to defraud, or other illegal practices on the part of the Bidder.
14. Waive any errors or informalities in any bid to the extent permitted by law.
15. Require bidder to provide proof as to the equality, substitutability, and compatibility of any items proposed as alternates or equals.
16. Determine, at the City's sole discretion, the equality, substitutability, and compatibility of any items proposed as alternates or equals.
17. Exercise any other rights under the City's charter or municipal code.

B. The City has no obligation to consider any bid unless it is responsive to this Instruction to Bidders Proposal Requirements and Conditions and conforming in all respects to the Form of Contract. This Instruction to Bidders Proposal Requirements and Conditions does not commit the City to enter into a Contract.

END OF SECTION

SECTION 00 41 00 - BIDDER'S PROPOSAL
CONSTRUCTION
OF
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM

CIP 361707
BID NO. 18-1343

HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL
CITY HALL
IRVINE, CALIFORNIA

THE UNDERSIGNED, HAVING CAREFULLY EXAMINED ALL OF THE CONTRACT DOCUMENTS; PERMITS ISSUED BY JURISDICTIONAL REGULATORY AGENCIES; CONTRACT; CONTRACT ADDENDA; INSTRUCTIONS TO BIDDERS; PROPOSAL REQUIREMENTS AND CONDITIONS; SPECIFICATIONS; THE PLANS (SHEETS T1.0 THROUGH FP3.1); REFERENCE SPECIFICATIONS; AND ALL OTHER INFORMATION PROVIDED BY THE CITY FOR THE CONSTRUCTION LISTED ABOVE IN AND FOR THE CITY OF IRVINE, IS FAMILIAR WITH THE CONDITIONS, HAVING PERSONALLY VISITED THE SITE OF THE WORK, AND HEREBY PROPOSES TO FURNISH ALL LABOR, MATERIALS AND EQUIPMENT, AND ALL INCIDENTAL WORK NECESSARY TO DELIVER ALL THE IMPROVEMENTS COMPLETE, IN PLACE AND IN STRICT CONFORMITY WITH THE CONTRACT DOCUMENTS.

_____
Bidder's Company Name (please print or type)

_____
Signature of Bidder

_____
Print Name

CITY OF IRVINE
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

SCHEDULE OF WORK AND BID PRICES

All applicable sales taxes, State and/or Federal taxes, and any other special taxes, patent rights or royalties are included in the prices quoted in this Proposal.

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QTY
1	Mobilization, Conditions and Controls	LS	1
2	Sawcut existing PCC/AC paving	LF	280
3	Remove existing AC paving	SF	170
4	Remove existing PCC curb/curb and gutter	LF	9
5	Remove existing PCC sidewalk	SF	190
6	Trenching	LF	275
7	Tree removal	LS	1
8	Remove shelving	LS	1
9	Install 4” PVC-900 waterline, incl. thrust blocks & backfill	LF	275
10	Install 4”X10” SS tapping sleeve and valve	EA	1
11	Install Fire Department connection	EA	1
12	Install 4” PIV	EA	1
13	Install 4” double check detector	EA	1
14	Install AC trench repair	SF	170
15	Install 4” thick PCC sidewalk	SF	190
16	Install PCC curb/gutter	LF	10
17	Restriping	LS	1
18	New turf/irrigation repair	LS	1
19	Install fire riser	LS	1
20	Install piping	LS	1
21	Install fire sprinklers	EA	60
22	Install bell/alarm module	LS	1
23	Install tamper switch	LS	1
24	Install Knox boxes	LS	1
25	Miscellaneous electrical	LS	1
26	Fire Alarm interface	LS	1
27	Coordination with IRWD	LS	1
28	Install shelving	LS	1
29	Exterior/Interior building repair	LS	1
30	Painting	LS	1
31	Floor repair	LS	1

Bidder’s Name: _____

CITY OF IRVINE
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
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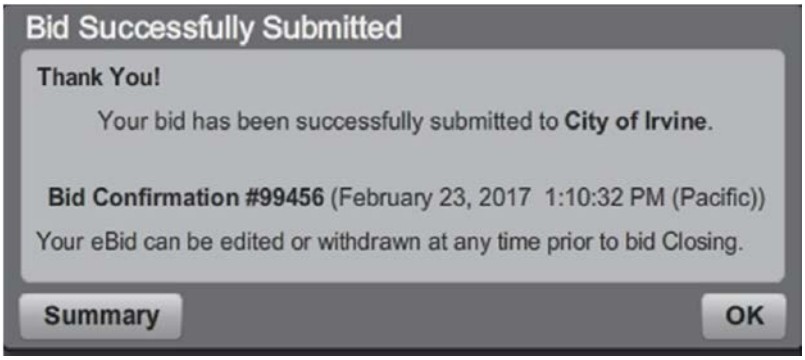
INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS

In order to access the BidsOnline system and ensure successful online submission of your bid prices, follow these steps:

1. Go to https://www.planetbids.com/portal/portal.cfm?CompanyID=15927#
2. On the Vendor Portal page, log into the system (lower right hand corner of screen) with your assigned user name and password. (You must be registered in order to download documents and submit a bid.)
3. Click on "Bid Opportunities" and then on the Bid # and Description that you wish to bid on. The selected bid will open to allow you to access all tabs, documents and the pricing sheet.
4. Click on the “Documents & Attachment” tab to be sure you have downloaded all documents that are part of this bid.
   - *If you have not already downloaded all bid documents, you must download them now, in order to submit your bid. The screen will indicate which documents you've already downloaded.*
5. Click on the tab "Addenda & Emails" to be sure you have read and acknowledged all addenda that have been issued for this bid.
   - *The screen will display "yes" or "no" next to each addendum to indicate whether you have viewed and acknowledged it. If you have not previously acknowledged an addendum, do so now by clicking on the addendum to open and read it, then click on the "Acknowledge" button on the lower left hand corner of screen.*
6. To begin entering your bid, click on "Place eBid" on the lower right corner of the screen. The bid "Terms and Conditions" will pop up with a button for you to click "Accept" to acknowledge your agreement to the terms of the bid.
7. Enter the Respondee information on the “Detail” tab.
8. Click the “Attach” button on the “Attachments” tab, browse to your scanned Bid Submittal Documents, and upload all Bid Submittal Documents as a single PDF file.
9. Go to the "Line Items" tab and enter your unit prices on each line. The system will calculate the extended costs and grand total for you.
10. When you have finished entering all pricing and attachments, click on the "Save" button. This saves your bid as a draft for you to review or revise as needed anytime up to the bid submittal deadline. When you are ready to submit your bid, click the "Submit" button. You will receive a confirming message that looks like this:

Bidder’s Name: _____

CITY OF IRVINE
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343



Note: E-Bids are sealed and cannot be viewed by the City until the closing date and time. As noted in the screen print above, if you need to withdraw your bid, you may do so any time before the bid deadline, by going back into the system and selecting "withdraw".

Please begin entering your bid in sufficient time to complete and submit it prior to the stated deadline. The official closing time for the bid is determined, and controlled, by the electronic clock in the bid management system. Once the deadline is reached, the system will not allow any bids to be submitted, and any in process that are not completed will be rejected. The amount of time required to enter and submit your bid depends on the complexity of the bid and the processing speed of your server and internet connections.

Technical Support
In the event you encounter technical difficulties during the uploading process, please contact the Planet Bids, BidsOnline system team as shown below (M-F from 8 a.m. to 5 p.m.):

support@planetbids.com or call 818-992-1771, ext. 0

Bid prices must be entered and bid proposal packet must be uploaded to the BidsOnline system **no later than the date and time indicated in the Notice Inviting Bids. No late bids will be accepted. No other method of bid submittal will be accepted.**

Bidder's Name: _____

CITY OF IRVINE
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

INFORMATION REQUIRED OF BIDDERS

In determining the lowest "responsible" bidder, consideration will be given to the general competency of the bidder in regard to the work covered by the Bid Proposal. To this end, each proposal shall be supported by a statement of the Bidder's experience on this form. **Failure of the Bidder to provide requested information in a complete, accurate and legible manner shall render the bid non-responsive**. Additionally, the City reserves the right to disqualify or refuse to consider a proposal if a Bidder is determined to be non-responsible in accordance with Irvine Municipal Code § 2-12-103 "Determination of Contractor Non-Responsibility."

The Bidder is required to supply the following information. Use additional sheets as necessary.

A. Contact person name:_____ Email:_____

Address: _____

Telephone: (___)_____Fax: (___)_____

B. Type of firm (Individual, Partnership, or Corporation): _____

C. State Contractor's License Number and Classification:_____

D. DIR Registration Number: _____ Expiration Date_____

E. Number of years your firm has operated as a contractor: _____

F. Number of years your firm operated under its present business name: _____

G. List the **names and addresses** of all principals or officers authorized to bind your firm.

Name:	**Address:**

H. List any project(s) your firm has **failed to complete** within the last five years due to a termination of contract. For each project, list the type of project, client's name, contact person, current telephone number, email address, and provide a brief description of the grounds for the termination.

Check appropriate box: None ☐ See list below ☐

Type of Project	**Client Name**	**Contact Person**	**Contact Phone No. and email address**
Description:			

Bidder's Name: _____

CITY OF IRVINE
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
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Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

I. List projects of similar nature to the BUILDING SAFETY UPGRADES, DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM your firm is **currently** constructing. For each project, list the type of project, contract amount, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None ☐ See list below ☐

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Bidder's Name: _____

J. List projects of a similar nature to the BUILDING SAFETY UPGRADES, DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM your firm has **completed** within the last five years. For each project, list the type of project, contract amount, date of completion, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None ☐ See list below ☐

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

K. List the name of the person(s) **(A MINIMUM OF ONE)** who inspected the site of the proposed work for your firm.

Name:	Date of Inspection:

L. Complete the following in conformance with Labor Code Section 1725.5

Name of Subcontractor	Registered with DIR?	DIR Registration No.
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	

Bidder's Name: _____

	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	

M. If requested by the City, the Bidder shall furnish a notarized financial statement, financial data, or other information and references sufficiently comprehensive to permit an appraisal of its current financial condition or ability to perform the work.

Failure to furnish information upon request will render the bid nonresponsive.

All of the above statements regarding Contractor's experience and financial qualifications are submitted in conjunction with the Bid Proposal, as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Bidder.

Bidder's Name: _____

THE CITY OF IRVINE RESERVES THE RIGHT TO REJECT ALL BIDS

The undersigned understands the contract time limit allotted for the completion of the work required by the Contract is **Thirty (30) Working** Days.

The undersigned agrees, if awarded the Contract, to sign the Contract and furnish the necessary insurance certificates and bonds within ten (10) days of the date specified in the Notice of Award of Contract, not including Saturdays, Sundays and legal holidays, and to begin work within ten (10) Working Days from the date specified in the City's Notice to Proceed. Contract time accounting shall begin on the date shown in the Notice to Proceed.

Accompanying this Bid Proposal is **(check appropriate box)**:

☐ **Cash** ☐ **Cashier's Check** ☐ **Certified Check** ☐ **Bid Bond**

Sign Here if Individual:

(Signature) _____

(Print Name) _____

(Address) _____

_____

Affix notary's acknowledgement

Sign Here if Co-Partnership:

Co-Partnership Name of Firm: _____

(Address) _____

_____

Members Signing:

(Signature) _____

(Print Name) _____

(Address) _____

_____

(Signature) _____

(Print Name) _____

(Address) _____

_____

Affix notary's acknowledgement

Bidder's Name: _____

Sign Here if Corporation:

(Name of Corporation) _____

(Address) _____

_____

Officers of Corporation Signing:

(Signature) _____

(Print Name) _____

(Title) _____

And

(Signature) _____

(Print Name) _____

(Title) _____

If executed by other than President and Secretary of the Corporation, attach a certified copy of resolution authorizing signature on behalf of the Corporation.

Affix notary's acknowledgement

Bidder's Name: _____

LIST OF SUBCONTRACTORS

The Bidder shall list each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid. Complete columns (1) and (2) and submit with the bid. Complete columns (3) and (4) and submit with the bid or hand-deliver to the Receptionist for the Purchasing Agent at the reception desk located on the first floor of the Civic Center building at the City of Irvine, located at One Civic Center Plaza, Irvine, California 92606-5207 within 24 hours after the bid opening. Failure to provide complete information in columns (1) through (4) within the time specified shall render the bid non-responsive.

Subcontractors listed must not be debarred from performing the designated work.

BUSINESS NAME and LOCATION (1)	CONTRACTOR LICENSE NUMBER (2)	BID ITEM NUMBERS (3)	PERCENTAGE OF BID ITEM SUBCONTRACTED (4)*

Information must be typed or clearly printed.

*** If you are subcontracting a whole bid item, insert one hundred percent (100%); if less than one hundred percent (100%), insert actual percentage.**

Bidder's Name: _____

NON-COLLUSION DECLARATION-CONTRACTOR
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
CITY OF IRVINE BID NO. 18-1343

The undersigned declares:

I am the _____ [title] of _____ [company name], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

_____
Signature

_____
Print Name

Bidder's Name: _____

FORM OF BID BOND

BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

(10% of the Proposal Amount)

KNOW ALL MEN BY THESE PRESENTS that we _____ as Principal, and _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ Dollars ($_____), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal submitted to the City a certain Bid Proposal, attached hereto and hereby made a part hereof, to enter into a contract in writing for the BUILDING SAFETY UPGRADES, DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM and will furnish all required certificates of insurance and bonds as required by the Contract.

NOW THEREFORE, if said Bid Proposal shall be rejected; or in the alternate, if said Bid Proposal shall be accepted, and the Principal shall execute and deliver a contract in the prescribed Form of Contract, shall deliver certificates evidencing that the required insurance is in effect and shall execute and deliver Performance and Payment Bonds in the forms prescribed, and shall in all other respects perform the Contract created by the acceptance of said Bid Proposal, then this obligation shall be void; otherwise this obligation shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall be the amount of this obligation as herein stated. In the event suit is brought upon this bond by City and judgment is recovered, Surety shall pay all costs incurred by City in said suit, including a reasonable attorney's fee to be fixed by the court.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by an extension of the time within which the City may accept such a Bid Proposal; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

This space intentionally left blank

Bidder's Name: _____

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

Bidder's Name: _____

FALSE CLAIMS

Bidder shall complete the **False Claims Act Certification** below or in the alternative, provide the information requested under **False Claims Act Violations** below. **Failure to certify or provide the requested information shall render the bid non-responsive.**

"False Claims Act" as used herein is defined as either or both the Federal False Claims Act, 31 U.S.C. § 3729, *et seq*., and the California False Claims Act, Government Code § 12650, et seq.

FALSE CLAIMS ACT CERTIFICATION

I _____ hereby certify that neither
(Print name)

_____
(Contractor name)

nor _____
(Name of qualifying person licensed by Contractors State License Board)

has been determined by a court or tribunal of competent jurisdiction to have violated the False Claims Act as defined above.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) **(City and State)**

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

FALSE CLAIMS ACT VIOLATIONS

With regard to any determinations by a tribunal or court of competent jurisdiction that the False Claims Act, as defined above, has been violated by (1) the Contractor submitting this Bid Proposal or (2) the qualifying person licensed by the State Contractors License Board to perform the work described in this Bid Proposal, shall provide on a separate sheet the following information: (1) the date of the determination of the violation, (2) the identity of the tribunal or court, (3) the identity of the government contract or project involved, (4) the identity of the government department involved, (5) the amount of fine imposed, and (6) any exculpatory information of which the City should be aware.

Bidder's Name: _____

CIVIL LITIGATION AND ARBITRATION HISTORY

Bidder shall provide the certification or information requested below. Failure to certify or provide such certification or information shall render the bid non-responsive.

For five (5) years preceding the submittal date of this Bid Proposal, identify civil litigation and arbitration arising out of the performance of a construction contract within the State of California in which the (1) Contractor submitting this bid proposal or (2) the qualifying person licensed by the State Contractors Licensing Board to perform the work described in this Bid Proposal was a named as a party in a lawsuit brought by or against the project owner or any action to confirm, vacate or modify an arbitration award involving an owner.

CIVIL LITIGATION AND ARBITRATION CERTIFICATION

If the Bidder has no civil litigation and arbitration history to report as described above, complete the following:

I _____ certify that neither
(Print name)

_____
(Contractor name)

nor _____
(Name of qualifying person licensed by Contractors State License Board)

has been involved in civil litigation and arbitration as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) (City and State)

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

Do not include litigation and arbitration which are limited solely to enforcement of mechanics' liens or stop notices. Provide on a separate sheet (1) the name and court case identification number of each case, (2) the jurisdiction in which it was filed, and (3) the outcome of the litigation, e.g. whether the case is pending, a judgment was entered, a settlement was reached, or the case was dismissed.

Bidder's Name: _____

CRIMINAL CONVICTIONS

Bidder shall provide the certification or information requested below. Failure to certify or provide such certification or information shall render the bid non-responsive.

CRIMINAL CONVICTION CERTIFICATION

If the Bidder has no criminal convictions to report as described above, complete the following:

I _____ hereby certify that neither
(Print name)

_____
(Contractor name)

nor _____
(Name of qualifying person licensed by Contractors State License Board)

has been convicted of a criminal violation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) (City and State)

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

For the five (5) years preceding the date of this Bid Proposal is due, identify on a separate sheet any criminal conviction in any jurisdiction in the United States for a violation of law arising out of the performance of a construction contract (1) by the Contractor submitting this Bid Proposal or (2) by the qualifying person licensed by the State Contractors License Board to perform the work described in the Bid Proposal.

Provide on the following page labeled “Criminal Convictions Information.” (1) the date of conviction, (2) the name and court case identification number, (3) the identity of the law violated, (4) the identity of the prosecuting City, (5) the contract or project involved, (6) the punishment imposed, and (7) any exculpatory information of which the City should be aware.

Bidder’s Name: _____

VIOLATION OF LAW OR A SAFETY REGULATION

Has the Bidder, any officer of the Bidder, or any employee who has proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of a law or a safety regulation?

☐ **Yes** ☐ **No**

If the answer is yes, explain the circumstances in the following space.

Name of bidder (print)	Signature
Address	State Contractors' License No. & Classification
City Zip Code	Telephone

END OF SECTION

Bidder's Name: _____

SECTION 00 50 00 - CONSTRUCTION CONTRACT FOR CAPITAL IMPROVEMENTS

CITY OF IRVINE

BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

This Contract made and entered into this ____ day of _____, 20__, by and between City of Irvine, a municipal corporation of the State of California, hereinafter referred to as "CITY" and _____, hereinafter referred to as "CONTRACTOR."

W I T N E S S E T H:

That the CITY and the CONTRACTOR, for the consideration hereinafter named, mutually agree as follows:

A. The complete Contract includes all of the Contract Documents, which are incorporated herein by this reference, to wit:

1. Permits and Agreements
2. Contract
3. Addenda
4. Instructions to Bidders, Proposal Requirements and Conditions
5. Contract Specifications
6. Contract Plans
7. Reference Specifications
8. City of Irvine Park/Public Facility Standards dated May 20, 2015,

The Contract Documents are complementary, and that which is required by one shall be as binding as if required by all.

B. CONTRACTOR shall provide and furnish all labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for the following work of improvement: Installation of new fire sprinkler system throughout the building including all trenching and demolition of associated items and repair and refill of all concrete walkways, roads, curbs and landscaping, including other works required by the plans and the Special Provisions.

C. CONTRACTOR agrees to perform all the said work and furnish all the said materials at his own cost and expense that are necessary to construct and complete in strict conformance with Contract Documents and to the satisfaction of the Engineer, the work hereinafter set forth in accordance with the Contract therefore adopted by the City Council and as prepared by **CAP ARCHITECTURE INC, 8700 WARNER AVE, FOUNTAIN VALLEY, CA.**

D. CITY agrees to pay and CONTRACTOR agrees to accept in full payment for performance of this work of improvement as described, the stipulated sum of_____ ($_____) the "Contract Price."

CITY agrees to make progress payments and final payment in accordance with the method set forth in the Special Provisions.

E. CONTRACTOR agrees to commence construction of the work provided for herein within ten (10) Calendar Days after the date specified in the Notice to Proceed, and to continue diligently in strict conformance with Contract Documents and without interruption, and to complete the construction thereof within **Thirty (30) Working Days** after the date specified in the Notice to Proceed.

F. Time is of the essence of this Contract, and it is agreed that it would be impracticable or extremely difficult to ascertain the extent of actual loss or damage which the CITY will sustain by reason of any delay in the performance of this Contract. It is, therefore, agreed that CONTRACTOR will pay as liquidated damages to the CITY the following sum: **Nine Hundred Dollars ($900) per** Calendar Day, for each and every Calendar Days delay in finishing the Work in excess of the number of Working Days prescribed above. If liquidated damages are not paid, as assessed by the CITY, the CITY may deduct the amount thereof from any money due or that may become due the CONTRACTOR under this Contract in addition to any other remedy available to CITY. By executing this Contract, Contractor agrees that the amount of liquidated damages is reasonable and shall not constitute a penalty.

G. In accordance with State of California Senate Bill No. 854, CONTRACTOR will maintain and will require all subcontractors to maintain valid and current Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project. CONTRACTOR shall notify the CITY in writing immediately, and in no case more than twenty-four (24) hours, after receiving any information that CONTRACTOR'S or any of its SUBCONTRACTOR'S DIR registration status has been suspended, revoked, expired, or otherwise changed.

H. CONTRACTOR will pay, and will require all subcontractors to pay, all employees on said Contract a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations and wage standards applicable to this work, a copy of which is on file in the office of the City Clerk of the City of Irvine. Federal prevailing wage rates apply for federally funded projects. Travel and subsistence pay shall be paid in accordance with Labor Code § 1773.1.

I. CONTRACTOR shall be subject to the penalties in accordance with Labor Code of § 1775 for each worker paid (either by him or by any subcontractors under him) less than the prevailing rate described above on the work provided for in this Contract.

J. CONTRACTOR and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the CONTRACTOR and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the CONTRACTOR to penalty and forfeiture provisions of the Labor Code § 1813.

K. CONTRACTOR will comply with the provisions of Labor Code § 1777.5 pertaining to the employment of apprentices to the extent applicable to this Contract.

L. CONTRACTOR, by executing this Contract, hereby certifies:

> "I am aware of, and will comply with the Labor Code § 3700 by securing payment for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the City before execution of the Contract. The CITY, its officers, or employees, will not be responsible for any claims in

law or equity occasioned by failure of the CONTRACTOR to comply with this paragraph."

CONTRACTOR further agrees to require all subcontractors to carry Workers' Compensation Insurance as required by the Labor Code of the State of California.

M. CONTRACTOR shall, concurrent with the execution of this Contract, furnish two bonds approved by the CITY, one in the amount of One Hundred Percent (100%) of the Contract Price, to guarantee the faithful performance of the work "Performance Bond", and one in the amount of One Hundred Percent (100%) of the Contract Price to guarantee payment of all claims for labor and materials furnished "Payment Bond." This Contract shall not become effective until such bonds are supplied to and approved by the CITY.

N. CONTRACTOR shall, prior to commencing work, furnish certificates evidencing compliance with all requirements of the Contract Documents pertaining to insurance.

O. Any amendments to any of the Contract Documents must be in writing executed by the CONTRACTOR and the CITY. Any time an approval, time extension, or consent of the CITY is required under the Contract Documents, such approval, extension, or consent must be in writing in order to be effective.

P. This Contract contains all of the agreements and understandings of the parties and all previous understandings, negotiations, and contracts are integrated into and superseded by this Contract.

Q. In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Contract shall be declared invalid or unenforceable by a valid judgment or decree of a court of competent jurisdiction, such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Contract which are hereby declared as severable and shall be interpreted to carry out the intent of the parties hereunder.

R. The persons executing this Contract on behalf of the parties hereto warrant that they are duly authorized to execute this Contract on behalf of said parties and that, by so executing this Contract, the parties hereto are formally bound to the provisions of this Contract.

S. This Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors, and assigns.

T. In performing its obligations and duties under this Contract, each party shall comply with all applicable local, state, and federal laws, regulations, rules, standards and ordinances.

U. In the event any action is brought between the parties hereto relating to this Contract or the breach thereof, the prevailing party in such action shall be entitled to recover from the other party reasonable expenses, attorneys' fees and costs in connection with such action or proceeding.

V. This Contract may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

W. This Contract is to be governed by the laws of the State of California.

IN WITNESS WHEREOF, the said CONTRACTOR and the Director of Public Works, City Manager and City Clerk of the CITY have caused the names of said parties to be affixed hereto, the day and year first above written.

_____
CONTRACTOR

(If Corporation, 2 signatures are required)

By _____

_____
Print Name

_____
Title

By _____

_____
Print Name

_____
Title

CITY OF IRVINE
A Municipal Corporation

_____
Sean Joyce
City Manager of the City of Irvine

_____
Manuel Gomez
Director of Public Works

ATTEST:

_____
Molly McLaughlin
City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

_____
Jeffrey Melching

END OF SECTION

SECTION 00 50 01 - PERFORMANCE BOND

BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

KNOW ALL MEN BY THESE PRESENTS that we _____, as Principal, and _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ _____($_____) (this amount being not less than one hundred percent (100%) of the total bid price of the contract awarded by the owner to the Principal), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a contract attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said Contract during the original terms thereof, and any extensions thereof that may be granted by the Owner with or without notice of the Surety, and during the life of any guarantee required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, then this obligation shall be void otherwise this obligation shall remain in full force and effect.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modifications of the Contract Documents and/or of the Work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time, and alterations or modifications of the contract documents and/or of the work to be performed thereunder.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by the City in successfully enforcing such obligation, and all to be taxed as costs and included in any judgment rendered by a court of law.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

This area is intentionally left blank.

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

END OF SECTION

SECTION 00 50 02 - PAYMENT BOND
BUILDING SAFETY UPGRADES
DEERFIELD COMMUNITY PARK-FIRE SPRINKLER SYSTEM
CIP 361707
BID NO. 18-1343

KNOW ALL MEN BY THESE PRESENTS that we _____, as Principal, and ____ _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ _____($_____) (this amount being not less than one hundred percent (100%) of the total bid price of the contract awarded by the owner to the Principal), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a contract, attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of each contract that may hereafter be made, then this obligation shall be void, otherwise this obligation shall remain in full force and effect.

The condition of this obligation is such that, if said Principal or his subcontractors, or heirs, executors, administrators, successors, or assigns thereof, shall fail to pay any of the persons named in the Civil Code § 9100 for any material used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or shall fail to pay any amount due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant or any amount required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors with respect to such work and labor, then said Surety will pay and, also, in case suit is brought upon the bond, will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of all persons named in the aforesaid Civil Code § 9100 to give a right of action to them or their assigns in any suit brought upon the bond.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the Contract Documents or of the Work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time, and alterations or modifications of the Contract Documents and/or of the work to be performed thereunder.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

This area is intentionally left blank.

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

END OF SECTION

SECTION 00 71 00 - DEFINITIONS

The terms used in the General Conditions and within the Contract Documents have the following meanings assigned to them applicable in both the singular and plural tense. Certain terms are fully capitalized for no other reason than ease of reading.

Addenda - Additional written or graphical instructions issued prior to the opening of bids, which clarify, modify, correct, amend, add, delete and/or otherwise change the Contract Documents.

Administrative Closeout - Administrative Closeout shall be the duration allowed for completion of all Contract requirements after Substantial Completion such as Punch List items, submittal of final warranties and guaranties, and record documents.

Applicable Laws- All federal, state, and local statutes, law, ordinance, provision, rule, regulation pertaining to the furnishing of or performance of the Work.

Application for Payment - The City approved invoice form along with other supportive documentation as specified in the Contract Documents to be certified and submitted by Contractor in requesting progress and/or final payment.

"As Builts" - Plans and specifications received from Contractor following Substantial Completion that document field changes, additions or deletions to the Work (as defined in the original Contract Documents) that occurred during construction and reflect existing field conditions upon completion of the Work.

Calendar Day – The 24-hour day denoted on the calendar.

Calendar Month – The period including the first through the last day of a month.

Change Order - A written instrument confirming a change or adjustment to the Contract Amount, Milestones and/or Contract Time and/or an addition, deletion or revision in the Work. A Change Order is only effective upon approval by the City.

Change Order Proposal (COP) - A written instrument prepared and issued by Contractor, setting forth proposed adjustments to the Contract Amount, Milestones or Contract Time, if any, in response to a Request for Quotation and/or proposed addition, deletion or revision of the Work.

City – The City of Irvine, a municipal corporation.

City Representative - The person or engineering/architectural firm Agency authorizes to represent it during the performance of the Work by the Contractor and until Final Acceptance. The Agency Representative means the Agency Representative or his assistants.

Contract Completion- When City determines all Contract requirements of Contractor have been met or when the Administrative Closeout Period has expired and a Notice of Contract Completion is issued by City to Contractor.

Contract Amount – The dollar amount stated in the Contract payable by City to Contractor. The Contract Amount may be increased or decreased only by Change Order.

Contract Time - The duration in Working Days from the date in the Notice to Proceed to the Contract Completion, plus or minus Change Order adjustments.

Contractor - The person, firm, corporation or entity with whom the City has entered into the Contract.

Defective - When preceding the term work, it references Work deemed to be unacceptable, faulty, unsuitable, unsightly or otherwise not in compliance with the Contract Documents including any inspection, standard, test, submittal, and/or approvals required by the Contract Documents.

Engineer – The City Engineer acting either directly or through the Agency Representative.

Major Bid Item – A single Contract item constituting ten percent (10%) or more of the original Contract Price.

Plans- Pictorial or graphical portions of the Contract Documents, prepared by or on behalf of the Engineer, denoting the scope, design, extent, location, character, and dimensions of the Work to be performed and may include plans, elevations, sections, details, schedules and diagrams, etc., however, Shop Drawings are not Drawings as so defined herein.

Milestones- Designated events as set forth in the Construction Schedule in which Work or portions thereof are required to be started and/or completed. Supplementary Conditions may provide for the assessment of Liquidated Damages if Contractor fails to achieve one or more Milestones.

Notice of Award- Notice by City advising the successful bidder that the City has issued the Contract.

Notice of Completion - Notice by City recorded with the County Recorder upon Substantial Completion.

Notice to Proceed - The written notice issued by City to Contractor establishing the date of commencement of the Contract Time and authorizing Contractor to proceed with the Work.

Partial Use or Occupancy - Use or occupancy by City of a partially completed portion, part, space or area of the Work, prior to Substantial Completion of the Work.

Product Data - Contractor furnished literature, illustrations, standard schedules, performance charts, instructions, brochures, diagrams, catalog cuts, color charts, templates, installation and maintenance instructions, test data, agency or regulatory approvals, or other required product information furnished by Contractor relative to the Work.

Punch List - A list of minor, corrective items, which does not include uncompleted Work.

Request for Information (RFI) - A written instrument prepared by Contractor and issued to Engineer requesting information or clarification of the Contract Documents.

Request for Quotation – Contemplated revision of Contract Documents by the Agency requesting detailed information from the Contractor on impacts to contract sum or contract time.

Samples - Contractor furnished physical specimens such as swatches, natural materials, materials, fabricated items, equipment, devices, appliances, cuts, containers, color boards, textures, fabrications, finishes, or other required samples furnished by Contractor relative to the Work.

Shop Drawings - Contractor furnished original drawings such as illustrations, diagrams, schedules, fabrications, erection, coordination, layout, setting, details, standards, performance charts or curves, installation, routing, iso-metric, wiring, control, piping, or other required shop drawings furnished by Contractor relative to the Work.

Specifications - Those portions of the Contract Documents consisting of the written technical and/or administrative descriptions of materials, equipment, systems, codes, regulations, procedures, standards, workmanship, services, facilities, supplies, instructions, transportation, quality, etc., as applied to the Work.

Subcontractor - The person, firm, corporation or entity executing a direct contract with Contractor or with any subcontractor for the performance of a portion of the Work.

Substantial Completion - The stage in the progress of the Work when all of the requirements of the Contract are completed, except Punch List items, final warranties and guaranties, and record documents submittals.

Subsurface Facility - All underground or below grade facilities and/or improvements, including but not limited to, any and/or all encasements such as pipelines, wells, conduits, raceways, duct banks, ducts, cables, conductors, sensors, manholes, valve boxes, metering devices or other such facilities which collect, furnish, supply, distribute, and/or transport to this or any other site or property electricity, telephone, data, steam, gases, petroleum, cable or satellite signals, sewage, signal systems, water, storm drainage, traffic signals, or other control systems.

Work- All of the terms and conditions set forth in the Contract Documents, including the various separately identifiable parts thereof to be furnished thereunder. The Work shall include, without limitation, all labor, materials, apparatus, supplies, services, facilities, utilities, transportation, manuals, warranties, training, and the like, necessary for Contractor to faithfully perform and complete all of its obligations under the Contract.

END OF SECTION

SECTION 00 72 00 - GENERAL CONDITIONS

ARTICLE 1 – SCOPE AND CONTROL OF WORK

1-1 CONTRACT AWARD AND EXECUTION - The City will award and execute the Contract as provided in the Specifications, Instructions to Bidders or Notice Inviting Bids.

1-2 ASSIGNMENT - Do not assign the Contract or any portion of it without the City's written consent, except that you may assign money due or which will accrue to you under the Contract. If given written notice, the City will recognize the assignment to the extent permitted by law. Any assignment of money is subject to all proper withholdings in the City's favor and to all deductions, the Contract allows. The City will use all money withheld, assigned or not, to complete the Work if you default.

Do not assign Contract performance except with the City's written consent. The City will not consent to any proposed assignment that would relieve you or your Surety of your Contractual responsibilities, or to any assignment of any of the Contract Work.

1-3 SUBCONTRACTS.

1-3.1 General. Comply with Chapter 4 of the Public Contract Code including Sections 4100 through 4113.

A. The name and location of the place of business of each subcontractor who will perform work or labor or provide service to you in constructing the Work or improvement, or a subcontractor licensed by the State of California who, under subcontract to you, specially fabricates and installs a portion of the Work or improvement according to detailed drawings in the Plans and Specifications, in an amount exceeding one-half of 1 percent of your total bid.
B. The portion of the Work each such subcontractor will do under this act. List only one subcontractor for each portion as defined in your bid.

If you fail to specify a subcontractor or specify more than one subcontractor for the same portion of the Contract Work to be performed in excess of one-half of 1 percent of your total Bid, you must be qualified to and must perform that portion yourself unless the Code provides otherwise.

Pursuant to § 4107, if your Bid is accepted you may not substitute any person as a subcontractor in place of a subcontractor listed in your Bid except for the causes and by the procedures in § 4107.5, which provide procedures to correct a clerical error in listing a subcontractor.

Section 4110 provides that violating any of the provisions of Chapter 4 violates the Contract and the City may, after a public hearing, either cancel the Contract or assess you a penalty not exceeding 10 percent of the subcontract involved.

If you subcontract any part of Contract, you are as fully responsible to the City for the acts and omissions of your subcontractors as you are for the acts and omissions of your direct employees. Nothing contained in the Contract Documents creates any contractual relationship between any subcontractor and the City. Bind every subcontractor to the terms of the Contract Documents applicable to its work.

Do not employ debarred contractors on the Work pursuant to the provisions of Labor Code § 1777.1 and City of Irvine Council Ordinance No. 08-10. The Labor Commissioner publishes and distributes a

list of contractors ineligible to work as a subcontractor on a public works project. This list is available from the Department of Industrial Relations web site http://www.dir.ca.gov/dlse/debar.html.

The U.S. General Services Administration maintains a list of individuals, firms and organizations debarred, suspended or who have voluntarily excluded themselves from Federal Procurement and Non-Procurement Programs, which is available from the website http://www.sam.gov.

According to SB 854, you and each of your subcontractors must maintain a valid, current Department of Industrial Relations Public Works Contractor registration during the term of this project.

Before including a subcontractor's name on the bid, verify that each one is properly licensed and not debarred from performing the designated work.

The City will withhold payment for noncompliant subcontracted work from progress payments due, or to become due, until the noncompliance is corrected. The City may terminate the Contract if you fail to comply.

If the Engineer finds any subcontractor or person you employ is incompetent or is acting improperly, then at the Engineer's request, dismiss them from the job immediately and do not employ them on the Work again.

File a copy of each subcontract with the City before the subcontractor begins work. Each subcontract must reference the Contract with the City and its terms and all its parts are made part of that subcontract as applicable to the work it covers. Each subcontract must allow you to annul it at the City's order if in the City's opinion the subcontractor fails to comply with Contract requirements.

1-3.2 Self Performance. Perform, with your own employees, Contract work amounting to at least 30 percent of the Contract Price. When an entire item is subcontracted, base the value of work subcontracted on the Contract Unit Price. When a portion of an item is subcontracted, calculate the value of the subcontracted portion using the estimated percentage of the Contract Unit Price based on information you submit, subject to the Engineer's approval.

Give personal attention to fulfilling the Contract and keep the Work under your control. Subcontractors are your employees and you are responsible for their work.

1-3.3 Status of Subcontractors. The City will not conduct business with an individual, firm or organization, and you shall not employ or otherwise use at any tier, any subcontractor, supplier, or equipment vendor on the City's debarment list, the Department of Industrial Relations debarment list, or the U.S. General Services Administration "List of Parties Excluded from Federal Procurement and Non Procurement Programs."

1-4 CONTRACT BONDS. Before executing the Contract, file surety bonds with the City for its approval in the amounts and for the purposes noted below. Bonds issued by a surety who is listed in the latest version of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, and whose bonding limitation shown in that circular is sufficient to provide bonds in the amount required by the Contract, is approved unless the City specifically rejects them. Attach all of the documents listed in the Code of Civil Procedure, § 995.660 a) to bonds from all other sureties and pay all bond premiums, costs and incidentals.

You and the Surety sign each bond and incorporate the Contract by reference. Notarize the Surety's authorized agent's signature.

Provide two sufficient surety bonds. The "Payment Bond" must be for 100 percent of the Contract Price to satisfy claims of material suppliers, and mechanics and laborers you employ on the Work. Maintain the bond in full force until the City accepts the Work and all claims for materials and labor are paid, and otherwise comply with the Civil Code.

The "Performance Bond" must be for 100 percent of the Contract Price to guaranty faithful performance of all work within the time prescribed and in a manner satisfactory to the City, and that all materials and workmanship are free from original or developed defects. The bond must remain in effect until the end of all warranty periods in the Contract Documents.

Should any bond become insufficient, renew the bond within 10 days after notice from the City.

If at any time the City finds any surety unsatisfactory, it will notify you and no additional payments will be due or made under the Contract until a new surety qualifies and the City accepts it.

Changes in the Work or extensions of time made pursuant to the Contract do not release you or the surety from your and its obligations and the Surety must waive notice of these changes or extensions.

1-5 THE CONTRACT DOCUMENTS.

1-5.1 General. Keep at the Work site a copy of the Plans and Specifications for the Engineer to access at all times. Supplement the Plans with those working drawings and shop drawings necessary to adequately control the Work.

If, either before beginning or during the work, you find any discrepancy between the Specifications and the Plans or between either of them and the physical conditions at the Work site or find any error or omission in any of the Plans or in any survey, promptly notify the City of the discrepancy, error or omission. Promptly notify the City in writing if you observe any plans or specifications at variance with any applicable law, ordinance, regulation, order or decree.

The City, on receiving the notice, will investigate the circumstances and give you appropriate instructions. Until then, any work you do after discovering an error, discrepancy or conflict directly or indirectly affected by the error, discrepancy or conflict, is at your risk and you bear all costs arising from it.

The City will provide, free of charge, three (3) copies of Plans and Specifications for you and one (1) copy of Plans and Specifications for each subcontractor listed in your Proposal. The City can provide additional copies of the Plans or Specifications at your expense. Keep one set of Plans and Specifications in good order and available to the City Representative at the Work site.

Titled sections of the Contract Documents, including, without limitation, the Specifications, are for convenience only and do not dictate the trade or craft involved.

Where "as shown," "as indicated," "as detailed," or words of similar meaning are used, they refer to the Drawings accompanying the Specifications unless stated otherwise. Where "provide," "furnish," "install," "complete," or words of similar meaning are used, they mean to put in place for the intended use or operation. Where "as directed," "as required," "as permitted," "as authorized," "as accepted," "as selected," or words of similar meaning are used, the Engineer's direction, requirement, permission, authorization, approval, acceptance or selection is intended unless stated otherwise.

Division 00 Procurement and Contracting Requirements, and Division 01 General Requirements, are a part of every section of the Contract Documents.

The Contract Documents are written in an abbreviated form, and may not include complete sentences. Omission of words or phrases like "Contractor shall," "shall be," etc., are intentional. Nevertheless, the requirements of the Contract Documents are mandatory. Omitted words or phrases are supplied by inference.

Words in the singular include the plural whenever applicable or the context indicates or requires.

In the interest of brevity, the Contract Documents frequently omit modifying words like "all" and "any" and articles like "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another does not affect the interpretation of either statement.

1-5.2 Contract Documents are Complementary and Inclusive. The Plans, Specifications and other Contract Documents govern the Work. The Contract Documents are complementary and cooperative. Anything in the Specifications not shown on the Plans or shown on the Plans and not in the Specifications are as though shown on or in both.

1-5.3 Conformance with Laws. As applicable, unless modified elsewhere in the Specifications, Contract Work must conform to the current editions of: Uniform Building, Plumbing, Mechanical Codes, Uniform Fire Code, National Electrical Code and City of Irvine Amendments to the aforementioned codes.

Perform all work according to the current editions and City of Irvine Amendments to, the California Building Code, the California Electrical Code, the California Plumbing Code with key amendments, California Green Building Standards Code, Building Energy Efficiency Standards, California Playground Safety Regulations, City of Irvine Codes & Ordinances, City of Irvine's Grading Manual, City of Irvine's Standards and Design Manual, City of Irvine's Park/Public Facility Standards, City of Irvine's Construction Site Security Requirements, Americans with Disabilities Act (ADA), Chapter 11B Title 24 of the California Code of Regulations, California Public Contract Laws, the Specifications, Attachments, and Construction Plans and all their applicable requirements.

Check and review the Contract Documents from a construction standpoint for conformity and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public utilities affecting the construction and operation of the physical portion of the Project, all quasi-governmental and other regulations affecting the construction and operation of the physical portion of the project and other special requirements, if any, designated in the Contract Documents. If you see any violation of any law, ordinance, code, rule or regulation or inconsistency with any restrictions or special requirements in the Contract Documents, give notice to the Engineer and correct the violation or inconsistency in the prescribed manner before beginning that portion of the Work. Unless specifically

stated otherwise in the Contract Documents, Contract Document provisions take precedence in resolving any violation and inconsistency between provisions of the Contract Documents and provisions of any laws, ordinances, codes, rules and regulations applicable to the Work unless applying the provisions of the Contract Documents would directly violate those laws, ordinances, codes, rules and regulations. If the requirements of this article or the Engineer's written interpretation or clarifications do not resolve the violation or inconsistency, the Engineer's decisions and directives regarding the Work are final.

1-5.4 Intent of Plans and Specifications. The Plans and Specifications describe the Work. The Specifications describe Work not indicated on the Plans like quality of materials, workmanship and execution; the Plans generally describe Work dimensions, elevations and general layout. The Specifications do not specify every item of Work shown on the Plans nor do the Plans show all Work described or specified in the Specifications even if the items could have been included. Provide all aspects of the Work on the Plans or in the Specifications or that are reasonably inferable from them necessary to complete the Work, whether or not the aspects of the Work are expressly covered in the Plans or the Specifications. You are responsible for insuring the Work is sound, quality construction and for including all direct and indirect costs and expenses to cover all items indicated, described or implied in the Work.

1-5.5 Ambiguity, Conflicts, Difference or Discrepancy. In the event of an ambiguity, conflict, difference or discrepancy between the various Contract Documents, the more stringent, higher quality, greater quantity and higher-level work controls. If discrepancies in the Contract Documents are not corrected by Addenda during the bid period, you warrant that the scope and amount of your bid includes all materials, supplies, equipment, services, facilities, apparatus and methods of construction to provide the higher cost, quantity and quality.

1-5.6 Priority of Addenda. Addenda take precedence over all other Contract Documents at the time of bid. Subsequent Addenda issued govern over prior Addenda only to the extent specified, where applicable and according to Title 24, California Code of Regulations.

1-5.7 Standard Technical Specifications of Societies, Institutions, Associations, etc. Any reference to standard technical specifications of any society, institute, association or governmental authority refers to that organization's standard technical specifications in effect on the date you submit your bid for the Work. If applicable standard technical specifications are revised before completing any part of the Work, you may, if acceptable to the Engineer, perform that Work according to the revised standard technical specifications. The standard technical specifications, except as modified in the Contract Documents, are as though printed in the Contract Documents. Before beginning any portion of the Work, check and review the Contract Documents from a construction standpoint for conformance and compliance with the provisions of all standard technical specifications, listed or otherwise. If you note a conflict, ambiguity or discrepancy between the provisions of the Contract Documents and standard technical specifications, notify the Engineer and ensure the conflict, ambiguity or discrepancy is corrected as prescribed before beginning that portion of the Work. Unless stated otherwise in the Contract Documents, provisions of the Contract Documents take precedence in resolving any conflict, ambiguity or discrepancy between the provisions of the Contract Documents and standard technical specifications. If the requirements of this article or the written interpretation or the Engineer's clarifications do not resolve the conflict, ambiguity or discrepancy, the Engineer's decisions and directives are final for proceeding with the Work. If you believe an Engineer's order establishes a basis for an adjustment in the Contract Amount, Milestones and Contract Time, then pursuant to Article 2, submit a Change Order Proposal within ten (10) days after the Construction Directive is issued.

1-5.8 Rules of Contract Interpretation. Provide the more stringent, higher quality material and work and greater quantities for the Work in the case of a conflict between the various sections of the Contract Documents, including the Plans and Specifications.

Where applicable, City-approved requirements on any item submitted as a Deferred Approval according to Title 24, California Code of Regulations, take precedence over any previously issued Addenda, Plan or Specification.

Except as provided in this section, in a conflict between the Plans, the following govern:

A. Specific notes govern over all other notes;
B. General notes, when identified as such, are incorporated in other portions of the Plans;
C. Schedules, when identified as such, are complementary with other notes and other portions of the Plans including those identified as general notes;
D. Larger scale Drawings govern over smaller scale Drawings;
E. Calculated, derived or numerical dimensions govern over scaled dimensions; do not perform or allow Work to be performed based on dimensions obtained by scaling the Drawings.

1-5.9 Ownership and Use of the Contract Documents. Neither you, your Subcontractors, nor your material or equipment suppliers, own or claim a copyright in the Plans, Specifications and other Contract Documents or use them on other jobs.

1-5.10 Document Retention Policy. Maintain at your sole expense for a period of ten (10) years after the Notice of Completion is recorded, a full set of project records including plans, specifications, correspondences, submittals, record documents and all other project documentation in hard copy or electronic form. If the City or its designated agent or representative makes a written request for the documents, produce or make them available for review and photocopying or electronic reproduction within ten (10) days of receiving the City's written request.

1-5.11 Request for Information (RFI) Procedures. This Section contains procedures Contractor shall follow when discovering any apparent conflicts, omissions, or errors in Contract Documents or when having any question about interpretation.

A. PROCEDURES
    1. Submit requests for clarification or additional information in writing to Engineer using Request for Information (RFI) form provided by Engineer or a similar, Engineer-approved form.
    2. Number RFIs sequentially. Add a sequential alphabetical suffix after the RFI number for each resubmission. For example, first RFI is 001, second is 002 and first resubmittal of RFI 002 is 002A.
    3. Limit each RFI to one subject.
    4. Submit an RFI if one of the following occurs:
        a. Contractor discovers an unforeseen condition or a circumstance not described in Contract Documents.
        b. Contractor discovers an apparent conflict or discrepancy between portions of Contract Documents that appears inconsistent or not reasonably inferred from intent of Contract Documents.
        c. Contractor discovers what appears to be an omission from Contract Documents that cannot be reasonably inferred from intent of Contract Documents.
    5. Submit an RFI or clarification when discovered. Submit RFIs promptly so as not to delay

Contract schedule and allow Engineer full response time described below.

6. Do not submit an RFI:
   a. As a request for substitution;
   b. As a submittal;
   c. Under pretense of a Contract Document discrepancy or omission without thoroughly reviewing documents;
   d. In a manner suggesting specific portions of Contract Documents are assumed excluded, or by taking an isolated portion of Contract Documents in part rather than in whole;
   e. In untimely manner without properly coordinating and scheduling Work of related trades.
   f. If Contractor submits an RFI contrary to any of above, Contractor shall pay cost of any review and Engineer shall deduct that cost from Contract sum.

B. RESPONSE TIME

1. Engineer, whose decision is final, shall resolve these questions and direct Contractor within a reasonable time. In most cases, Engineer will respond within 5 days. In cases involving complex issues or emergencies, parties may agree in writing to lengthen or shorten response time as appropriate.
2. If Contractor proceeds with affected work before receiving Engineer's response within timeframe described above, Engineer may require Contractor to remove or replace any portion of Work not done according to Engineer's interpretations, clarifications, instructions, or decisions and Contractor is responsible for all resulting losses.
3. If Contractor and Engineer cannot agree on the scope of Contract requirements, Contractor shall follow procedures set forth in General Conditions.

1-6 SUBMITTALS.

1-6.1 General. Provide submittals as specified or when the Engineer requests. Do not furnish or fabricate materials or perform any work requiring submittals before the Engineer reviews and accepts them. Neither the Engineer's review nor acceptance of submittals relieves you of responsibility for errors, omissions or deviations from the Contract Documents unless you specifically called them to the Engineer's attention in the letter of transmittal. You are responsible for the accuracy of the submittals. Allow a minimum of twenty (20) Working Days to review submittals unless otherwise stated in the Specifications. Include a transmittal letter with each submittal. Include payment for submittals in the contract unit price for various bid items. The review period begins again after each submittal or resubmittal.

In providing submittals, you certify they are complete in all respects and that all materials, equipment, and other work included conforms to the Contract Documents. Where the manufacturer, fabricator, subconsultant or designee designs or engineers an item, an engineer registered by the State of California, executing the design within the scope of his registration, must sign the drawings and supporting calculations. Unless the Engineer accepts it, only you may submit data. Data that, in the Engineer's opinion, are incomplete or which you have not checked or which are illegible or do not comply with Contract requirements will be returned to you for resubmittal in the proper form. The City may make this determination at any time during the review period.

Submit data in a format similar to the arrangement of the applicable section(s) of the Specifications unless otherwise specified. The City will return for resubmittal, without review, any submittal that does not follow the format specified and does not conform to the requirements listed below:

A. Data includes drawings and descriptive information in sufficient detail to show the kind, size, arrangement and operation of component materials and devices, the external connections, anchorages and supports required, performance characteristics, dimensions needed for installation and correlation with other materials and equipment, and all additional information required in the detailed section(s) of the Contract Documents. Identify field dimensions and show their relation to adjacent or critical features, work or products.

B. Calculations, when the Specifications require them, to support the adequacy of the design to meet specified performance ratings or requirements.

C. Each drawing or data sheet clearly marked with the name of the project, your name and references to applicable Specification paragraphs and Plan sheets. Collate submittals containing multiple drawings or data sheets prior to submittal.

D. Where data sheets, catalog cuts or drawings show more than the item under consideration cross out all but the applicable information. Submit only relevant pages; mark each copy of standard printed data to identify pertinent products referenced to Specification Section and Article number. Show reference standards, performance characteristics and capacities, wiring and piping diagrams and controls, component parts, finishes, dimensions and required clearances.

E. Include drawings showing wiring and pipe layouts on data submitted. Describe the proposed changes in a cover letter and show the essential details of the changes in the data submitted.

F. Present data clearly and thoroughly. Title each drawing with the project name and number; identify each element of the drawings by reference to a sheet number and detail, schedule or room number of the Contract Documents.

G. Provide manufacturer's preparation, assembly and installation instructions.

H. Submit a full range of manufacturer's standard finishes except when more stringent requirements are specified, indicating colors, textures, and patterns for the Engineer’s selection.

I. Submit samples to illustrate functional characteristics of products, including parts and attachments. Label each sample with identification required for the transmittal letter. The Specification section lists approved samples for the Work.

J. Provide field samples of finishes for the Work at a location acceptable to the Engineer as required by the individual Specifications section. Install each sample complete and finished. You may retain in the completed work, finishes in place that the Engineer has accepted.

A letter of transmittal listing the submittal contents must accompany submittals. Drawings must show the name of the project, your name and, if any, the names of suppliers, manufacturers and subcontractors. Submit shop drawings with enough time for the City’s review and in an orderly sequence according to the progress schedule to avoid delay in doing the Work. The City will return for resubmittal the following: drawings not submitted on either 11”x17” or 24”x36” sheets, submittals not accompanied by conforming transmittals and transmittals sent with an incomplete form.

Use a separate letter of transmittal for each specific item or class of materials or equipment that requires a submittal. Transmitting shop drawings on various items using a single letter of transmittal is permissible only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole.

The City will return any submittal sent (1) without a transmittal letter, (2) with an incomplete form, or (3) by facsimile.

Assign a unique sequential number to each submittal package clearly written in the space provided on the transmittal letter. Use this number in all correspondence to the City when referencing a particular submittal. Do not assign the same submittal number to different submittal packages.

On resubmittals, use the original submittal number followed by the revision number, i.e., the first resubmittal of submittal #1 is numbered 1R1, the second 1R2, etc. The City will return improperly numbered submittals and resubmittals without review. Indicate on the transmittal letter that either no exceptions to the Contract Documents are taken or deviations are submitted. List all deviations indicated on the transmittal letter. You are solely responsible for any omitted deviations. If any deviations are omitted, the City will return the submittal and the engineering data without review for resubmittal. You bear any consequences from the resulting delay.

The Engineer's review of your submittals covers only general conformity to the Contract Documents. The Engineer's acceptance of drawings returned marked NO EXCEPTION TAKEN or RESUBMITTAL NOT REQUIRED (CORRECTIONS ARE NOTED) does not constitute a blanket approval of dimensions, qualities and details of the materials, equipment, device or item shown and does not relieve you of any responsibility for errors, omission or deviations from conforming to the Contract Documents. The City reserves the right to reject any previously accepted equipment, material and construction method that deviates from the Contract Documents. When the City returns drawings and data marked CORRECT AND RESUBMIT, make the corrections noted as the Engineer instructs then resubmit in the same manner as the original submittal.

If the Engineer rejects the submittal, you are responsible for any subsequent time delays at no additional compensation from the City. Subject to these requirements, drawings and data, after final processing by the Engineer, become part of the Contract Documents and the work they show or describe is performed in conformity with them unless the Engineer requires otherwise. In the event of conflict between accepted submittals and other Contract Documents, the most stringent requirements apply unless the City has agreed in writing to less stringent requirements in response to a deviation listed on a submittal letter of transmittal.

Do not begin any part of the Work requiring a submittal until the Engineer has reviewed it and returned it to you with a notation indicating that resubmittal is not required.

The Engineer's review is only of general conformance with the design of the project and general compliance with the Contract Documents. It does not relieve you of full responsibility for providing Contract-required materials, equipment and work, properly fitting and constructing the Work, providing accurate and complete submittals, selecting construction fabricating processes and techniques and performing the Work safely.

1-7 WORK TO BE DONE. Perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, furnish all materials, equipment, tools, labor and incidentals necessary to complete the Work. Leave the Work area in a neat condition. Perform any work not shown in the Plans or Specifications but necessary to complete the Work according to law and government codes and regulations as if in the Plans and Specifications.

Remove and dispose of all structures, debris or other obstructions of any character necessary to accommodate the Work. Where the obstructions are improvements the City is not legally required to remove, you must remove, maintain and permanently replace them at your expense.

1-8 SUBSURFACE DATA. Soil and test hole data, groundwater elevations and soil analyses shown on the Plans or included in the Specifications apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes already drilled are available for inspection at the Engineer's office. You may perform additional subsurface exploration at your own expense. The indicated groundwater elevation is that which existed on the date specified in the data. It is your responsibility to determine and allow for the groundwater elevation on the date you perform the Work. A difference in groundwater elevation between that shown in soil boring logs and that actually encountered during construction is not a basis for Extra Work per 2-3.

1-9 RIGHTS OF WAY.

The City has provided rights of way, easements, agreements, licenses or rights of entry (collectively, right of way) for the Work. The City may also have acquired temporary right of way to construct one or more portions of the Work. If the City did acquire temporary right of way, the documents or their contractual terms and obligations are included in the Contract Documents. Comply with all the terms and obligations related to the physical use of the temporary right of way and the eventual return of the property to the owner. Schedule Work that may include landscape establishment, maintenance periods and final acceptance within the temporary right of way to start and finish within the time allotted in each temporary right of way agreement. If, through no fault of the City, there is a work delay, you are responsible for all costs the City incurs to extend use of the temporary right of way.

1-10 REFERENCE POINTS AND ELEVATIONS.

1-10.1 General. When required by the Work, the City will furnish at its expense an engineering survey of the project site giving, as applicable, benchmark elevation points, property lines and corners. Lay out the Work and preserve all established benchmark elevation points, property lines and corners and do not demolish, relocate or change the location of any benchmark elevation point, property line or corner without the Engineer's prior written approval. If any benchmark elevation point, property line or corner is lost, destroyed or relocated, notify the Engineer before replacing and relocating it. At your expense, engage the services of a State of California licensed surveyor to replace and relocate benchmark elevation points, property lines or corners lost, destroyed or relocated.

1-10.2 Conformity with the Contract Documents. The Work must conform to the lines, grades, dimensions, tolerances and material and equipment requirements shown on the Contract Documents. Although the Engineer may consider measurement, sampling and testing in determining conformity, the Engineer is the sole judge of whether the work or materials deviate from the Contract Documents and that decision is final.

If the Plans do not show specific lines, grades and dimensions, those the Engineer furnishes govern.

1-11 ENGINEER'S AUTHORITY. The Engineer is authorized to enforce compliance with the Plans and Specifications. Promptly comply with the Engineer's instructions. The Engineer's decision is final and binding on all questions relating to quantities, acceptability of material, equipment or work, execution, progress or sequence of work and interpretation of the Plans, Specifications or other Contract Documents. This precedes any payment under the Contract unless the Engineer orders otherwise.

Subject to the provisions of Government Code § 8546.7, this Contract and all related documents are subject to the examination and audit of the State Auditor at the request of the City or as part of any audit of the City, for a period of three (3) years after final payment under the Contract.

At the City's request, prepare and give the City any reports concerning your performance under this Contract. The City may also, at any time with 72 hours advance written notice, audit your books, records and documents related to your performance and your compliance with all Contract terms and conditions.

All drawings, documents, and other materials you prepare in performing this Contract are:

A. City property. At the City's request or upon termination of the Contract, deliver them to the City at your cost; and
B. Confidential. Do not make them available to any individual or entity without the City's prior written consent.

1-12 INSPECTION.

1-12.1 General. The City Representative will inspect the Work and the inspection will include monitoring and enforcing compliance of materials, equipment, installations, workmanship and methods to requirements of the Contract Documents.

The City Representative must, at all times, have safe access to the Work during construction and must be given every reasonable means to ascertain the progress, workmanship and character of materials and equipment used in the Work.

If you change project work hours and require City inspection services during those hours, give the Engineer at least two (2) Working Days written notice to arrange them.

The City Representative will inspect all installations to be backfilled or covered before backfilling. Give the City Representative a minimum of two (2) Working Days advance notice before backfilling or covering any part of the Work.

Work performed or materials concealed without the required notice specified above is subject to any tests or exposure necessary to prove to the Engineer's satisfaction that all materials used and work done conform to the Contract Documents. Furnish and pay for all labor and equipment necessary to expose, test and replace, at no cost to the City, any materials or work damaged by exposure or testing.

At your expense, make good defective work including any unsuitable materials and equipment the City Representative inspected and whose payment has been included in an estimate for payment.

Inspection of the Work does not relieve you of your obligation to fulfill all Contract requirements.

Send all Work-related inspection submittals and correspondence between you and the City to the Engineer.

Follow directions and procedures for code inspections mandated by building permits. The City will charge contractors for additional inspection fees for the third (3rd) re-inspection on any item and every re-inspection thereafter.

1-12.2 Inspection Requirements. Notify the City Representative a minimum of two (2) Working Days before inspection is required.

Unless stated elsewhere in the Specifications, the City will inspect the Work between 7a.m. and 3:30 p.m., Monday through Friday, excluding City holidays. Pay for any inspections required by your actions outside these hours at the prevailing rate of 1 1/2 times the regular hourly wage rate plus 21 percent for overhead costs.

A. Submit a request to the Engineer for approval a minimum five (5) Calendar Days, before inspections are required as a result of your actions on Saturdays, Sundays or City and federal holidays. Pay for these inspections at the prevailing rate of 1 1/2 times for Saturdays and 2 times the regular hourly wage rate for Sundays or City and federal holidays plus associated overhead costs.

B. For purposes of this section, the City observes the following holidays:
   1. New Year's Day
   2. Martin Luther King Jr. Day
   3. Presidents' Day
   4. Memorial Day
   5. Independence Day
   6. Labor Day
   7. Veterans Day
   8. Thanksgiving Day
   9. Day after Thanksgiving
   10. Christmas Eve
   11. Christmas Day

   A construction calendar showing the days each of these holidays are observed is available from the Engineer.

C. Telephone the City Representative at least two (2) Working Days before starting construction or resuming construction after suspension of the Work for any reason.

   Before beginning any work on the Contract, submit a complete City of Irvine Inspection Overtime Permit form.

D. In addition to any inspection required by Codes and Ordinances or Contract Documents, notify the Engineer a minimum of two (2) Working Days before permanently concealing any materials or work. The following list is typical but not inclusive of such required inspections:
   1. Foundation/subgrade material, footing and slab beds
   2. Reinforcing for concrete, masonry and plaster
   3. Contact surface of concrete forms

4. Concrete and masonry surfaces
5. Piping and conduit
6. Finish grade prior to paving, seeding or planting
7. All soil mixes prior to installation
8. All chemicals and amendments prior to installation or application
9. Framing
10. Insulation
11. Waterproofing

1-13 SPECIAL NOTICES. Any notice to be served according to this section, whether provided in the Specifications or directed by the Engineer, must be in writing, dated and signed by you or the Engineer. These notices are not effective unless served as follows:

A. Notice to the City: by personal delivery or by deposit in the United States mail, in a sealed envelope addressed to the City, postage paid and registered.
B. Notice from the City to you: by personal delivery to you or to your authorized representative or by deposit in the United States mail, in a sealed envelope addressed to you at your regular place of business or any other address established to conduct the work under this Contract, postage paid and registered.
C. Notice to the surety or to any other person: by personal delivery, or by deposit in the United States mail, in a sealed envelope addressed to the surety or person at the address of the surety or person given to the noticing party, postage paid and registered.

1-14 CORRESPONDENCE. Unless the Engineer specifies or requests otherwise, do not send routine correspondence, including submittals, by facsimile (fax) machines or internet email. The City will allow internet email for urgent matters such as notification of a change of conditions. Unless otherwise allowed by the Engineer, direct all internet email to the Engineer. The Engineer will give you his/her internet email address at the pre-construction meeting. Internet email received after 2 p.m. is considered received the following Working Day. Follow up all internet email with a paper copy mailed to the Engineer on the same day you send the internet email. The Engineer will not accept any illegible internet email correspondence.

1-15 CONTRACT COORDINATION. Coordinate scheduling, submittals and the Work to assure an efficient and orderly sequence of installing construction elements that will accommodate later installations.

Hold coordination meetings and pre-installation conferences with City Representatives and subcontractors in addition to the weekly progress meetings required by the City, to assure coordination of the Work.

If the City exercises partial Acceptance or beneficial occupancy of the premises, coordinate site access to complete work or to correct defective work and work not strictly conforming to the Contract Documents to minimize disruption of the City's activities.

ARTICLE 2 – CHANGES IN THE WORK

2-1 CHANGES REQUESTED BY THE CONTRACTOR.

2-1.1 General - The Engineer may grant changes to the Plans and Specifications that you request in writing, which do not materially affect the Work and which are not detrimental to the Work or to the City's interests. This does not grant you the right to demand that the Engineer accept your changes.

To request a change, submit a written Change Order Request to the Engineer that contains:

A. Description of the proposed changes;
B. Statement of the reason for the changes;
C. Reference to applicable Specifications sections and specific plans that support your request;
D. Statement of the effect on the Contract Price and Contract Time;
E. Statement of the effect on the work of separate subcontractors;
F. Documentation supporting any change in Contract Price or Contract Time, if appropriate.

2-2 CHANGES REQUESTED BY THE CITY.

2-2.1General. The City may issue a written Change Order that includes the dollar value of the change or establishes the payment method and any adjustment in the Contract Time to modify the Work including, but not limited to, the Plans, Specifications, character, quantity or time of the Work.

The Engineer may order minor changes in the Work not involving an increase or decrease in the Contract Price, or a change in the time for completion but that are consistent with the purposes for which the works are being constructed. If you believe any order for minor changes in the Work involves changes in the Contract Price or time of completion, stop work on the minor changes ordered and immediately after receiving the order, notify the Engineer in writing of your estimate of the change in the Contract Price and time of completion.

The City will not pay for changes in the Work or in the time of completion unless the changes are covered by a City-approved, written Change Order before you begin the changed work.

Once both parties execute a Change Order it is final and you waive your right to seek additional compensation for the work covered or by any project impacts. All Change Orders constitute full payment for the work they cover, including all direct and indirect overhead expenses.

Despite any other provision in the Contract Documents, the City's Change Order does not constitute the City's waiver of, or preclude the City from asserting, any claim respecting it, including but not limited to, a claim of breach of contract or a claim that the issued Change Order covers work included in the scope of Work in the Contract Documents for which you were not entitled to additional funds and time extension.

A Change Order is approved when the City signs it and a purchase order is issued.

The Engineer may approve and issue a Contract Change Order at any time. If you disagree with any terms or conditions in an approved Contract Change Order, you did not execute, proceed with the Change Order work according to 2-5 of the Specifications and submit a written protest to the Engineer within fifteen (15) days after receiving the approved Contract Change Order. The protest must include the points of disagreement and cite the Specification references, quantities and costs involved. If you

do not submit a written protest, you will be paid per the approved Contract Change Order and that payment constitutes full compensation for all work included in or required by it. The City considers unprotested approved Contract Change Orders as executed Contract Change Orders.

The Engineer may also initiate changes by sending you a Request for Quotation that includes a detailed description of the change, products, location of the change and supplementary or revised Plans and Specifications. This request is not an instruction to execute the changes or to stop work in progress.

Support each quotation for a lump-sum proposal and for each unit price not previously established, with sufficient substantiating data to allow the Engineer to evaluate the quotation.

On request, provide additional data to support time and cost computations, labor, equipment, product requirements, a recommended purchase source and unit cost and quantities required, taxes, insurance as well as credit for work deleted from the Contract, similarly documented, and justification for any change in Contract Time.

Support each claim for additional costs and for work done on a time-and-material/force account basis with the documentation required for a lump-sum proposal, plus the following:

A. Name of the City Representative who ordered the work and the date of the order;
B. Dates and times work was performed and by whom;
C. Time record, summary of hours worked and hourly rates paid;
D. Receipts and invoices for equipment used showing dates and times of use, products used, quantities and subcontracts.

In lieu of a Request for Quotation, the Engineer may issue a written Field Order for you to proceed with a change subsequently included in a Contract Change Order. Field Orders describe changes in the Work, both additions and deletions, and include a copy of revised Contract Documents defining details of the change and designate how any change in the Contract Price and the Contract Time is determined. The Engineer will sign and date the Field Order as authorization for you to proceed with the changes. You may sign and date the Field Order to indicate agreement with its terms. Do the work ordered before you receive an approved Contract Change Order.

2-2.2 Contract Unit Prices.

2-2.2.1 General. If a change is ordered in a work item covered by a Contract Unit Price not involving a substantial change in the character of the work from that shown on the Plans or stated in the Specifications, the City will adjust payment based on the increase or decrease in the quantity and Contract Unit Price.

If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 25 percent or less, payment will be at the Contract Unit Price. If the actual quantity of the item of work varies from the Bid quantity by more than 25 percent, payment will be per 2-2.2.2 or 2-2.2.3.

In the case of an increase or decrease in a Bid Item, using this basis to adjust payment is limited to that portion of the change that, together with all previous changes to that item, does not exceed 25 percent of the total cost of the item based on the original quantity and Contract Unit Price.

2-2.2.2 Increases of More than 25 Percent. If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications exceeds the Bid quantity by more than 25 percent, payment for the quantity in excess of 125 percent of the Bid quantity is based on an adjustment in the Contract Unit Price we mutually agree to or, at the Engineer's option, on the basis of Extra Work per 2-3. The Extra Work per 2-3 basis of payment does not include fixed costs. You recover fixed costs through payment for 125 percent of the Bid quantity at the Contract Unit Price. If payment for units of a bid item that exceeds125 percent of the price shown on the Bid Item List is less than $5,000 at the unit price, the Engineer may not adjust the unit price unless you request an adjustment in writing.

2-2.2.3 Decreases of More than 25 Percent.
If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications is less than 75 percent of the Bid quantity, there is no payment adjustment payment unless you request one in writing. If you make a request, payment is based on an adjustment in the Contract Unit Price mutually agreed to or, at the Engineer's option, based on Extra Work per 2-3. In no case, however, will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 75 percent of the Bid quantity at the Contract Unit Price.

2-2.3 Agreed Prices. If mutual agreement cannot be reached, the Engineer may direct you to proceed on the basis of Extra Work per 2-3, except as otherwise specified in 2-2.2.2 and 2-2.2.3. Agreed prices must be negotiated before beginning the changed work.

2-2.4 Eliminated Items. If any Bid item is eliminated, payment will be for your actual costs incurred in connection with the eliminated item before written notification from the Engineer stating its elimination. If you order material conforming to the Plans and Specifications to use in the eliminated item before the date the Engineer notifies you of its elimination and that order cannot be canceled, you will be paid for the actual cost of the material which then becomes the City's property. The City will pay you for additional actual handling costs. If the material can be returned, you must return it and the City will reimburse you for the actual cost to do so as well as any handling charges. Actual costs as used here are computed based on Extra Work per 2-3.

2-2.5 Acceleration Clause.

A. The City reserves the right to accelerate the Work. If the City directs acceleration, its directive will be in writing. Keep cost and other project records related to the acceleration directive apart from normal project costs and records and provide a daily written record of the acceleration cost to the City.
B. If you believe that the City's action or inaction constitutes an acceleration directive, immediately notify the City in writing. In your written notification, detail the circumstances of the acceleration directive. Do not accelerate your work efforts until the City responds. If the City directs or requires acceleration, maintain all cost records referred to above and provide them to the City daily.
C. To recover additional costs due to acceleration, document the additional expenses you incurred and paid. The only recoverable labor costs are overtime or shift premium costs or the cost of additional laborers brought to the Site to perform the accelerated work. The only recoverable equipment costs are the cost of added equipment mobilized to the Site to perform the accelerated work.

2-3 EXTRA WORK.

2-3.1 General. The Engineer will classify new or unforeseen work not covered by Contract Unit Prices as Extra Work.

All costs set forth in A through J, below, are part of your overhead and profit and as included in the Contract Amount and covered in 2-3.2.6. Do ***not*** include any of the following in the Cost of the Work:

A. Payroll costs and other compensation of your project manager, superintendents, project engineers, officers, executives, principals, owners, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel you employ at the Project site or in your principal or a branch office for general administration of the Work;
B. Costs and expenses of your principal office, branch offices and office located at the Project site;
C. Any part of your capital expenses, including interest on your capital employed for the Work and charges against you for delinquent payments;
D. Cost of premiums for all bonds and for all insurance whether or not the Contract Documents require you to purchase and maintain them excepting the cost of premiums in 2-3.2.6;
E. Costs due to negligence, act or failure to act by you, any subcontractor, or anyone else directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, correcting defective Work, disposal of materials or equipment furnished in error and repair and replacement of any property damage;
F. Consumable materials, such as drill bits, abrasive discs, gloves, rags, rope, welding tips, etc.;
G. Tools and equipment with an original costs of less than $1,000;
H. Other overhead or general expense costs of any kind and the cost of any item not specifically set forth in 2-3.2.6;
I. Consequential expenses including bonding capacity impairment, lost opportunity, labor, wage or cost escalations, legal expenses or changes in taxes;
J. All costs in 2-3.1 apply to any claims of subcontractors and suppliers, regardless of tier.

2-3.2 Payment.

2-3.2.1 General. When we cannot agree on the price for extra work before you begin it, the City will pay for the extra work based on the accumulation of costs provided here.

2-3.2.2 Basis for Establishing Costs.

A. Labor - The cost of labor is the actual cost for the wages of workers performing the Extra Work, plus employer paid payroll taxes, workers' compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds and other direct costs resulting from federal, state, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.

   Do not use a labor classification that would increase the Extra Work cost unless you establish the need for it. Report labor costs for equipment operators and helpers only when the costs are not included in the invoice for the equipment rental. The labor cost for foremen must be only for time spent on the Extra Work.

B. Materials - Report the cost of materials at the invoice or lowest current price at which the materials are locally available and delivered to the Work site in the quantities required plus sales tax, freight and delivery. The City reserves the right to approve materials and supply sources or

to supply materials to you if necessary for the progress of the Work. The City will not apply a markup to any material it provides.

2-3.2.3 Tools and Equipment Rental. To determine equipment rental rate costs, use the rates listed for the equipment in the State of California, Department of Transportation (Caltrans) publication "Equipment Rental Rates and Labor Surcharge," available from Caltrans at http://www.dot.ca.gov/hq/construc/equipmnt.html, in effect on the date the work is performed, regardless of ownership and any rental or other agreement you enter into to use the equipment. If the Engineer decides it is necessary to use equipment not listed in that publication, the Engineer will establish a suitable rental rate. You may furnish any cost data that might assist the Engineer to establish the rental rate. Rental time is not reimbursed while the equipment is inoperative due to breakdowns.

Operators of rented equipment will be paid as provided in 2-3.2.2.

The rental rates paid include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance necessary equipment loading, transportation costs and all incidentals.

Equipment used intermittently that could, when not in use, be returned to its rental source at less expense to the City than holding it at the Work site, must be returned unless you elect to keep it at the Work site at no expense to the City.

All equipment must be acceptable to the Engineer, in good working condition and suitable for the purpose for which it is used.

The reported rental time for equipment already at the Work site is the duration of its use on the Extra Work. This time begins when the equipment is first used on the Extra Work plus the time required to move it from its previous site and back or to a closer site.

2-3.2.4 Other Items. The City may authorize other items required on the Extra Work including labor, services, material and equipment. These items must be different from those required for the Work and be of a type not ordinarily available from you or subcontractors.

2-3.2.5 Invoices. Submit vendors' invoices for material, equipment rental and other expenditures with the daily report per 2-3.3. If you do not substantiate the daily report with invoices or other documentation, the City will establish the cost of the item involved at the lowest price that was current at the time of the report.

2-3.2.6 Markup.

2-3.2.6.1 Work by Contractor. The City will add the following percentages to your costs as determined under 2-3 that constitutes the markup for all overhead, increase in your bonds, administrative expenses and profit on your work:

A. Labor	20%
B. Materials	15%
C. Equipment Rental	15%
D. Other Items and Expenditures	15%

2-3.2.6.2 Work by Subcontractors. When any part of the Extra Work is performed by a subcontractor of any tier, the markup established in this section will be applied to the subcontractor's actual cost of the work. Your markup on subcontractor work is limited to 5 percent.

The City will not pay for any item not set in 2-3.2.6.1 and 2-3.2.6.2, including without limitation, your overhead, general administrative expense, supervision or damages claimed for delay in performing the remainder of the Work.

Do not construe this to preclude recovery of your damages stemming from a delay the City is responsible for that is unreasonable under the circumstances and was not within our mutual contemplation.

2-3.3 Contractor Daily Reports. When we cannot agree on the cost of the Extra Work, submit a daily report to the Engineer on City-approved forms that includes applicable delivery tickets listing all labor, materials and equipment involved for that day and other authorized services and expenditures. If you do not submit the daily report by the close of the next working day, you waive any rights for that day. The City will try to reconcile the report daily, which you and the City Representative will sign. If there is a disagreement, each party will enter relevant notes to explain the points in question. Each party keeps a signed copy of the report. Submit reports by subcontractors or others to the City.

Notify the City Representative at the beginning of each day when Extra Work is in progress. The City will not pay for work it has not verified.

The report shall:

A. List the names of workers, classifications and hours worked
B. Describe and list quantities of materials used
C. List the equipment type, size, identification number and hours of operation including loading and transportation, if applicable
D. Describe other services and expenditures the City requires.

2-3.4 Price Reduction for Defective Cost or Pricing Data.

A. If the City determines that any price, including profit or fee, negotiated in connection with any Change Order or claim settlement under this Contract, or any cost reimbursable under this Contract, was increased because:
    1. You furnished cost or pricing data that was not accurate, complete and current as certified in your Certificate of Current Cost or Pricing Date;
    2. A subcontractor, supplier, materialman or prospective subcontractor at any tier furnished cost or pricing data to support a subcontract in your cost estimate that was not accurate, complete and current on the date certified in your Certificate of Current Cost or Pricing Data; or,
    3. You or a subcontractor, supplier, materialman or prospective subcontractor at any tier furnished data not within 1 or 2 above, which was not accurate.
B. The City will reduce the price and modify the Contract in writing, if necessary, to reflect the reduction. Any reduction in the Contract price because of a prospective subcontractor's defective subcontract data, when the subcontract was not awarded to that subcontractor, is limited to the amount plus applicable overhead and profit, by which the actual subcontract or actual Contract cost if there was no subcontract, was less than the prospective subcontract cost

estimate you submitted, provided that the actual subcontract price was not affected by the defective cost or pricing data.

C. Provide the following certification on all Change Order cost quotations or requests or all requests for equitable adjustment exceeding $5,000.

CERTIFICATE OF CURRENT COST AND PRICING DATA

This is to certify that, to the best of my knowledge and belief, cost or pricing data submitted in writing, or specifically identified in writing if actual submission of the data is impractical, to the City to support (proposal quotation, request for equitable adjustment, or other submissions involved, appropriately identified) are accurate, complete and current as of (date).

Contract No. _____

Proposed Change Order No. _____

Company: _____

Name: _____

Title: _____

Date: _____

Signature: _____

2-4 CHANGED CONDITIONS. Notify the Engineer of the following Work site conditions, "changed conditions," in writing, when discovered and before disturbed:

A. Subsurface or latent physical conditions differing materially from those represented in the Contract Documents;
B. Unknown physical conditions differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
C. Remove to a Class I, Class II or Class III disposal site according to provisions of existing law, material differing from that in the Contract Documents you believe may be hazardous waste as defined in § 25117 of the Health and Safety Code

The Engineer will investigate conditions that appear to be changed conditions. If the Engineer determines that conditions are changed conditions and will materially affect costs, the Engineer will issue a Change Order adjusting compensation for that portion of the Work according to 2-2.2, and you may submit a written request for a time extension according to 5-6, which the Engineer will grant.

If the Engineer determines that the conditions do not justify a compensation adjustment, you will be notified in writing. The notice will also advise you of your obligation to notify the Engineer in writing if you disagree.

If you disagree with the decision, submit a written notice of potential claim to the Engineer before beginning the disputed work. This dispute does not excuse you from any scheduled completion date in the Contract and you must proceed with all Contract Work. However, you retain all rights provided either by the Contract or by law pertaining to dispute and protest resolution between the contracting parties. Proceed according to 2-5.

Failing to give notice of changed conditions when discovered and before being disturbed constitutes a waiver of all claims connected to them.

2-5 DISPUTED WORK. If we are unable to reach agreement, the City may direct you to proceed with the Disputed Work and will pay you pursuant to 2-2, 2-3, mediation or arbitration if the City and Contractor agree to it, or as fixed in a court of law.

Keep and furnish records of Disputed Work to the Engineer according to 2-3 but do not construe this as proceeding under 2-3.

ARTICLE 3 – CONTROL OF MATERIALS

3-1 MATERIALS AND WORKMANSHIP.

3-1.1 General. Furnish all materials required to complete the Work, except materials the Specifications designate as City-furnished materials.

All materials, parts, and equipment you furnish for the Work must be new, high grade and defect free. Do not use used materials, parts and equipment unless allowed in the Specifications.

The quality of materials and workmanship are subject to the Engineer's approval. The Engineer will reject materials and workmanship that do not conform to the requirements of the Specifications. At the Engineer's direction, immediately remove defective work or material, whether in place or not, from the Work site at your expense.

If you fail to replace defective or damaged work or material after reasonable notice, the Engineer may have the work or materials replaced and deduct the replacement expense from money owed you.

3-1.1.1 Contractor Equipment and Plants. Operate only equipment and plants suitable to produce the quality of work and materials required on the project. Maintain the equipment and plants in good repair during the Work. Do not use obsolete or badly worn equipment and plants; do not exceed the Manufacturer's ratings.

Design and construct plants according to the general practice for the equipment and with enough capacity to ensure a material production rate adequate to ensure completion within the time limit(s) specified in the Contract Documents, if any.

When ordered by the Engineer, remove unsuitable equipment from the Work site and do not use the unsatisfactory plants and equipment.

3-1.1.2 Adoption or Revision Date for Standards, Codes and Tests. Whenever a standard, code, specification, or test is referred to and the designation representing the adoption date or the latest revision is omitted, use the latest revision of the standard, code, specification or test in effect on the day the Notice Inviting Bids is dated.

Submit, according to Public Contract Code § 3400, data substantiating requests for substitution of "equal" items within thirty-five (35) days of Contract award or before 10 percent of the Contract Working Days have expired, whichever is less. This time is included in the number of Working Days allowed to complete the Work. The Engineer's decision regarding substitution acceptability is final.

Materials, equipment and supplies provided must, at no charge to the City, fully conform to all applicable local, state and federal safety laws, rules and regulations and orders and provide only those materials, equipment, and supplies even though omitted in the Contract Documents, of the particular material, equipment or supply specified.

3-1.2 Protection of Work and Materials. Provide and maintain storage facilities and employ measures that preserve the specified quality of materials used in the Work. Stored materials must be reasonably accessible for inspection. Adequately protect new and existing work and all equipment for the duration of the Contract.

Do not, without the City's written consent, assign, sell, mortgage, pledge or remove installed or delivered equipment or materials necessary to complete the Work.

3-1.3 Inspection Requirements. The Engineer may inspect and test materials for the Work. Supply without charge, any samples that may be required

Give the Engineer a list of your sources of materials including locations where the materials will be available for inspection a minimum of twenty (20) Calendar Days before they are used. The Engineer may inspect, sample or test materials at the supply source or at other locations but the inspection, sampling or testing will not happen until you assure the Engineer of both your cooperation and assistance and that of the material supplier. Insure that the Engineer has free access at all times to the material inspected, sampled or tested. These inspections and tests, if made other than where the material will be incorporated in the Work, do not guarantee acceptance of the material or the continued acceptance of material presumed similar to what the City inspected and tested The City's inspection and testing do not relieve you or your suppliers of responsibility for quality control.

Deliver the manufacturers' warranties, guarantees, instruction sheets and parts lists furnished with certain materials incorporated in the Work, to the Engineer before the Contract Work is accepted.

You may examine reports and records of inspections made and tests performed when they are available at the Work site.

3-1.3.1 General. The Engineer may inspect material production or product manufacture at the supply source but not before you assure the Engineer of the cooperation and assistance of both you and the material producer. The Engineer must have free entry at all times to the parts of the plant that concern the manufacture or production of the materials. Furnish free of charge, adequate facilities to make the necessary inspection. The City assumes no obligation to inspect materials at the supply source.

Unless otherwise stated in the Specifications, inspection is required at the source for asphalt concrete pavement mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application and similar shop or plant operations. The Specifications list additional materials and fabricated items that require inspection at the source.

Steel pipe in sizes less than 18 inches and vitrified clay and cast iron pipe in all sizes, are acceptable when certified as compliant with the Specifications subject to sampling and testing by the City. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are inspected only at the Work site. Special items of equipment like designed electrical panel boards, large pumps, sewage plant equipment, etc., are inspected only at the performance testing source. Inspection at the source for other items is provided in the Specifications.

3-1.3.2 Inspection of Materials Not Locally Produced. When you intend to purchase materials, fabricated products or equipment from sources more than 50 miles beyond the City's geographical limits, engage at your expense an inspector or accredited testing laboratory, approved by the Engineer, to inspect the materials, equipment or process before producing any material or equipment. The inspector or representative of the testing laboratory must evaluate the materials to confirm they comply with the requirements of the Plans and Specifications. Forward the required reports to the Engineer. The approved agent must conduct a proper inspection before any materials ship or are processed, fabricated or treated. The agent's approval does not relieve you of your responsibility for complying with the requirements of the Contract Documents.

3-1.3.3 Inspection by the City. The City will provide all inspection and testing laboratory services within 50 miles of its geographical limits.

3-1.4 Test of Materials. Before incorporation into the Work and at no cost to the City, submit samples of materials the Engineer may require and deliver the materials for testing to the place and at the time the Engineer designates. The Engineer may direct, unless otherwise specified, all initial testing and a and two additional retests at no expense to you. The Specifications identify testing you provide and pay for.

To allow enough time to perform the tests, notify the Engineer in writing at least twenty (20) Working Days before you intend to use the materials. The notice must name the proposed supplier and the material source.

If you send the notice of intent to use before the materials are available for testing or inspection, or so far in advance that the materials on hand at the time will be replaced by a new lot before it's used on the Work, re-notify the Engineer when representative samples are available.

The Engineer or a designated representative will make the inspection and testing but if made at any point other than at the point of incorporation in the Work, they do not guarantee acceptance of the materials nor of continued acceptance of materials presumed similar to those inspected and tested.

Test materials according to commonly recognized procedures of technical organizations and any special procedures prescribed in the Contract Documents. Material sampling and testing will occur when, during the process of the Work, the Engineer deems desirable; cooperate in obtaining the samples.

3-1.4.1 Testing Laboratory. Use and pay for the services of an independent testing laboratory, subject to the City's approval, to perform other testing and inspection services required by the Contract Documents.

Before starting Work, submit the name, address and telephone number of your testing laboratory as well as the names of a full-time registered engineer and a responsible officer.

Using testing laboratories does not relieve you of your obligation to perform the Work according to the Contract Documents.

Laboratory field technicians employed by the City have no authority to release, revoke, alter or enlarge on the requirements of Contract Documents or to approve, accept or stop any portion of the Work.

You must:

A. Cooperate with laboratory personnel, provide access to work and arrange access to manufacturer's operations.

B. Provide preliminary representative material samples to the laboratory in the required quantities.

C. Furnish copies of mill test reports.

D. Provide casual labor and facilities for access to work being tested, obtain and handle samples at the site, facilitate inspections and tests and provide facilities for the laboratory's exclusive use to store and cure test samples.

E. Coordinate testing requests through the City Representative. Notify the City Representative at least three (3) Working Days before operations to allow for assignment of personnel and scheduling of tests.

F. Pay for additional laboratory inspections, sampling and testing required for your convenience and when initial tests indicate that work does not comply with Contract Documents.

G. When required by the Contract Documents, submit the manufacturer's certificate, executed by a responsible officer, certifying that the product(s) meet or exceed specified requirements. Provide the certification in duplicate.

3-1.5 Certificate of Compliance. Give an original, wet signed Certificate of Compliance to the Engineer before using any material or assembled material required by the Specifications or the Engineer.

The Engineer may waive Specifications materials testing requirements and accept the manufacturer's written certificate of compliance that the supplied materials meet those requirements. The Engineer may require inclusion of materials test data with the submittal.

Materials used based on a Certificate of Compliance may be sampled and tested at any time. Submitting a Certificate of Compliance does not relieve you of responsibility for incorporating material into the Work that conforms to the requirements of the Contract Documents. The Engineer may reject any material not conforming to the requirements whether in place or not.

3-1.6 Trade Names or Equals. You may supply any of the materials specified or offer an equivalent. The Engineer will determine whether the material offered is equivalent to that specified. Allow adequate time for the Engineer to make this determination.

A materials list is not intended to be comprehensive or in order of preference. You may offer any material, process or equipment you consider equivalent to that indicated. At your expense, furnish data about items you offer as equivalent to those specified as provided in the Contract Documents.

If the Engineer requires it, test the material to confirm that its quality, strength, physical, chemical or other characteristics including durability, finish, efficiency, dimensions, service and suitability will allow it to fulfill its intended function. The Engineer must approve the test methods. Report the test results promptly to the Engineer who will evaluate them and determine whether the substitute item is equivalent.

The Engineer's findings are final. Do not install and use a substitute item until the Engineer approves it.

If your substitute is not found equal to the specified material you must furnish and install the specified material. No circumstances resulting from the provisions of this section affect the Contract completion time.

Submit a products list as follows:

A. Within the time stated in the Specifications, send the Engineer the number of copies you need plus four (4) of a list of major products you propose installing that includes the manufacturer's name. Arrange the products by specification section number, title and article number.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation and reference standards.

C. The Engineer will reply in a writing that states whether there is a reasonable objection to the listed items. Failure to object to a listed item does not constitute a waiver of Contract Documents requirements.

The following limitations apply to substitutions:

A. The City will only consider requests for substitutions of products during the time specified in the Contract Documents. The City will consider subsequent requests only in the case of product unavailability or other conditions beyond your control. Material delivery schedules do not justify a substitution.

B. The City will not consider substitutions indicated on shop drawings or product data submittals without a separate formal request, or if requested directly by a subcontractor or supplier or if acceptance will require a substantial revision of the Contract Documents.

C. Do not order or install substitute products without the Engineer's written acceptance.

D. The Engineer will only consider one request for substitution for each product line. If a

substitution is not accepted, provide the specified product.

E. The Engineer will determine the acceptability of substitutions.

Requests for substitutions shall conform to the following:

A. Submit each request for substitution separately and document each request with complete data to substantiate its compliance with requirements of Contract Documents.

B. Identify the product by Specifications section and article numbers. Provide the manufacturer's name and address, trade name or product and model or catalog number; list fabricators and suppliers as appropriate.

C. Include an itemized comparison of the proposed substitution with the specified product, listing variations and referencing Specifications section and article numbers.

D. Provide cost data comparing the proposed substitution with the specified product and the net change to the Contract Price.

E. List the availability of maintenance services and replacement materials.

F. Discuss the substitution’s effect on the construction schedule and any changes required in other work or products.

A request for substitution is your representation that you have investigated the proposed product and have determined it is equal to or superior in all respects to the specified product and that you provide the same warranty for the substitution as for the specified product. Coordinate installing the accepted substitute, making any changes necessary for the Work to be complete in all respects. Certify that the cost data you present is complete and includes all related costs under this Contract and waive claims for additional costs related to the substitution that may later become apparent. Submit the number of copies you need plus four (4) of the request for substitution. For accepted products, submit shop drawings, product data and samples and tests conducted in accordance with 1-6.

3-1.7 Weighing and Metering Equipment. Use only scales and metering equipment inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the county for proportioning materials.

The accuracy of a scale, except as stated here, must meet the standards of the Business and Professions Code and the Code of Regulations pertaining to weighing devices. Give the Engineer a Certificate of Compliance for approval prior to operation. Renew the Certificate of Compliance whenever the Engineer requires, at no cost to the City.

Arrange scales, whose figures must be clearly legible, for easy reading from the operator’s platform or area. The scales must indicate the true net weight without applying any factor. Scales must be accurate to within one (1) percent when tested with the plant shut down. Weighing equipment must be insulated against vibration or movement by other operating equipment in the plant area so that the weight error with the entire plant running does not exceed two (2) percent for any setting or one and one half (1.5) percent for any batch.

3-1.8 Calibration of Testing Equipment. Testing equipment including, but not limited to, pressure gages, metering devices, hydraulic systems, force (load) measuring instruments and strain-measuring devices must be calibrated by a testing method acceptable to the Engineer at intervals not exceeding 12 months and after the equipment has been repaired, modified or relocated. Provide calibration certificates when the Engineer requests them.

3-1.9 City-Furnished Materials. City-furnished materials listed in the Specifications are available to you free of charge.

Give the Engineer a written request for City-furnished material at least fifteen (15) Working Days before the date you intend to use it that includes the quantity and type of each material.

The Specifications designate locations where City-furnished materials will be available to you free of charge. Haul those materials to the Work site at your expense, including any loading and unloading that may be involved. If the Specifications do not designate locations, the City will furnish the materials to you free of charge at the Work site. In either case, all handling and placing costs of City-furnished material are included in the price for the contract item involved.

You are responsible for City-furnished materials given to you and must pay all demurrage and storage charges. Once you take possession of City-furnished materials, replace at your cost any that are lost or damaged from any cause. You are liable to the City for the cost of replacing City-furnished materials and the City may deduct those costs from any monies due or that become due to you. All City-furnished materials not used on the Work remains the City's property and you must arrange with the City Representative to return it to the City at your expense.

ARTICLE 4 – UTILITIES

4-1 GENERAL. For purposes of this Article 4, definitions of the terms referenced below are as follows:

An “unidentified” underground main or trunk line utility is one not indicated at all on the Plans; a “misidentified” underground main or trunk line utility is one not indicated on the Plans with reasonable accuracy (a “misidentification”). An underground main or trunk line utility is one indicated on the Plans with reasonable accuracy unless its actual location is substantially and materially different from that indicated on the Plans.

The term “rearrangement” of utilities means relocating, altering, reinstalling and reconstructing utilities, including removing existing related utilities there, necessary to accommodate the Work. Whenever in this Article 4 one or more of these rearrangement activities is referenced, the reference includes all other activities required to accommodate the Work.

4-2 LOCATION.

4-2.1 General. The Plans or the Specifications include known utilities and their respective owners. Where the Plans show underground utilities, assume every property parcel will be served by a service connection for each type of utility.

Pursuant to Government Code § 4216, contact the appropriate regional notification center (Underground Service Alert of Southern California [USA] at 1-800-422-4133) for an inquiry identification number at least two (2) but not more than fourteen (14) Working Days before beginning any excavation required for the Work. Caltrans and some other agencies are not required to be a member of a regional notification center. Contact non-member agencies directly and ask them to locate and mark their subsurface installations. Pursuant to Government Code § 4216.2., coordinate any proposed excavation within ten (10) feet of a high priority subsurface installation with the operator.

Before starting the Work, physically locate subsurface installations within 24 inches of any side of excavations required for the Work. Determine the horizontal and vertical location, alignment, depth, material type and size of each subsurface installation. Excavate according to Government Code § 4216.4, and provide the subsurface installation location data to the Engineer within the time stated in the Specifications.

Notify the Engineer in writing immediately after identifying potential physical conflicts between existing subsurface installations and the Work. Include in the written notification:

A. Location date;
B. Location method;
C. Type, size, and material of subsurface installation;
D. Horizontal location;
E. Elevation (or depth from existing pavement or ground surface) of the top and bottom of the subsurface installation; and
F. Presumed owner.

Complete excavation, backfill and placement of temporary resurfacing on the same day. Place permanent resurfacing within five (5) Working Days unless otherwise required by the Specifications or directed by the Engineer.

A list of utility companies with facilities located in or near the construction area is in the Specifications. The Engineer tried to determine exiting utility substructures at the Work site by reviewing the records of owners of known utilities in the area and consulting with them, and used their information to show on the Plans their utility substructures (except for service connections) that may affect the Work.

Utility information provided on the Plans and in the Specifications has not been verified and may not be accurate or complete. Except as expressly provided in this Article 4, do not rely on the utility information. The City assumes no responsibility for its accuracy or completeness. Changed conditions within the scope of 2-4 do not include utilities.

Determine the exact location, both horizontal and vertical, type and size of all existing utilities including service connections, before beginning work that could damage the utilities or otherwise affect or be affected by the utilities or interfere with their service. Where the Plans show underground main distribution conduits like water, gas, sewer, electric power, telephone or cable television, assume that every adjacent property parcel will be served by a service connection for each type of utility shown. Investigate, research, survey and pothole as you believe necessary to make the determinations and immediately notify the Engineer of any utility discovered in a different location than indicated on the Plans or not indicated on the Plans at all.

Your cost to locate any unidentified or misidentified underground main or trunk line utility will be paid for as an addition to the Work according to Article 2. You are not entitled to this additional compensation if the existence and location of the utility, with reasonable accuracy, was or should have been known to you on the date Bids were due or could have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. The cost to locate all other utilities is included in prices in the Bid for other items of the Work.

Information about underground and internal utilities and appurtenances you are required to record in the Record Documents as specified in 6-14 must include but not be limited to, the accurate location of underground utilities determined pursuant to 4-2 that remain in place as well as utilities either you or the utility owners rearrange.

Ask the City of Irvine Traffic Operations Division at 949-724-7649, to locate any existing traffic signal conductors and interconnect within the construction area before performing Work that may affect or be affected by the existing facilities.

Except as expressly provided in this Article 4 regarding unidentified or misidentified underground main or trunk line utilities, a utility company's failure to accurately mark its facilities does not justify a time extension or additional compensation from the City.

Obtain photographs of all markings made by your forces as well as all USA markings and submit to the Engineer within two (2) Working days. All the photographs must show the markings in relation to one or more identifiable landmarks that will remain in place after completion of the Work and of any utility removal and rearrangement work in the vicinity.

Governmental agencies and utility owners reserve the right to enter at any time, any street, alley, right of way or easement to maintain and repair their property.

4-2.2 Payment. Include payment for your cost to locate utilities in the various items of work; the City will not pay additional compensation for this cost.

4-3 PROTECTION. Do not interrupt the service or disturb the support of any utility without authority from the utility owner or direction from the Engineer. Maintain valves, switches, vaults and meters as readily accessible for emergency shutoff.

Unless otherwise provided on the Plans or in the Specifications, furnish and place necessary protection and support where required to ensure support of utilities potentially impacted by the Work.

The City will pay any additional cost you incur to protect and support an unidentified underground main or trunk line utility or from misidentifying an underground main or trunk line as an addition to the Work according to Article 2. You are not entitled to this additional payment if the utility's existence and

location or with reasonable accuracy should have been known to you on the date Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. Include the cost to protect and support all other utilities in prices in the Bid for other items of the Work.

Immediately notify the Engineer and the utility owner if any utility is disturbed or damaged during the Work. If the Engineer directs, restore, repair or replace the disturbed or damaged utility.

The City will pay your cost to restore, repair or replace any unidentified or misidentified underground main or trunk line utility disturbed or damaged by the Work that does not result from your failure to perform your obligations under the Contract Documents including without limitation, § 4-2, or to exercise reasonable care as an addition to the Work according to Article 2. Except where this paragraph allows additional compensation, either you or the utility owner must restore, repair or replace at your expense, all utilities you disturb or damage in the course of the Work.

To the full extent allowed by law, all obligations listed in 6-3.2 apply if any claims or liabilities as defined there, are asserted or claimed by any person or entity resulting from any disturbance or damage to utilities your act or omission caused, whether or not the utilities are accurately marked on the Plans or in the field by the utility owner and whether or not there is concurrent active or passive negligence by the City and City Personnel, but excluding any claims or liabilities arising from the sole active negligence or willful misconduct of City or City Personnel.

When placing concrete around or contiguous to any non-metallic utility installation, you must at your expense:

A. Furnish and install a 2-inch cushion of expansion joint material or other similar resilient material; or
B. Provide a sleeve or other opening which will result in a 2-inch minimum-clear annular space between the concrete and the utility; or
C. Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for a structure which would result in embedment or partial embedment of a metallic utility installation, or where the coating, bedding or other cathodic protection system is exposed or damaged by your operations, notify the Engineer and contact the affected utility owner about how to maintain or restore the integrity of the system, and implement the procedures at your expense.

4-4 REMOVAL. Remove all interfering portions of utilities shown on the Plans as "abandoned" or “to be abandoned in place.” Before starting removal operations, ask the City whether the abandonment is complete, and include the removal and disposal costs in your Bid for the items of work requiring the removals.

4-5 RELOCATION. When feasible, the owners responsible for utilities within the area affected by the Work will complete necessary installations, relocations, repairs, or replacements before you begin the Work. When the Plans or Specifications indicate that others will relocate, alter or construct a utility installation, the City will negotiate with the owners and have the utility work done at no cost to you. Protect relocated utilities in their new position and include the cost to protect in the Bid for the items of work requiring the relocation.

If you find utilities that interfere with the Work after the Contract is awarded, the respective utility owners will rearrange them, or the Engineer may order you to perform the rearrangement as an addition to the Work per Article 2. Alternatively, the Engineer may order changes in the Work to avoid the interference per

Article 2. The utility owner must be satisfied with your work on its utility and it must comply with the Contract Document requirements.

When the Plans or Specifications require you to rearrange a utility as part of the Work, all costs for the work are considered included in the Bid for the items of work requiring it. If an underground main or trunk line utility you are to rearrange is misidentified in the Plans, any additional cost you incur for the work as a result is treated as an addition to the Work according to Article 2 unless its location, with reasonable accuracy, was or should have been known to you on the date Bids were due or could have been inferred then by visible facilities like buildings, meters, junction boxes or identifying markers. Except as provided in this paragraph, you are not entitled to any additional compensation because of inaccuracies in the Plans regarding utility rearrangements included in the Work.

If you request temporary or permanent utility rearrangement for your convenience it is your responsibility to make all arrangements necessary for the work and to bear all related costs. You are not entitled to any additional compensation because of the utilities or work.

The provisions of this paragraph are subject to the provisions of the previous paragraph. Where the Plans or Specifications require you to rearrange any service connections, this work is included in your Bid for the items of work necessitating the work.

Where necessary, the utility owner will relocate service connections within the limits of the Work or within temporary construction or slope easements. When the Engineer directs, arrange to relocate service connections between the meter and the property line or between a meter and the limits of temporary construction or slope easements. Payment to relocate the service connections are according to 2-2 or 2-3. Payment includes restoring all existing improvements that are affected. You and the utility owner may agree to disconnect and reconnect interfering service connections. The City will not be a party to that agreement.

4-6 DELAYS. The construction schedule developed in accordance with 5-1 allows adequate time for you or the utility owner to protect, remove and rearrange utilities. If the utility owner performs the work, the construction schedule will allow for the time the utility owner requires for it. Notify the Engineer in writing of any subsequent changes in the construction schedule that will affect the time available to protect, remove, or rearrange utilities and get the Engineer's approval of the changes.

You are not entitled to any extensions of the Contract Time or compensation for damages incurred by delays attributable to utilities at the Work site except as provided in 5-6.1, or as provided below. Delays described below are not delays for which the City is responsible within the meaning of 5-6.3.

A. Subject to 5-6.2 and 5-6.4, you are entitled to an extension of the Contract Time for any delay in the Work directly attributable to an unidentified underground main or trunk line utility or the misidentification of an underground main or trunk line utility in the Plans, unless the utility's location, with reasonable accuracy, was or should have been known to you or could have been inferred from visible facilities like buildings, meters, junction boxes or identifying markers on the date Bids were due. If you are entitled to a time extension, you are also entitled to compensation for equipment idle time because of the delay, determined by the Engineer the same way determinations are made for equipment used in performing Extra Work according to Article 2. You are not entitled to any other compensation or damages because of the delay.
B. You may be given a time extension but no additional compensation for unforeseen delays attributable a utility owner’s failure to complete utility rearrangement work within the time scheduled for the work in the construction schedule or to complete utility rearrangement work that the Contract Documents indicate will be completed before your construction operations begin.

You are not entitled to a time extension or additional compensation for delays or losses described here that:

A. Result from your actions or omissions or which could have been avoided by any reasonable means, like the judicious handling of forces, equipment or plant; or
B. Arise in connection with utilities rearranged for your convenience. The Engineer will determine what damages you could have avoided.

Immediately notify the Engineer of any delays to your operations described here. Delays described here are not right of way delays within the scope of 1-9.

4-7 CONTRACTOR RESPONSIBILITIES. You must:

A. Cooperate with and provide Work site access to utility personnel.
B. Coordinate Contract Work with affected utilities. Remove all USA markings after completing the work requiring them before the City accepts and approves the Work.
C. Asphalt concrete pavement not overlaid or slurry sealed as part of the project bid items that is damaged by trenching, potholing or otherwise, must be slurry sealed after the pavement section is repaired. “Perpendicular” street cuts must be slurry sealed ten (10) feet each side of the cut and “longitudinal” cuts must be slurry sealed from pavement lane to pavement lane line for the entire damaged area or as directed by the City Representative. Type I slurry must be used on non-arterial streets and Type II slurry must be used on arterial streets. Replace damaged traffic striping, legends and markers. Avoid “patchwork” application of slurry by joining closely grouped areas of slurry applications. Compensation for this requirement is included in the prices paid for related items of work and no additional compensation is allowed.

4-8 PERMANENT UTILITIES. Contact and coordinate with utility owners all requirements for installing and connecting permanent utilities necessary for the Work including but not limited to, natural gas, electricity, water, sewer and telephone. Include all costs for this work, as well as costs to operate permanent utilities before the City accepts the Work, in Bid prices for the related items of work.

ARTICLE 5 – PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

5-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK. Begin the Work on the date in the Notice to Proceed and diligently complete it in the time provided in the Contract.

Notify the Engineer of your intent to begin work at least two (2) Working Days before starting any work.

Give the Engineer, within ten (10) days after executing the Contract, a construction progress schedule using the critical path method that shows the proposed dates for beginning and completing each item of the Work and the amount you anticipate each monthly payment will be due to you based on the progress schedule.

Format of the schedule is follows:

A. Prepare schedules as horizontal bar charts with a separate bar for each portion of work or operation according to the approved schedule of values that identifies the first workday of each week. Allow space to update.

B. Sequence of Listings: Chronological order at the start of each item of work.

C. Sheet Size: Multiple of 11x17 inches.

D. Provide a two week look-ahead schedule updated weekly.

Content of the schedules must:

A. Show the complete sequence of construction by activity, with dates for beginning and completing each construction element. Include any special sequencing specified in the Contract Documents.

B. Show lane closure notifications and dates.

C. Provide sub-schedules to define major and significant portions of the entire schedule.

D. Show the accumulated completion percent for each item and the total percent of Work completed as of first day of each month.

E. Provide a separate schedule showing dates for product procurement and delivery, shop drawing submittals and equipment installation as well as decision dates for finish selection, if applicable.

F. Show delivery dates for City-furnished products, if applicable.

G. Show the critical path.

Revisions to schedules must:

A. Indicate the progress of each activity to the submittal date and the projected completion date of each activity.

B. Identify activities modified since the previous submittal, major changes in scope and other identifiable changes.

C. Provide a written report describing any problem areas, anticipated delays and their impact on the schedule and include the corrective action taken or proposed and its effect.

D. Revise periodically as the Engineer directs. Failing to comply with an Engineer's directive is grounds for delaying the progress payment.

E. Show the revised critical path.

Required submittals:

A. Submit initial schedules within ten (10) days of executing the Contract. If requested, resubmit required revisions within seven (7) days of the request.

B. Submit an update schedule on or before the first day of each month beginning one month after the initial schedule as outlined in A, above. If requested, resubmit required revisions within seven (7) days of the request.

C. Submit four (4) copies of schedules to the Engineer.

D. Submit with a transmittal letter.

In addition:

A. Distribute copies of current schedules to the job site file, subcontractors, suppliers and other concerned parties.

B. Instruct recipients to report promptly, in writing, problems they anticipate will result from schedule projections.

Include the cost to conform to these requirements in the various items of work at no additional compensation.

5-2 PROSECUTION OF THE WORK. Diligently perform the Work to completion. If the Engineer determines you are not timely performing the Work you must, upon the Engineer's order, immediately take steps to remedy the situation. Include all costs to perform the Work as specified in the Contract Price. If you fail to take the necessary steps to comply fully with the Engineer's orders, the Engineer may suspend the Work completely or in part, until you do. If Work is suspended through no fault of the City, you are responsible for all expenses and losses you incur during the suspension. If you do not properly provide for public safety, traffic and protection of the Work during periods of suspension, the City may elect to do so and deduct its cost from monies due you. These actions do not relieve you of liability.

5-2.1 Time of Completion and Forfeiture Due to Delay. Complete the Work called for under the Contract within the time set forth in the Contract Documents.

You agree, according to Government Code § 53069.85, to forfeit the per day amount required by the Contract for each day of delay. The City will deduct that amount from any payments due or that become due to you.

The City has endeavored to identify all areas of the site which may contain hazardous waste as defined by Health and Safety Code § 25117, and unless otherwise noted, hazardous waste in these areas has been mitigated. However, the parties acknowledge the possibility that additional hazardous waste exists not previously identified. If, during the course of your work, you encounter hazardous waste, promptly notify the City through its designated representative. If the material is "hazardous waste" pursuant to Health and Safety Code § 25117, the City may have you perform the mitigation work or may have it done under a separate contract. If you perform the mitigation work, the City will pay its cost as an addition to the work according to Article 2. To the maximum extent permitted by law, the City is not be liable for any damages other than an appropriate time extension for delays caused by the hazardous waste conditions contemplated here.

The City will not penalize you for delays in completing the work due to unforeseeable causes beyond your control and without your fault or negligence, including but not limited to acts of nature or of the public enemy, acts of the government, acts of the City, acts of another contractor in performing a contract with the City, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather. These delays, except for acts of the City, do not entitle you to additional compensation. Your sole remedy is a time extension granted according to this section.

Within five (5) Calendar Days from the beginning of the delay, notify the Engineer in writing of the cause of the delay. The Engineer will establish the facts and the extent of the delay and extend the time to complete the Work if, in his judgment, the findings of fact justify an extension. The Engineer's findings are final.

5-2.2 Order of Work Requirements. When required by the Specifications or the Plans, follow the sequence of operations and restrictions required there.

Perform the Work to conform to the construction staging in the Specifications. Subject to the Engineer's approval, non-conflicting work in subsequent stages may proceed concurrently with work in preceding stages if you maintain satisfactory progress in the preceding stages. The Engineer's approval of any modifications you request to the order of work or staging of the work are not grounds for a Change Order request or a time extension request. If you deviate from the specified order of work or the staging plans, you do so at your own risk and assume all time impacts and cost associated with them.

5-3 SUSPENSION OF THE WORK.

5-3.1 General. The Engineer may suspend the Work in whole or in part for any time the Engineer finds in the City's best interest, for its convenience or due to your failure to carry out orders given or to perform any provision of the Contract. Immediately comply with the Engineer's written order to suspend the Work in completely or in part and resume work only when the Engineer orders or approves in writing.

The City is not liable for these suspensions except as specified in 5-6.3., which provides that delays resulting from suspensions the Engineer ordered because you failed to carry out orders given or to perform any provision of the Contract are not delays for which the City is responsible.

If the Engineer orders a work suspension as provided here, do at your expense, all the work necessary to provide a safe, smooth unobstructed passageway through construction for the public during the suspension period as provided in 6-9 and as stated in the Specifications. If you do not perform the work specified above, the City will perform the work and, if the suspension is due to your failure to carry out orders given or to perform any provision of the Contract, the City will deduct the cost from monies due or that become due to you.

If the Engineer orders a work suspension according to this section, the days on which the suspension order is in effect are Working Days if those days are Working Ways within the meaning of the definition in 5-7.2.

Suspending the Work does not relieve you of your responsibilities in the Contract Documents.

You may resume the Work after you provide:

A. A revised schedule showing each task yet to be accomplished and the timeline to perform each one to completion

B. Work force projections attached to each task listed by workweek

C. Cost expenditures attached to each task summarized by workweek

D. Lien releases from each subcontractor, supplier and vendor from whom you requested materials, equipment or any other service acknowledging the payments received

E. An Income and Expense Statement projecting how you will finance the rest of the project

5-3.2 Archaeological and Paleontological Discoveries. If you discover items of archaeological or paleontological interest, immediately stop excavation in the area and do not continue until ordered to do

so by the Engineer. When resumed, excavation operations within the area of discovery are at the Engineer's direction.

Discoveries that you may encounter include, but are not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones and fossils.

You are entitled to an extension of time and compensation in accordance with 5-6.

5-4 TERMINATION OF THE CONTRACT FOR DEFAULT.

5-4.1 General. If, before the Work is accepted, you:

A. Become insolvent, assign your assets for the benefit of your creditors, are unable to pay your debts as they become due or are otherwise financially unable to complete the Work;
B. Abandon the work by failing to report to the work site and diligently performing the Work to completion;
C. Disregard written instructions from the Engineer or materially violate provisions of the Contract Documents;
D. Fail to perform the Work according to the schedule approved by the Engineer;
E. Disregard laws or regulations of any public body having jurisdiction or commit continuous or repeated violation of regulatory or statutory safety requirements, the City will consider you in default of the Contract.

Transmit notices and other written communications regarding default between you, the City and the surety according to 1-13.

In the event the City terminates this Contract for grounds later determined not to justify a termination for breach, the termination becomes a Termination of the Contract for Convenience pursuant to 5-5.

5-4.2 Notice to Cure. The City will issue a written notice to cure the default to you and to your surety. Begin satisfactory corrective actions within five (5) Working Days after receiving the notice.

5-4.3 Notice of Termination for Default. If you fail to begin satisfactory corrective action within five (5) Working Days after receiving the notice to cure or to diligently continue satisfactory and timely correction of the default, the City will find you in default of the Contract and the City:

A. Will terminate your right to perform under the Contract by issuing a written notice of termination for default to you and to your Surety;
B. May use any materials, equipment, tools or other facilities you furnished to secure and maintain the Work site; and
C. May furnish labor, equipment and materials the City finds necessary to secure and maintain the Work site.

The provisions of this subsection are in addition to all other legal rights and remedies available to the City.

5-4.4 Surety Responsibilities. When receiving written notice of termination for default, the surety must immediately assume all your rights, obligations and liabilities under the Contract. If the surety fails to protect and maintain the Work site, the City may do so and may recover all costs incurred. The Surety must notify the City that it is assuming all your rights, obligations and liabilities under the Contract. The City will pay all money that is due, or would become due to you, to the Surety as the Work progresses, subject to the terms of the Contact.

Within 15 Working Days of receiving the written notice of termination for default, the Surety must give the City a written plan detailing the course of action it intends to take to remedy the default. The City will

review the plan and notify the Surety if the plan is satisfactory. If the Surety does not submit a satisfactory plan, or if the Surety fails to maintain progress according to the plan the City accepts, the City may exclude, with 48 hours written notice, the Surety from the premises, take possession of all material and equipment and complete the Work in any way the City decides is appropriate. The City will charge its cost to complete the Work against the Surety and may deduct any monies due, or which would become due, the Surety. If the amounts due under the Contract are insufficient for completion, the Surety must pay the City, within 30 days after the City submits an invoice, all costs in excess of the remaining Contract Price.

5-4.5 Payment. The City will pay the Surety to complete the Work according to 8-3 minus the value of damages your acts caused the City.

5-5 TERMINATION OF THE CONTRACT FOR CONVENIENCE. The City reserves the right to terminate the Contract at any time if the Engineer determines termination is in the City's best interest.

If the City elects to terminate the Contract, the following govern the termination and your total compensation:

A. The Engineer will issue a signed written notice, terminating the Contract. Upon termination, you are relieved of further responsibility for damage to the Work excluding materials as specified in 3-1.2, 6-14 of the Specifications and, except as otherwise directed in writing by the Engineer, you must:

   1. Stop all work under the Contract except any you are specifically directed to complete;
   2. Perform work the Engineer believes necessary to secure the project for termination;
   3. Remove equipment and plant from the Work site;
   4. Protect materials from damage;
   5. Notify all subcontractors and suppliers that the Contract is terminated and that their contracts or orders are not to be performed unless the Engineer authorizes it in writing.
   6. Provide the Engineer an inventory of all materials previously produced, purchased or ordered from suppliers for use in the Work and not yet used in the Work including their storage location and other information the Engineer may request.
   7. Dispose of materials not yet used in the Work as directed by the Engineer. Provide the City good title to all materials the City purchased, including materials partially paid for as provided in 8-3.2, and with bills of sale or other documents of title for those materials.
   8. Subject to the Engineer's prior written approval, settle all outstanding liabilities and all claims arising out of subcontracts or orders for terminated materials. To the extent directed by the Engineer, assign all your right, title and interest under subcontracts or orders for materials terminated to the City.
   9. Give the Engineer documentation you are required to furnish under the Contract including, on projects where federal funds are involved, all documentation required under the federal requirements in the Contract.
   10. Take other actions directed by the Engineer.

B. Accepting the Contract as specified here does not relieve you of responsibility for damage to materials. You remain responsible for damage to materials after the Notice of Termination is issued, except as follows:

   1. Your responsibility for damage to materials partially paid for as provided in 9-3.2 and for materials the City furnished for but not used in the Work ends when the Engineer certifies that

those materials are stored in the manner and at the locations the Engineer has directed.

2. Your responsibility for damage to materials the City purchased after receiving the Notice of Termination ends when the City has taken title and delivery of the materials.

When the Engineer determines that you have completed the Work under the Contract you were directed to complete before termination and any other work that may have been ordered to secure the project for termination, the Engineer will formally accept the Contract and immediately after the Engineer's acceptance, you are not required to perform any further work.

C. Terminating the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

D. Where the City terminates the Contract for its convenience and not your fault, the Engineer determines your total compensation based on the following:

1. The reasonable cost to you, without profit, for all work performed under the Contract including mobilization, demobilization and work done to secure the project for termination. In determining reasonable cost, the Engineer will deduct the cost of materials you keep, amounts realized by the sale of materials and for other appropriate credits against the cost of the Work. When, in the Engineer's opinion, the cost of a Contract item of work is excessively high due to costs incurred to remedy or replace defective or rejected work, the reasonable cost allowed will be the estimated reasonable cost of performing the work in compliance with the requirements of the Plans and Specifications. The City will not allow the excessive actual cost.

2. Your reasonable allowance for profit on the cost of work performed as determined under part 1, above, if you establish to the Engineer's satisfaction that it is reasonably probable you would have made a profit had the Contract been completed. In no event will the profit allowed exceed 4 percent of the cost.

3. Your reasonable cost to handle material returned to the vendor, delivered to the City or otherwise disposed of as directed by the Engineer.

4. A reasonable allowance for your administrative costs to determine the amount payable due to termination of the Contract.

All your records and your subcontractors' records necessary to determine compensation in conformance with provisions in 5-5, must be open to inspection or audit by City representatives at all times after the Notice of Termination is issued and for a period of 3 years following.

After the City accepts the Work, the Engineer may make payments on interim estimates before issuing the final estimate in conformance with the provisions in 8-3.2 and 8-4 when, in the Engineer's opinion, the amount paid, together with all amounts previously paid or allowed, do not result in total compensation exceeding that to which you are entitled. All payments, including payment on the final estimate, are subject to deductions for prior payments and amounts, if any, retained under the provisions of the Contract.

PHYSICALLY INCLUDE THE SPECIFICATIONS IN 5-5 IN ALL SUBCONTRACTS.

5-6 DELAYS AND EXTENSIONS OF TIME.

5-6.1 General. Delays caused by unforeseen events beyond your control entitle you to an extension of the Contract Time as provided here, but you are not entitled to damages or additional payment due to these delays except as specified in 5-6.3. Unforeseen events may include war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating work stoppage, inability

to obtain materials, labor or equipment, required extra work or other specific events as further described in the Specifications.

The City will not grant you an extension of time for a delay because you are not able to obtain materials unless you give the Engineer documentary proof. Provide the proof in a timely manner in accordance with the sequence of your operations and the approved construction schedule.

If events beyond your control cause delays other than those mentioned above, the Engineer may decide an extension of time is in the best interests of the City. You are not entitled to damages or additional payment due to these delays except as otherwise specified in 5-6.3.

If the cause of delays beyond your control is due solely to the City's action or inaction, the delays will entitle you to an extension of time per 5-6.2.

5-6.2 Extension of Time. The City may, from time to time, extend the time fixed to complete the Work. All applications for time extensions must be in writing filed with the City before the original time fixed in the Contract expires or as previously extended.

The City may extend the time after the time originally fixed in the Contract expires or as subsequently extended, and the extension granted begins on the expiration date. No time extension releases the sureties on any bond required under the Contract or affects forfeitures due to delay.

The City will not grant time extensions for delays not on the critical path.

5-6.3 Payment for Delays. Pursuant to § 7102 of the Public Contract Code, the City will compensate you for damages incurred due to delays for which the City is responsible. The Engineer will determine the actual costs. The City is not liable for damages you could have avoided by any reasonable means such as judicious handling of forces, equipment, or plant. The Engineer will determine damages you could have avoided.

5-6.4 Written Notice and Report. If you want payment for a delay specified in 5-6.3 or an extension of time, file a written request and report of cause with the Engineer within ten (10) Calendar Days after the delay begins. Make your request for payment or extension at least ten (10) Calendar Days before the specified completion date. If you fail to file these items within the times specified the City may refuse your request.

5-7 TIME OF COMPLETION.

5-7.1 General. Complete the Work within the time specified in the Contract or the Specifications. Complete each portion of the Work within the time specified in the Contract or the Specifications for that portion. Unless otherwise specified in the Contract or the Specifications, express the Contract Time of completion in Working Days.

5-7.2 Working Day. A Working Day is any day within the period between the date the Contract Time as specified in 5-1 starts and the date the Engineer accepts the Work, other than:

A. Saturday
B. Sunday
C. Any day the City designates a holiday
D. Any other day designated as a holiday in a Master Labor Agreement you enter into or that was entered into on your behalf as an eligible member of a contractor association,
E. Any day you are prevented for cause from working at the beginning of the workday as specified in 5-6.1, or
F. Any day you are prevented for cause from working during the first 5 hours with at least 60 percent of the normal work force as specified in 5-6.1.

5-7.3 Contract Time Accounting. The Engineer will make a daily determination of each Working Day to be charged against the Contract Time and will discuss this determination with you. You will get a Weekly Statement of Working Days showing the allowable number of Working Days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of Working Days charged during the reporting period and the number of Contract Working Days remaining. If you do not agree with the statement, file a written protest within fifteen (15) days after receiving it that sets out the facts of the protest. Otherwise, the City assumes you accept the statement as is.

5-8 COMPLETION, ACCEPTANCE, AND WARRANTY.

5-8.1 Completion. When you consider the Work, or a designated portion of the Work, if specified in the Contract Documents is complete, submit a written request for inspection to the Engineer. By submitting the request, you certify that:

A. You have reviewed the Contract Documents.

B. Work is complete according to Contract Documents and is ready for inspection.

C. Equipment and systems have been tested, adjusted/balanced and are fully operational.

Submit your request a minimum of five (5) Working Days before the requested inspection date. Allow sufficient time during the Contract to complete inspections and make any corrections. Each day beyond the time prescribed to complete the Contract is subject to assessment of liquidated damages according to 5-9.

If the City Representative's inspection finds the Work is not complete, the City Representative will notify you in a writing that lists the deficiencies observed. Remedy the listed deficiencies immediately and send a request for final inspection. If you do not remedy the deficiencies, the City may order, at its option, reinspection(s) of the work to identify any additional deficiencies. The City's costs for the reinspection(s) are subject to 5-8.2.

When the City confirms the Work is complete and closeout submittals as referred to in 5-8.3 provided, the City Representative will notify you of the date of completion on the Weekly Statement of Working Days.

5-8.2 Acceptance. Acceptance occurs after all the requirements in the Contract Documents are met. If, in the Engineer's judgment, you have fully performed the Contract, the Engineer will recommend accepting your performance of the Contract.

5-8.3 Warranty. Warrant the Work against defective materials and workmanship for a period of one (1) year. The warranty period starts on the date the Engineer determines the Work is complete.

The warranty period for specific items covered under manufacturers' or suppliers' warranties begins on the date the items are put into service at the direction of or as approved by the Engineer in writing.

Assign to the City in writing, warranties, express or implied, from subcontractors, manufacturers or suppliers of any tier, for the materials furnished and work performed. Deliver the warranties to the Engineer before your performance of the Contract is accepted.

After notice from the Engineer and within the time specified in the notice, replace or repair defective materials and workmanship to the Engineer's satisfaction. If you do not make the replacement or repairs within the time specified, the City may perform the work at your expense. If you do not reimburse the City for its actual costs, your surety is liable for them.

5-8.4 Reinspections. If completion of the Work requires reinspection(s) by the City because you did not make corrections after the initial inspection, the City may deduct the cost for reinspection(s) from your final payment. If the Engineer observes more than ten (10) deficiencies, reinspection is required.

Inspections initiated at the City's request are not subject to provisions of this Section.

5-8.5 Closeout Submittals.
Submit:

A. Project Record Documents clearly marked with all changes to the Plans within thirty (30) Calendar Days of Final Acceptance

B. Operation and Maintenance Data

C. Warranties and Bonds

D. Spare Parts and Maintenance Materials, as specified

E. Evidence of Payment and Release of Stop Payment Notices

F. Other data and materials the Contract Documents may require

5-9 LIQUIDATED DAMAGES. Liquidated damages are as specified in the Contract.

5-10 USE OF IMPROVEMENT DURING CONSTRUCTION. The City reserves the right to take over and use all or part of any completed facility or appurtenance. It will notify you in writing before taking this action. The City's action relieves you of responsibility for injury or damage to the completed portions of the improvement resulting from the public's use or from the action of the elements or from any other cause except your operations or negligence. You need not re-clean portions of the improvement before field acceptance except for cleanup necessary by your operations. Nothing in this subsection relieves you from full responsibility for correcting defective work or materials.

If the City takes over and uses all or part of a completed facility or appurtenance, it assumes responsibility and liability for injury to persons or property caused by the use, except for any injury to persons or property caused by any willful or negligent act or omission by you, your subcontractor, their officers, employees, or agents.

ARTICLE 6 – RESPONSIBILITIES OF THE CONTRACTOR

6-1 CONTRACTOR'S EQUIPMENT AND FACILITIES.

6-1.1 General. Furnish and maintain in good condition all equipment and facilities required to properly execute and inspect the Work. Provide and maintain enclosed toilets for employees doing the Work to use. Regularly pump out and maintain these accommodations in a neat and sanitary condition.

Render your machinery and equipment inoperable at all times except during construction. You are responsible for construction means, controls, techniques, sequences, procedures and construction safety.

6-1.1.1 Equipment. Stencil or stamp at a clearly visible location on each piece of equipment except hand tools, an identifying number and:

A. On compacting equipment, its make, model number and empty gross weight that is either the manufacturer's rated weight or the scale weight.
B. On meters and on the load-receiving element and indicators of each scale, the make, model, serial number and manufacturer's rated capacity.

Give the Engineer a list describing each piece of equipment and its identifying number before beginning the Work.

Upon request, submit manufacturer's information that designates portable vehicle scale capacities.

Your measuring devices must be tested and approved under California Test 109 in the City's presence or by any of the following:

A. County Sealer of Weights and Measures
B. Certified Scale Service City
C. Division of Measurement Standards Official

6.2 LABOR.

6-2.1 General. You, your agents and employees are bound by and must comply with applicable provisions of the Labor Code and federal, state, and local labor laws.

Immediately remove and do not reemploy on the Work, any worker the Engineer finds to be incompetent, intemperate, troublesome, disorderly or otherwise objectionable or who fails to perform the Work properly and acceptably.

6-2.2 Prevailing Wages. Pursuant to §1773.2 of the Labor Code, the current prevailing rate of per diem wages at the time of the Bid as determined by the Director of the Department of Industrial Relations are on file at the office of the Engineer. Post a copy of these rates at the Work site. Pursuant to §1774 of the Labor Code, you and any subcontractors must pay not less than the specified prevailing rates of wages to workers employed under the Contract. On a federally funded Contract, you and any subcontractors must not pay less than the higher of these rates or the rates determined by the United States Department of Labor. Pursuant to §1775 of the Labor Code, you and any subcontractors forfeit, as a penalty to the City, the prescribed amounts per calendar day, or portion of it, for each worker paid less than the prevailing wage rates.

6-2.3 Payroll Records. Keep certified payroll records pursuant to §1776 of the Labor Code. You and all your subcontractors must give the City and the Labor Commissioner (Division of Labor Standards Enforcement), certified payroll records every Friday for the preceding week until the Notice of Completion is filed and recorded.

6-2.4 Hours of Labor. Pursuant to §1810 of the Labor Code, eight (8) hours of labor constitute a legal day's work. Pursuant to §1813 of the Labor Code, you and any subcontractors forfeit, as a penalty to the City, the prescribed amount per calendar day for each worker required or permitted to work more than eight (8) hours in any one (1) Calendar Day and forty (40) hours in any one (1) Calendar Week without being compensated according to §1815.

6-3 INSURANCE.

6-3.1 General. Provide and maintain insurance naming the City as an insured or additional insured with you regardless of any inconsistent statement in the policy or any subsequent endorsement whether liability is attributable to you or to the City. The insurance provisions do not limit your indemnity obligations contained in the Contract. Except as specified in 5-10, save, keep and hold harmless the City its officers, employees and agents from all damages, costs or expenses in law or in equity that arise to a person or property because of or while performing the Work, or which may be caused by a negligent act or omission by you, your employees, or a subcontractor. The City is not liable for any accident, loss or damage to the Work before completion except as specified in 5-10.

With the exception of workers' compensation insurance, an insurance company authorized by the Insurance Commissioner to transact business in the State of California must issue the policies you provide. The insurance company must have a policyholder rating of “A” or higher and a financial class VIII or higher as established by A.M. Best or a higher rating established by Moody’s or Standard & Poor's.

Notify the City according to 1-13 within five (5) days of the date your insurance carrier notifies you of any changes to or cancellation of the policy.

All policies must be endorsed to state that coverage may not be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed or materially changed for any reason, without thirty (30) days prior written notice from the insurer to the City by U.S. mail or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice must be provided.

In lieu of this endorsement, either:

A. Submit a letter, signed by the insurance agent or broker, certifying that he/she will notify the City if coverage is suspended, voided, cancelled, reduced in coverage or in limits, non-renewed or materially changed for any reason without thirty (30) days prior written notice from the insurer to the City by U.S. mail or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice will be provided; or

B. Submit evidence of payment in full of the insurance premium for the life of the policy.

The City project title or description MUST be included in the “Description of Operations” box on the certificate.

Certificate Holder:
City of Irvine
c/o EXIGIS Risk Management Services
P.O. Box 4668 - ECM #35050
New York, NY 10163-4668

The City’s insurance certificate tracking services provider, EXIGIS, LLC, will send you an email with instructions for submitting insurance certificates and endorsements.

The cost to defend any claims against the City must not erode or take away from the specified limits of liability.

There will be no separate payment for insurance; include it in the Contract Price.

Without limiting your indemnification obligations, do not begin work until you obtain and maintain, at your sole cost and for the duration of this Contract, insurance coverage as provided below, against all claims for injuries against persons or damages to property that may arise from or in connection with performing the Work by you, your agents, representatives, employees and subcontractors. If you subcontract any portion of the Work in compliance with 1-3 of the Specifications, the contract between you and that subcontractor must require the subcontractor to maintain the same insurance policies you are required to maintain pursuant to 6-3.

Insurance policies are not compliant if they include any limiting provision or endorsement you have not submitted for approval in accordance with 6-3.

Your insurance must be “occurrence” rather than “claims made” insurance except for Professional Liability insurance, which may be for claims made and must apply separately to each insured against whom claim is made or suit is brought, except respecting the limits of the insurer's liability.

The insurance coverage required for General Liability, Automobile Liability and Contractor’s Pollution Liability must contain the following provisions or provide the following by endorsement:

Name as additional insured the City of Irvine**,** their elected officials, officers, employees, volunteers, boards and representatives shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Contract.

Additional Insured Endorsements shall not:

A. Be limited to “Ongoing Operations”

B. Exclude “Contractual Liability”

C. Restrict coverage to your “Sole” liability

D. Contain any other exclusion contrary to the Contract

This insurance must be primary and any other insurance, deductible or self-insurance available to the insured added by endorsement must be in excess of and not contribute to this insurance.

Immediately report all claims to your insurance carrier and acknowledge receipt within thirty (30) Calendar Days.

No officer, employee, or agent of the City, the Engineer, the City Representative or their consultants are personally responsible for any liability arising under or because of the Contract.

To the maximum extent permitted by law, hold harmless, indemnify, and defend the City of Irvine, its representatives and each of its officers, employees, and agents from and against all actions, suits, claims, demands, judgments, attorney's fees, costs, damages to persons or property, losses, penalties, obligations, expenses or liabilities (here “claims” or “liabilities”) that may be asserted or claimed by any person or entity arising from the willful or negligent acts, errors or omissions of you, your employees, agents, representatives or subcontractors in performing any tasks or services for or on behalf of the City, whether or not there is concurrent active or passive negligence on the part of the City and City Personnel, but excluding claims or liabilities arising from the active negligence or willful misconduct of the City or City Personnel. Additionally:

A. Defend any action or actions filed in connection with these claims or liabilities and pay all costs and expenses including attorney's fees.

B. Promptly pay any judgment rendered against the City or any City Personnel for these claims or liabilities.

C. Promptly pay the City, if the City and any City Personnel is made a party to an action or proceeding for damages or other claims arising out of or in connection with your negligent performance or failure to perform your work or activities, all costs and expenses the City and City Personnel incurred in the action and reasonable attorney's fees and expert witness fees. The City may retain money due to you under the Contract as the City considers necessary until disposition of the actions or claims.

You must declare and the City must approve any deductibles or self-insured retentions before the City executes this Contract. Before beginning work, give the City, according to 6-3, written confirmation of the deductible for each insurance coverage required by this Contract or of no deductible.

6-3.2 General Liability Insurance. The policy must insure the City, its officers, employees and agents acting within the scope of their duties on the Work against any claims arising out of or in connection with the Work except as specified in 5-10. This policy must provide coverage for on-going and completed operations. The insurance certificate submitted to the City must state that your insurance is primary and that any other insurance held by the City is non-contributory.

General Liability, including premises, operations and mobile equipment, products and completed operations, broad form property damage including completed operations, explosion, collapse and underground hazards, contractual liability, personal injury, and independent contractors' liability: with a minimum limit of **Two Million Dollars ($2,000,000)** for each occurrence (combined single limit for bodily injury and property damage). A minimum limit of **Two Million Dollars ($2,000,000)** aggregate for products–completed operations and a minimum limit of **Four Million Dollars ($4,000,000)** general aggregate. This general aggregate limit must apply separately to your work under this Contract.

Procure and submit evidence of insurance for Products-Completed Operations in accordance with 6-3 for at least three (3) years from the time all Work under this Contract is completed.

The policy or policies must be endorsed to provide that the insurer waives all rights of subrogation against the City and its respective elected officials, officers, employees, agents and representatives for losses paid under the terms of the policy or policies and which arise from work performed by the named insured for the City.

6-3.3 Workers' Compensation Insurance. Pursuant to §1860 and §3700 of the Labor Code, obtain, pay for and maintain in full force for the duration of the Contract, workers' compensation insurance. The insurance company must have a policy rating equal to or better than that of the California State Compensation Insurance Fund. The City, its officers, employees and agents, are not responsible for any claims in law or in equity occasioned by your failure to comply with this requirement.

Pursuant to §1860 and §1861 of the Labor Code, submit the following certification to the Engineer before the City executes the Contract:

"I am aware of the provisions of § 3700 of the Labor code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code and I will comply with those provisions before I begin performing the work of this Contract."

The policy or policies must be endorsed to provide that the insurer waives all rights of subrogation against the City and its respective elected officials, officers, employees, agents and representatives for losses paid under the term of the policy or policies and which arise from work performed by the named insured for the City.

Workers' Compensation and Employer's Liability Insurance: Workers' Compensation Insurance in an amount required by the laws of the State of California (Statutory Limits). Employer's Liability Insurance with a minimum limit of **One Million Dollars ($1,000,000)** per occurrence.

If you have no employees requiring you to provide Workers' Compensation Insurance, certify that to City in writing before the City executes this Contract. The City and City Personnel are not responsible for any claims in law or in equity occasioned by your failure to comply with this section or with the provisions of law relating to Workers' Compensation.

If you are providing on-site staffing services, the Workers' Compensation insurance must include an Alternative Employers Endorsement.

6-3.4 Auto Liability Insurance. Give the City a certificate of insurance showing coverage of at least **One Million Dollars ($1,000,000)** for bodily injury and property damage or a combined single limit. This policy shall be "any auto" or for "all autos either owned, hired, or non-owned."

6-3.5 Contractor's Pollution Liability. Contractor's Pollution Liability Insurance covering all your operations including onsite and offsite coverage for bodily injury, property damage, defense costs, cleanup costs and coverage for offsite disposal facilities with minimum limits of **One Million Dollars ($1,000,000)** for each loss and **Two Million Dollars ($2,000,000)** in the aggregate.

Before beginning work, give the City the names and locations of disposal facilities for the City's approval.

6-3.8 Self-Insurance. Self-insurance is subject to the City's review and prior approval. If you use any form of self-insurance, submit:

A. Notice of election to self-insure
B. Coverage(s) for which self-insurance applies
C. The amount of self-insurance
D. Declaration under penalty of perjury by a certified public accountant certifying the accountant has applied Generally Accepted Accounting Principles guidelines and you have sufficient funds or other resources to cover the self-insurance amounts
E. Copy of your commercial general liability policy and excess policy, including the declarations page, all amendments, riders, endorsements and other modifications in effect when the Contract is executed, for amounts not covered by self-insurance.

Self-insurance programs and self-insured retentions in insurance policies are subject to a separate annual review and approval by the City of evidence of your financial capacity to respond. Additionally, self-insurance programs or retentions must provide the City with at least the same protection from liability and defense of suits as that first-dollar insurance would provide.

6-4 PERMITS AND LICENSES. Except as provided in the Specifications, obtain all permits and licenses, pay all charges and fees and give all notices necessary and incidental to the lawful performance of the Work. Get these permits and licenses in enough time to prevent Work delays. Keep a copy of all permits at the Site. Give the City copies of permits and licenses one (1) Working Day after obtaining them. Comply with all rules and regulations included in the permits. If you do not conform to these rules and regulations, the City may perform work necessary to conform to them and deduct the cost of the work from any monies due or to become due to you.

You and all subcontractors must obtain within five (5) Calendar Days of executing the Contract, a current City of Irvine Business License and maintain it for the term of the Contract.

If the City obtained permits, licenses or other authorizations applicable to the Work, obtain a rider, pay all fees and comply with the provisions of those permits, licenses and other authorizations.

6-5 CONTRACTOR'S REPRESENTATIVE. Before starting the Work, designate in writing a representative with complete authority to act for you. You may designate an alternate representative as well. This authorized representative must be present at the Work site at all times while Work is in progress. When Work is not in progress and during periods when Work is suspended, make arrangements acceptable to the Engineer for any emergency work that may be required. The City regards any order or communication given to this representative as given to you. A joint venture must designate only one representative and alternate. In the absence of you or your representative, the Engineer may give instructions or directions to the superintendent or person in charge of the specific work to which the order applies. This order must be complied with promptly and referred to you or to your representative.

Whenever you or your authorized representative is absent on any particular part of the Work where direction is necessary, the City Representative will give the direction to the superintendent or supervisor in charge of the particular work who must obey the orders given.

The City reserves the right to approve your Superintendent. Once approved, the Superintendent must remain on the project for the duration of the project so long as he is in your employ.

To communicate with the City, your representative, superintendent or person in charge of specific work must speak, read and write the English language.

6-6 COOPERATION AND COLLATERAL WORK. Determine the nature and extent of any simultaneous, collateral and essential work by others. The City, its workers and contractors and others have the right to operate within or adjacent to the Work during its performance.

The City, you and the workers of contractors, and others must coordinate operations and cooperate to minimize interference.

Your bid must include all costs involved to coordinate your work with others. You are not entitled to additional compensation from the City for damages resulting from such simultaneous, collateral and essential work. If necessary to avoid or minimize this damage or delay, redeploy your work force to other parts of the Work.

Nothing in the Contract grants you exclusive occupancy of the project site. Determine to your own satisfaction the scope of the project and the nature of any other contracts the City awarded or may award in constructing the project, so you perform this Contract in light of these other constraints, if any.

Do not hinder or delay any other contractor working on or adjacent to the project. If performing any project contract is likely to interfere with the simultaneous performance of another contract or contracts, the Engineer will decide which contractor must cease work temporarily and which contractor must continue or whether work under the contracts can be coordinated so that the contractors may proceed simultaneously. On all questions concerning conflicting interests of contractors performing related work, the Engineer's decision is binding on the contractors concerned. The City, the Engineer, the City Representative and their officers, employees and agents are not responsible for damages you suffer or extra costs you incur that result directly or indirectly from performing or attempting to perform any other contract or contracts on the project or from a decision or omission of the Engineer regarding the order of precedence in performing the contracts.

If, because of your negligent acts, any other contractor or subcontractor suffers loss or damage on the Work, settle with the other contractor or subcontractor by agreement or arbitration if the other contractor or

subcontractor is agreeable. If the other contractor or subcontractor asserts ay claim against the City, the Engineer, the City Representative or their consultants because of damage allegedly sustained, the City will notify you. To the maximum extent permitted by law, all your obligations in 6-3.2 apply to the asserted claims or liabilities against the City, the Engineer, the City Representative and each of their officers, employees and agents.

6-6.1 Coordination. Work by other contractors, utility companies and City forces will be underway adjacent to or within the limits of this project during the Work.

6-7 WORK SITE MAINTENANCE.

6-7.1 General. Throughout all phases of construction, including suspension of the Work, until acceptance per 5-8, keep the Work site clean and free of rubbish and debris. Store Work site rubbish and debris in roll-off, enclosed containers before disposal; do not stockpile it.

Provide a self-loading, motorized street sweeper equipped with a functioning water spray system to clean all paved areas within the Work site and all paved haul routes at least once each Working Day.

Ensure there are no spills along haul routes. Remove any spills immediately and clean the area.

If you do not keep the Work site free of rubbish and debris, the Engineer may suspend the Work per 5-3 until you correct the condition.

Section 6-7 includes specifications for performing Work site maintenance including spill prevention and control, material management, waste management, water pollution control and non-storm water management.

Comply with City of Irvine Resolution No. 07-18, which establishes requirements for recycling and diverting construction and demolition waste.

Implement effective handling, storage, use and disposal practices to control material pollution and manage waste and non-storm water at the Work site before they enter storm drain systems and receiving waters.

Linear sediment barriers must comply with 6-7.6.2.

6-7.1.1 Construction Cleaning.

A. Initiate and maintain a daily program to prevent debris accumulation on-site and along access roads and haul routes. Keep areas under your control free of waste materials, debris, weeds 6” high and rubbish. Keep the site clean and orderly.
B. Provide suitable covered containers for debris and rubbish. Dispose of accumulated extraneous materials, prohibit overloading trucks to prevent spills on access and haul routes and inspect haul routes daily to enforce these requirements.
C. Supply self-loading, motorized street sweepers equipped with a functioning water spray system as part of your daily program.
D. Schedule, at a minimum, weekly debris collection and disposal. Provide additional collections and disposals whenever the weekly schedule does not prevent accumulation.

Remove debris from closed or remote spaces before closing the space, control cleaning to minimize dust and other particulates and immediately remove clay and earth on the paved surface of the roadway. Remove by hand scraping, washing, sweeping and other method(s) that will leave a clean, non-skid surface without impairing, injuring or loosening the surface.

Remove waste materials, debris, vegetation, other rubbish and non-recyclable materials as the Contract Documents require and dispose of them off-site in an approved disposal site or recycling center.

Unless otherwise specified, dispose of all concrete, asphalt, aggregate or sand base material, cement block, trees, shrubs, bushes and all other recyclable material generated during cleaning, demolition, clearing and grubbing or other phases of the Work at appropriate recycling centers. Remove reinforcing steel, wood or other harmful materials as required by the recycling center accepting the recycled materials. Supply proof of disposal at a recycling center that includes verification of tonnage by certified weigh masters tickets. If weigh masters tickets are not feasible, you and the City Representative must estimate the tonnage before disposing of it at the recycling centers.

Known recycling centers:
Ewles Materials
16081 Construction Circle West
Irvine

Use water to control dust for the life of the Contract as required by either job conditions or the City Representative. Do not use chemical agents without the City's prior written consent. You are solely responsible for safety problems, accidents or any other complications or claims arising from inadequate dust control.

The City will not make a separate payment for work performed or material used to control dust resulting from your performance of the Work or by public traffic either in or outside the right of way. Include full compensation for dust control in the price paid for the various items of work involved.

The City will not make a separate payment for any work performed or material used to clean the project. Include full compensation for cleaning in the price paid for the various items of work involved.

6-7.1.2 Final Cleaning. Clean the Work site before inspection when the Work is complete, using materials that are not hazardous to health or property and that will not damage surfaces. Remove debris from and otherwise clean exposed-to-view surfaces, remove temporary protection and labels not required to remain, clean finishes of foreign substances and remove waste, debris and surplus materials from site. Clean grounds, remove stains, spills and foreign substances from paved areas and sweep them clean. Clean other exterior surfaces and, where applicable:

A. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

B. Vacuum carpeted and similar soft surfaces.

C. Clean resilient and hard surface floors.

D. Clean equipment surfaces; remove excess lubrication.

E. Clean plumbing fixtures to a sanitary condition.

F. Clean permanent filters of ventilating equipment and replace disposable filters of units operated during construction; clean ducts, blowers and coils when operating units without filters during construction.

G. Clean light fixtures and lamps.

H. Remove waste, foreign matter and debris from roofs, gutters, areaways and drainage systems.

6-7.2 Air Pollution Control. Do not release smoke, dust, equipment exhaust or other air contaminants into the air in quantities that violate any federal, state or local regulations. Abate dust nuisance by cleaning, sweeping and spraying with water or other means if necessary. Using water must conform to 6-7.6.

6-7.3 Noise Control. Control noise generated by your operations as specified in the City Municipal Code, Division 8, Chapter 2 (https://www.municode.com/library/ca/irvine/codes/code_of_ordinances?nodeId=TIT6PUWO_DIV8PO).

6-7.4 Storage of Equipment and Materials.

6-7.4.1 General. Remove materials and equipment from the Work site as soon as they are no longer needed. Before the Engineer's inspection for acceptance, clear the Work site of equipment, unused materials and rubbish to present a clean and neat appearance.

Remove excess excavated material from the Work site immediately.

Remove forms and form lumber from the Work site as soon as possible after stripping.

6-7.4.2 Storage in Public Streets. Do not store construction materials and equipment in streets, roads or highways.

Do not store excavated material, except that used as backfill in the adjacent trench, in public streets unless the Engineer specifies or approves. Remove all excess material from the Work site immediately after placing the backfill.

6-7.4.3 Material Management.

6-7.4.3.1 General. Minimize or eliminate discharging material into the air, storm drain systems and receiving waters while receiving, using, or storing the following materials:

A. Hazardous chemicals including acids, lime, glues, adhesives, paints, solvents and curing compounds
B. Soil stabilizers and binders
C. Fertilizers
D. Detergents
E. Plaster
F. Petroleum materials, including fuel, oil, and grease
G. Asphalt and concrete components
H. Pesticides and herbicides

Your employees trained in emergency spill cleanup procedures must be present when hazardous materials or chemicals are unloaded.

Where possible, use less hazardous materials.

The following activities must be performed at least 100 feet from concentrated storm water flows, drainage courses and inlets within the floodplain and at least 50 feet if outside the floodplain unless otherwise authorized:

A. Stockpiling materials
B. Storing pile-driving equipment and liquid waste containers
C. Washing vehicles and equipment in outside areas
D. Fueling and maintaining vehicles and equipment

6-7.4.3.2 Material Storage. If you store materials:

A. Store liquids, petroleum materials and substances listed in 40 CFR 110, 117, and 302, in secondary containment facilities specified by USDOT for storing hazardous materials.

B. Ensure that secondary containment facilities are impervious to the materials stored there for a minimum contact time of 72 hours.

C. Cover and adequately ventilate secondary containment facilities during nonworking days and when rain is forecasted.

D. Keep secondary containment facilities free of accumulated rainwater or spills. After rain or in the event of spills or leaks, collect the accumulated liquid and place it in drums within 24 hours. Handle the liquid as hazardous waste according to subsection 6-7 of the General Conditions.

E. Store incompatible materials like chlorine and ammonia, in different secondary containment facilities.

F. Store materials in their original containers with the original material labels maintained in legible condition. Immediately replace damaged or illegible labels.

G. Ensure that secondary containment facilities can contain precipitation from a 24-hour-long, 25-year storm, plus 10 percent of the aggregate volume of all containers or the entire volume of the largest container within the facility, whichever is greater.

H. Store bagged or boxed material on pallets. Protect bagged or boxed material from wind and rain during nonworking days and whenever rain is forecasted.

I. Provide enough separation between stored containers to allow for spill cleanup or emergency response access. Storage areas must be kept clean, well-organized and equipped with cleanup supplies appropriate for the materials stored.

J. Repair or replace perimeter controls, containment structures, covers and liners when necessary. Inspect storage areas before and after rain and at least weekly during other times.

6-7.4.3.3 Stockpile Management. Minimize stockpiling materials at the job site.

Implement water pollution control practices within 72 hours of stockpiling material or before a forecasted storm event, whichever occurs first. If using stockpiles, do not allow soil, sediment or other debris to enter storm drains, open drains and watercourses.

Active and inactive soil stockpiles must be:

A. Covered with soil stabilizing material or a temporary cover

B. Surrounded with a linear sediment barrier

Stockpiles of asphalt concrete and Portland cement concrete rubble, hot mixed asphalt and aggregate base must be:

A. Covered with a temporary cover

B. Surrounded with a linear sediment barrier

Stockpiles of pressure-treated wood must be:

A. Placed on pallets

B. Covered with impermeable material

Stockpiles of cold mix asphalt concrete must be:

A. Placed on an impervious surface

B. Covered with an impermeable material

C. Protected from storm water run-on and runoff

Control wind erosion year round.

Repair or replace linear sediment barriers and covers as needed to keep them functioning properly. When sediment accumulates to 1/3 of the linear sediment barrier height, remove the accumulated sediment.

6-7.5 Sanitary Sewers.

6-7.5.1 General. Do not interrupt the flow of sewage. If you disrupt the operation of existing sanitary sewer facilities or if disruption is necessary to perform the Work, bypass the sewage flow around the Work. Do not transport sewage in closed conduits; dispose of it in a sanitary sewer system. Do not cover sewage with backfill or allow it to flow in trenches.

Whenever the Plans or Specifications require sewage bypass and pumping or you elect to perform it, submit, per 1-6, a Working Drawing conforming to 6-7.5.2, detailing your proposed sewage bypass and pumping plan.

6-7.5.2 Sewage Bypass and Pumping Plan. The plan must indicate the locations and capacities of all pumps, sumps, suction and discharge lines. Equipment and piping must be of a size to handle the peak flow of the section of sewer line bypassed and pumped. Equipment and piping must conform to 6-9 and to the Plans. When bypass piping crosses areas subject to traffic loads, construct the piping in adequately covered trenches protected from traffic damage. If the Engineer approves, you may use lay-flat hose or aluminum piping with an adequate casing and traffic plates. Bypass pump suction and discharge lines that extend into manholes must be rigid hose or hard pipe. Do not allow lay-flat hose to extend into manholes. Provide a backup bypass pumping system in case of malfunction. The backup bypass system must provide 100 percent standby capability and be in place and ready for immediate use. Each standby pump must be a complete unit with its own suction and discharge piping. In addition to the backup system, furnish and operate vacuum trucks when the Plans or Specifications require them.

6-7.5.3 Spill Prevention and Emergency Response Plan. Prepare and submit per 1-6, a spill prevention and emergency response plan that addresses using measures to prevent sewage spills, procedures for spill control and containment, notifications, emergency response, cleanup and spill and damage reporting.

The plan must account for all storm drain systems and watercourses within the vicinity of the Work that a sewage spill could affect. Identify catch basins that could receive spilled sewage. Unless otherwise specified, seal these catch basins before operating the bypass and pumping system. Remove all material used to seal the catch basins when the bypass and pumping system operations are complete.

Contain any sewage spill, prevent any sewage from reaching a watercourse, recover and legally dispose of spilled sewage, pay any fines or penalties related to the sewage spill imposed on the City and you by jurisdictional regulatory agencies and any other expenses or liabilities related to the sewage spill.

6-7.6 Water Pollution Control.

6-7.6.1 General. Conform to all applicable local, state and federal regulations and laws pertaining to water pollution control. Conduct and schedule your operations and follow and implement best management practices (BMPs) to prevent water pollution and conform to the following requirements:

A. Do not discharge sediments into a storm drain system or receiving waters.
B. Contain sediments generated on the Work site using appropriate BMPs.
C. Do not allow wind or runoff to discharge construction-related materials, waste, spill or residue from the Work site into streets, drainage facilities, receiving waters or adjacent properties.
D. Contain non-storm water runoff from equipment, vehicle washing or any other activity within the Work site using appropriate BMPs.

E. Prevent erosion by covering, planting or otherwise protecting erosion susceptible slopes in a way that prevents Work site discharge.

6-7.6.2 Best Management Practices (BMPs). Implement and maintain BMPs relevant to the Work, and as required by the Plans or Specifications.

For the duration of the Contract, install, construct, inspect, maintain, remove and dispose of BMPs for wind erosion control, tracking control, erosion and sediment control, non-storm water control and waste management and materials pollution control. Unless the Engineer directs otherwise, implement and maintain BMPs during any temporary Work suspension.

6-7.6.3 Storm Water Pollution Prevention Plan (SWPPP). When specified in the Special Conditions or required by a jurisdictional regulatory agency, prepare and submit per 1-6, a SWPPP that conforms to requirements in the Specifications and of the jurisdictional regulatory agency. The City will file the Notice of Intent.

6-7.6.4 Payment. Unless otherwise specified, include payment to implement and maintain BMPs in the various items of work; no additional compensation is allowed.

6-8 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. Repair or replace at your expense, material shown on the Plans or designated in the Specifications to be salvaged or used in reconstructed work that your operations have damaged or destroyed.

Protect public and private property adjacent to the Work and exercise due caution to avoid damaging it.

Repair or replace all existing improvements within the right of way not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.), which are damaged or removed because of your operations. When you must remove a portion of a sprinkler system within the right of way, cap the remaining lines.

Repairs and replacements must be at least equal to existing improvements and must match them in finish and dimension.

Protect trees, lawns and shrubbery left in place from damage or injury. If damaged or removed due to your operations, restore or replace them in as close to the original condition and location as is reasonably possible. Reseed and cover lawns with suitable mulch.

Give reasonable notice to occupants or owners of adjacent property to allow them to salvage or relocate plants, trees, fences, sprinklers and other improvements within the right of way that are designated for removal and would be destroyed because of the Work.

Include all your costs to protect, remove and restore existing improvements in the various items of work; no additional compensation is allowed.

6-8.1 Preservation of Property. Exercise care to avoid injuring existing improvements or facilities, utility facilities, adjacent property and trees and shrubbery left in place.

Repair all damage you cause to existing improvements to the Engineer’s satisfaction. Where you must repair sidewalks, curbs or gutters make the repairs by removing and replacing the damaged section back to the nearest scoring lines.

Protect from injury, trees and shrubbery left in place and pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and waterlines, all highway or street facilities and any other improvements of facilities within or adjacent to the Work, and provide and install safeguards to protect these objects from damage. If you damage objects that are part of

the work performed by your operation, replace or restore them at your expense to a condition as good as when you entered the Work or as the Plans and Specifications require.

You are not relieved of your responsibility under this article just because a pipe or other underground facility is not on the Plans. It is your responsibility to discover underground improvement or facilities that your operations may damage.

In addition to any legal requirements, shore up, brace, underpin and protect as necessary all foundations and other parts of existing structures including structures adjacent to and adjoining the Work site which are in any way affected by excavations or other operations connected with the Work.

Give notice to any adjacent or adjoining landowner or other party before beginning the Work whenever notice is required either from the City or from you.

6-8.2 Video Recording and Photographing Pre-existing Conditions. Video record and photograph pre-existing conditions at the project site before any construction activities including but not limited to:

A. Property markers

B. Right of way and easement conditions

C. Utility markings and USA markings

D. Existing property damages

E. Survey conditions

F. Pavement conditions, markings, and striping

G. Adjacent property conditions

H. Sidewalk, curb, and gutter conditions

I. Safety conditions

J. Unusual conditions or equipment

K. Interior and exterior surfaces

L. Equipment condition (HVAC, electrical, fire, etc.)

M. Existing landscape conditions, including vegetation and irrigation, along the project limit.

Submit your recordings/photographs on CD, DVD or USB media to the Engineer no later than five (5) Working Days after the Notice to Proceed is issued.

Include payment for video recording and photographing services in the various items of work; no additional compensation is allowed.

6-9 SAFETY

6-9.1 Work Site Safety.

6-9.1.1 General. Provide safety measures necessary to protect the public and workers within or near the Work site. Ensure your operations do not create safety hazards.

Provide safety equipment, material and assistance to City Representatives so they may inspect all phases of the Work.

When removing asbestos, implement the requirements of the CCR Title 8, Div. 1, Chapter 4, Subchapter 4 and Subchapter 7.

6-9.1.2 Work Site Safety Official. Designate in writing a “Project Safety Official” who is at the Work at all times and who is thoroughly familiar with your Injury and Illness Prevention Program (IIPP) and Code of Safe Practices. The Project Safety Official must be available at all times to abate potential safety hazards and must be authorized to and responsible for shutting down an unsafe operation if necessary.

Failure to provide the required Work Site Safety Official is grounds for the City to stop all Work and operations at no cost to the City until you comply.

6-9.1.3 Emergencies. Unusual conditions may arise on the Work that require immediate and unusual provisions to protect the public from danger or loss or damage to life and property due directly or indirectly to the Work. It is your responsibility to provide this protection.

Take steps to protect the public from danger or damage, or loss of life or property, which would result if your work interrupts or contaminates or causes the public water supply, irrigation or other public service to fail or your partly completed work fails.

When the Engineer determines an emergency exists that you could have prevented but did not and your construction may damage the public or utilities or adjacent structures or property as a result, the Engineer may take immediate steps to protect public or private, personal or property interests, or to prevent the loss of human life by having material furnished and work done that the City Representative believes is necessary.

You bear the cost of the labor, material and repair costs determined necessary. If you do not pay them when presented with bills, certified by the City Representative, the City will pay them and deduct that amount from any amounts due, or which may become due to you. The City’s failure to take precautionary measures does not relieve you of your full responsibility for public safety.

The foregoing is in addition to and not a limitation of any other rights or remedies available to the City.

6-9.2 Safety Orders.

6-9.2.1 General. Have copies or suitable extracts of Construction Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety at the Work site.

Give the Engineer, as a condition of obtaining City issued permits and before excavating, a permit from the Division of Occupational Safety and Health pursuant to Chapter 6 beginning with § 6500 of Part 1 of Division 5 of the Labor Code and a detailed plan showing the design of shoring, bracing, sloping or other provisions to protect workers from caving ground while excavating any trench(es) five (5) or more feet deep. A registered civil or structural engineer must prepare the plan. As a part of the plan, include a notice stating that the registered civil or structural engineer certifies that the plan complies with the CAL/OSHA Construction Safety Orders. Give a copy of the plan and the permit to the Engineer.

In accordance with generally accepted construction practices, you are solely and completely responsible for job site conditions, including the safety of all persons and property while performing the Work and you must comply with all local, county, state and federal laws, rules, regulations and orders relating to safety of the public and workers.

Hold harmless, indemnify and defend the City, the Engineer, City Representatives and each of their officers, employees and agents from civil or criminal penalties that result from your failure to comply with applicable safety laws, rules, regulations and orders. To the maximum extent permitted by law, your obligations in 6-3.2 apply in the event of a failure to comply with applicable safety laws, rules, regulations or orders.

The duty, if any, of the City Representative to review construction or to inspect your performance does not include review or inspection of the adequacy of your safety measures in, on or near the construction site.

6-9.2.2 Shoring Plan. Before excavating any trench 5 feet or more in depth, submit according to 1-6, a detailed Working Drawing (shoring plan) showing shoring design, bracing, sloping, or other provisions used for the workers' protection. If the shoring plan varies from shoring system standards, the shoring plan must be prepared by a California registered Structural or Civil Engineer. The shoring plan must accommodate existing underground utilities. Do not start excavation until the Engineer accepts the shoring plan and you have a permit from the State Division of Industrial Safety. Give the Engineer a copy of this permit according to 1-6. If you do not submit a shoring plan or do not comply with an accepted shoring plan you must suspend work at the affected location(s). The suspended work will not support a claim for Extra Work and you will not receive additional compensation or Contract Time.

6-9.2.3 Payment. Include payment for shoring in the Bid item provided.

Payment for complying with the provisions of safety orders and all other laws, ordinances and regulations is considered included in the various items of work and no additional compensation will be allowed.

6-9.3 Confined Spaces.

6-9.3.1 Confined Space Entry Program (CSEP). Implement, administer and maintain a CSEP in accordance with CCR, Title 8, § 5156, 5157 and 5158.

Before starting the Work, prepare and submit a CSEP according to 1-6. The CSEP must address all potential physical and environmental hazards and contain procedures to ensure safe entry into confined spaces for reasons including:

A. Training personnel
B. Purging and cleaning the space of materials and residue
C. Potential isolation and control of energy and material inflow
D. Controlled access to the space
E. Atmospheric testing of the space
F. Ventilating the space
G. Special hazards consideration
H. Personal protective equipment
I. Rescue plan provisions

The submittal must include the names of your personnel, including each subcontractor's personnel assigned to the Work that will have CSEP responsibilities, their CSEP training and their specific assignment and responsibility for carrying out the CSEP.

6-9.3.2 Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in CCR, Title 8, § 5157, may be required as part of the Work. Consider manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces as permit-required confined spaces until the pre-entry procedures prove otherwise. Implement a permit-required CSEP before doing any work in a permit-required confined space. Make a copy of the permit available for your and the Engineer’s review at the Work site at all times.

6-9.3.3 Payment. Include payment for the CSEP in the various items of work; no additional compensation is allowed.

6-9.4 Security and Protective Devices.
6-9.4.1 General. Security and protective devices consist of fencing, steel plates or other devices specified to protect open excavations.

6-9.4.2 Security Fencing. Completely fence open excavations. Security fencing must remain in place unless workers are present and construction is in progress then you must provide equivalent security.

6-9.4.3 Steel Plate Covers. Provide steel plate covers necessary to protect against accidental entry into openings, trenches and excavations.

Protect transverse or longitudinal cuts, voids, trenches, holes and excavations in the right of way that are not completed in one (1) Working Day with adequately designed barricades and structural steel plates (plates) that support legal vehicle loads to maintain unobstructed traffic flow.

Secure in advance the Engineer's approval before using any bridging on the Work.

Adequately shore trenches to support bridging and traffic loads.

Design plates for HS 20-44 truck loading according to the Caltrans Bridge Design Specifications Manual.

Refer to Table 6-9.4.3(A), below, for minimum plate thicknesses:

Table 6-9.4.3(A) - Trench Width/Minimum Plate Thickness

Trench Width	Minimum Plate Thickness
10"	1/2"
1'-11"	3/4"
2'-7"	7/8"
3'-5"	1"
5'-3"	1 1/4"

For spans greater than 5' 3", give the Engineer a structural design prepared by a California Registered Civil Engineer.

The surface of the plates must be skid-resistant with a nominal Coefficient Of Friction (COF) of 0.35 as determined by California Test Method 342.

Plates must extend at least 12" beyond trench edges and must provide complete coverage that protects any person, bicycle, motorcycle or motor vehicle from injury or damage from separations or gaps because the plates move. Install and secure plates to prevent movement or displacement using adjustable cleats, shims, welding or other devices in a way that minimizes noise. Install plates as follows:

Install plates by milling the pavement to a depth equal to the thickness of the plate and to a width and length equal to those of the plate.

If the Engineer agrees, you may submit an alternate installation method that accords with 1-6, "Submittals," for the Engineer's acceptance.

Maintain the plates and shoring or any other approved device used to secure the plates. If notified by the City Representative, City Code Enforcement or the Irvine Police Department that a plate needs repair because of plate movement, noise, anchors and asphalt ramps, immediately mobilize necessary personnel and equipment. If you do not respond to the emergency request within 2 hours, the City will perform the repairs and invoice you the actual cost including overhead, or $500 per incident, whichever is greater.

When you remove plates, repair any damage to the pavement with a fine graded asphalt concrete mix or slurry seal to the Engineer's satisfaction.

Include payment for steel plate covers in the various items of work; no additional compensation is allowed.

6-10 PATENT FEES AND ROYALTIES. Assume all costs to use patented materials, equipment, devices or processes on or in the Work and hold harmless, indemnify and defend the City, the Engineer, the City Representative and each of their officers, employees and agents from all claims, suits or actions resulting from your use of patented materials, equipment devices or processes. To the maximum extent permitted by law, your obligations in 6-3.2 apply in the case of these claims, suits or actions.

6-11 LAWS TO OBSERVE.
Stay informed about and report to the City Representative, all existing and future state and national laws and county and municipal ordinances and regulations that affect persons doing the Work, materials used in the Work or performing the Work and of all orders and decrees of bodies or tribunals with jurisdiction or authority over the Plans, Specifications or Contract.

Comply with and require your agents, employees and subcontractors to comply with all existing and future laws, ordinances, regulations, orders and decrees even if not in the Specifications or on the Plans. Hold harmless, indemnify and defend the City, the Engineer, the City Representative and each of their officers, employees and agents against any claim or liability arising from or based on violation of any law, ordinance, regulation, order or decree whether by itself, its employees, its agents or its subcontractors. To the extent permitted by law, all your obligations in 6-3.2 apply in the case of any claim or liability.

Comply with all applicable federal laws, including those set forth in "Federal Requirements" of the Special Conditions.

6-12 ANTITRUST CLAIMS. Pursuant to §7103.5 of the Public Contract Code:

> "In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under § 4 of the Clayton Act (15 U.S.C. Sec 15) or Cartwright Act (Chapter 2 [commencing with § 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties."

6-12.1 Property Rights in Materials. Once you attach materials to the Work or the soil or after the City pays you for materials delivered to the Work site or stored under the City's control, you have no property right in them.

6-12.2 Warranty of Title. Do not purchase any materials, supplies or equipment for the Work subject to a chattel mortgage or under a conditional sale contract or other agreement by which the seller or supplier retains an interest in all or any part. Warrant clear title to all materials, supplies and equipment installed and incorporated in the Work. When all Work is complete, deliver the premises and all improvements and appurtenances you construct or place, to the City free of claims, liens, encumbrances or charges. Confirm that neither you nor any persons, firm or corporation furnishing material or labor for work the Contract covers has a lien on the premises or any improvement or appurtenance. This does not prevent you from installing metering devices or other equipment of utility companies or of municipalities who commonly retain title to the device or equipment. Nothing in this article defeats or impairs the right of persons furnishing materials or labor under your bond for their protection, or any right under any law permitting persons to look to funds due you from the City.

Insert the provisions of 6-12.2 in all subcontracts and material contracts and give notice of its provision to all persons furnishing materials for the work when there is no formal contract for the materials.

6-13 CONTRACTOR'S RESPONSIBILITY FOR THE WORK. Until the Work is accepted, you are responsible for care of the Work and of the materials used there including materials for which you have received partial payment or materials furnished by the City. You bear the risk of injury, loss or damage to

any part of the Work from the elements or from any other cause arising from either the execution or the non-execution of the Work.

At your expense, rebuild, repair, and make good all injuries, losses or damages to the Work or the material from any cause before it is complete and accepted. Where necessary to protect the work or materials from damage, provide at your expense suitable drainage and build temporary structures necessary to protect the work or materials from damage. Suspension of the Work does not relieve you of your responsibility for the work and materials specified here. If ordered by the City Representative, properly store at your expense, materials partially paid for or furnished by the City. Your storage is on the City's behalf and the City is at all times entitled to possess the materials. Promptly return them to the Work site when requested. Do not dispose of any of the stored materials except on the City's written authorization.

In an emergency affecting the safety of life or property, including adjoining property, act at your discretion as though instructed by the City, to prevent the threatened loss or injury.

6-14 PROJECT RECORD DOCUMENTS.

6-14.1 Maintenance of Documents and Samples. Maintain one record copy of:

A. Contract Drawings

B. Specifications

C. Addenda

D. Change Orders and Other Contract Modifications

E. Reviewed Shop Drawings, Product Data, and Samples

F. Field Test Records

G. Construction Schedules

H. Manufacturer's Certificates

Maintain documents in clean, dry, legible condition; do not use them for construction purposes.

Keep Record Documents and samples accessible to the City Representative for inspection. The Engineer will not approve applications for partial payment if Record Documents are not current. The City Representative must this verify before submitting each Application for Payment.

6-14.2 Recording. Record changes to the Plans and discoveries of buried objects at the Work on Record Documents with red ballpoint pen. Label each Document "PROJECT RECORD" in large printed letters and record information concurrently with construction progress. Do not conceal any work until the required information is recorded and legibly mark each item on the Contract Drawings and Shop Drawings to record actual construction, including:

A. Measured depths of elements in relation to a fixed datum point

B. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements

C. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible construction features

D. Field changes of dimension and detail

E. Changes made by Contract modifications

F. Details not on original Contract Drawings

G. Previously unknown buried objects

Legibly mark each item to record actual construction, including:

A. Manufacturer, trade name, and catalog number of each product installed, particularly optional and substitute items

B. Changes made by Addenda or modifications

Maintain other documents per the requirements of individual Specifications sections.

6-14.3 Submittals. At Contract closeout, deliver Record Documents and samples per 6-14.1. The Engineer will not approve your request for final payment until you deliver all Record Documents.

Send submittals with a cover letter signed by you or by your authorized representative listing the date, project title and number, and number and title of each Record Document.

6-15 AUDIT AND ACCESS TO RECORDS.

A. Maintain all books, records, documents and other evidence directly pertinent to performing the Work according to generally accepted accounting principles and practices consistently applied. Maintain all financial information and data you used to prepare or support any cost submission, including your original bid, required for this Contract or any Change Order, claim or other request for equitable adjustment and a copy of the cost summary or information submitted to the City. The Engineer must have access, with twenty four hours advance written notice, at all times during normal business hours, to all books, records, documents, financial information and other evidence to inspect, audit, and copy. Provide, at no cost to the City, proper facilities for this.

B. Apply the provisions of this section applicable to all Change Orders, claims or other requests for equitable adjustment affecting the Contract Time or price. Physically include the provisions of this section in all subcontracts and material supply contracts or purchase orders at any tier. The provisions of this section apply to all subcontracts at any tier in excess of $10,000 and to all Change Orders, claims and other requests for equitable adjustment related to project performance.

C. Audits conducted under this section must accord with generally accepted auditing standards and the established procedures and guidelines of the reviewing or auditing agency.

D. Release all information discovered and reports prepared after accessing records under the provisions of this section to the City and to other affected agencies.

E. Maintain and make available during performance of the Work and for three years after final payment or until final settlement of all disputes, claims or litigation, whichever occurs later, records under the provisions of this Section. In addition, maintain and make available, records relevant to the Contract, to any Change Order, dispute, litigation, settlement of any claim arising out of performance, or cost or items to which an audit exception has been taken until final payment or final resolution of the dispute, litigation, claim or exception, whichever occurs later.

F. This section applies to all financial records and all Change Orders and claims. It also applies to all records pertaining to all contracts, Change Orders and Contract Amendments:
   1. To the extent the records pertain directly to Contract performance;
   2. Where there is any indication that fraud, gross abuse or corruption may be involved;
   3. Where the Contract is terminated for default or convenience.

G. Access to records is not limited to the required retention periods. The City's Authorized Representatives must have access to records at any reasonable time for as long as the records are maintained.

6-16 DAILY RECORDS.

A. Prepare and maintain Daily Inspection Records to document progress of the Work daily. Daily records must include a daily accounting of all labor and all equipment on the site for you and for all subcontractors at any tier. Daily records must clearly distinguish work performed under a Change Order, base scope work and disputed work.
B. If any labor or equipment is idled solely because of City actions or inactions, the daily records must include which laborers and equipment were idled and for how long. If specific work activities stopped solely because of City actions or inactions and you reassigned labor and equipment to other activities, the daily records must clearly document the activities stopped and where labor and equipment was redirected.
C. Copy and give the Daily records to the City Representative at the end of every Work Day or at the beginning of the following Work Day.

ARTICLE 7 – FACILITIES FOR CITY PERSONNEL

ENTIRE SECTION NOT USED

ARTICLE 8 – MEASUREMENT AND PAYMENT

8-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

8-1.1 General. Unless otherwise specified, the City will determine quantities of work from measurements or dimensions in horizontal planes. However, it will consider linear quantities of pipe, piling, fencing and timber as being the true length measured along the longitudinal axis.

Unless otherwise provided in the Specifications, volumetric quantities are the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter is a precision instrument suitable for measuring all areas.

The Engineer must approve the Schedule of Values, the Construction Schedule and the Contract required submittals before making the initial progress payment.

The Engineer must receive the monthly revised Construction Progress Schedule before making a subsequent progress payment

8-1.2 Measurement Methods. Measure materials and items of work paid based on measurement, according to methods stipulated in the particular sections involved.

8-1.3 Certified Weights. For a payment based on weight, weigh using certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. Give the Engineer duplicate licensed weighmaster's certificates showing actual net weights. The City will accept the certificates as evidence of weights delivered.

8-2 LUMP SUM WORK. The City will pay for items whose quantities are indicated "Lump Sum," "LS," or "Job," at the price indicated in the Bid. That payment constitutes full compensation for the items of work and all work appurtenant to it.

8-2.1 Detailed Schedule. Give the City a cost break-down for all Contract lump sum items. Within fifteen (15) Calendar Days after award of Contract, give the Engineer cost break-down tables to review. The Engineer will approve the cost break-down tables in writing before making any partial payment for the applicable items.

Determine the quantities required to complete the Work shown on the Plans and include the quantities and their values in the cost break-downs you give the Engineer for approval. You are responsible for the accuracy of the quantities and values in your cost break-downs.

The total of the amounts for the line items of work in each cost break-down table for each lump sum item must equal the contract lump sum price bid. Include overhead and profit in each individual line item of work you list.

The City will not adjust compensation in contract lump sum prices because of differences between quantities shown in your cost break-downs and quantities required to complete the Work as shown on the Plans and as detailed in the Specifications.

The City will use individual line item values in the approved cost break-down tables to determine partial payments during the progress of the Work and as the basis for calculating a compensation adjustment for contract lump sum items because of changes in line items of work the Engineer ordered. When the total ordered changes to line items of work increases or decreases the lump sum price bid by more than 25 percent, the compensation adjustment for the applicable lump sum item will be determined as specified for increases and decreases in the total pay quantity of an item of work in Article 2 of the General Conditions.

8-3 PAYMENT.

8-3.1 General. The quantities listed in the Proposal do not govern final payment. The City will pay you only for actual quantities of Contract items constructed according to the Contract Documents. When the Work is complete, if the actual quantities show either an increase or decrease from the quantities in the Proposal, Contract Unit Prices will prevail except as specified in 2-2.2.

The unit and lump sum prices paid are full compensation for the items of work and all appurtenant work including furnishing all materials, labor, equipment, tools and incidentals.

The City considered the cost of work items not in the “Schedule of Work and Prices” in the Bidders Proposal as included in the cost of the other work that is listed and no additional compensation is allowed.

When an item of work is designated as (F) in the “Schedule of Work and Prices,” the estimated quantity for that work item is the final pay quantity unless the Engineer revises any dimensions of the item, or the item or a portion of it is eliminated. If the Engineer revises the dimensions of any portion of the item and the revisions result in an increase or decrease in the estimated quantity of that work item, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions. If a final pay item is eliminated, the estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

Consider the estimated quantity for each item of work designated as (F) in the “Schedule of Work and Prices” as approximate only; no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the Plans, will equal the estimated quantity. No allowance will be made if the quantity based on computations does not equal the estimated quantity.

In case of discrepancy between the quantity shown in the “Schedule of Work and Prices” for a final pay item and the quantity or summation of quantities for the same item shown on the Plans, payment will be based on the quantity shown in the “Schedule of Work and Prices.”

The City will not pay you for materials wasted or disposed of in a manner not called for in the Contract. This includes rejected material not unloaded, material rejected after it has been placed, and material placed outside the Plan lines. The City will not compensate you for disposing of rejected or excess material.

The City will pay for work performed or materials furnished under an Assessment Act Contract as provided in particular proceedings or legislative act under which the contract was awarded. Whenever, at your request, the City performs any portion of the Work, you are responsible for the cost, which may be deducted from any amount due or becoming due from the City.

When immediate action is required to prevent injury, death, or property damage and you do not take and are not reasonably expected to take precautions which are your responsibility, the City may, after a reasonable attempt to notify you, have precautions taken and charge their cost to you, or may deduct their cost from any amount due or becoming due from the City. Do not construe the City’s action or inaction under these circumstances as relieving you or your surety from liability.

Payment does not relieve you of your Contractual obligations. Do not construe payment as acceptance of any of the Work or as the transfer of ownership of any equipment or materials to the City. You retain ownership and are obligated to store any fully or partially completed work or structure for which payment has been made or to replace any materials or equipment you are required to provide under the Contract which may be damaged, lost, stolen or otherwise degraded in any way before the Work is accepted, except as specified in 6-9.

No payment affects warranty periods.

If the City receives, within the time fixed by law, a properly executed notice to stop payment because you failed to pay for labor or materials used in the Work, it will withhold all money due you for the labor or materials according to applicable laws.

Sixty (60) days after the date the City accepts the Work or as prescribed by law, the City will pay the amount deducted from the final estimate it retained except amounts required by law to be withheld by properly executed and filed notices to stop payment, or as authorized by the Contract to be retained longer.

8-3.1.1 Application for Payment. Use the City of Irvine Certified Invoice for Progress Payment Form furnished to you.

Type the required information and follow the schedule of work and bid prices in your accepted Bidder's proposal for unit price contract. Use data on the accepted Schedule of Values for lump sum work. Provide a dollar value in each column for each line item for the portion of work performed and list each authorized Change Order number and dollar amount and the adjusted Contract Price. Have an authorized officer sign the application to certify it. After getting the City Representative's concurrence on the invoice amount, submit the invoice for payment.

Under a transmittal letter, submit the original and one (1) copy of each Application for Payment as stipulated in 8-3.2. Include the submittal date, project title and number, and submit the updated Progress Schedule with the Application for verification of progress. The City will reject any incomplete payment application.

Submit data supporting any line item amounts the Engineer questions.

Provide one copy of the data with a cover letter for each copy of the data submitted and show the application number and date, and line item by number and description.

Sign each Application for Payment and certify to the City that:

A. The data supporting the Application for Payment is accurate and the Work has progressed to the point indicated;
B. To the best your knowledge and belief, the Work accords with the Contract Documents;
C. You are entitled to payment in the amount certified; and
D. You have paid all sums the City paid you to reimburse subcontractor work to the subcontractors performing the work without any retention, withholding or back charge.

8-3.2 Progress Payments.

8-3.2.1 Conditions to Progress Payments. Submit your Application for Payment to the Engineer using City of Irvine Certified Invoice for Progress Payment Form, once a month. Submit invoices within fifteen (15) days from the end of each month. This estimate must include the value of the total amount of the work you complete during the calendar month preceding that in which the estimate is made.

Without limitation to any other provisions of the Contract Documents, the following precede a proper submission and the Engineer's approval of each Application for Payment:

A. Submit the detailed Schedule per 8-2.1;
B. Submit the certification required in 8-3.1.1;
C. Submit conditional releases of stop notices, if any, and bond rights upon progress payment, complying with California Civil Code § 8132, for all Work performed during the time covered by the current Application for Payment, which you, your subcontractors of every tier, and all

material suppliers to each sign, and forms of unconditional release of stop notice and bond rights upon progress payment, complying with California Civil Code § 8134, for all Work performed during the time covered by the previous Application for Payment that you, your subcontractors of every tier and all material suppliers each sign;

D. Maintain Record Drawings as required by the Contract Documents;

E. Submit monthly and daily reports as required by the Contract Documents;

F. Submit scheduling information and update the Construction Schedule as required by the Contract Documents regarding preparing or updating schedule information;

G. Submit certified payroll records as required by the Contract Documents;

H. Comply with all requirements for submitting documents or performing conditions that, by the terms of the Contract Documents, constitute conditions to your right to receive payment for Work performed.

8-3.2.2 Payments by City. Pursuant to California Public Contract Code § 20104.50, the City will pay an undisputed, properly submitted Application for Payment within thirty (30) days after the Engineer receives it, based on 90 percent of its value determined pursuant to 8-2.1:

A. The portion of the Work permanently installed;
B. Plus the value of materials delivered on the ground or in storage as approved by City pursuant to 8-3.8;
C. Less the aggregate of previous payments; and
D. Less any other withholdings authorized by the Contract Documents.

8-3.2.3 Rejection by City. The City will return any Application for Payment it disputes or determines is improper and unsuitable for payment not more than seven (7) days after receiving it, together with a written explanation of why the payment request was rejected. The City's failure to either timely reject an Application for Payment or specify grounds for rejection does not waive of any of its rights. Correct and resubmit rejected Applications for Payment within seven (7) days after receiving them.

8-3.3 Final Payment.

8-3.3.1 Retention.

Pursuant to 8-2.1, the City will also withhold, in addition to withholding permitted by 8.37, a sum equal to 5 percent of all sums otherwise due you as progress payments from each progress payment ("Retention") and hold it until it is due as described here.

8-3.3.2 Conditions to Final Payment. Submit your Application for Final Payment using the City of Irvine Certified Invoice for Progress Payment Form, before you request a final inspection of the Work according to 5-8. Include with the Application for Final Payment the following:

A. An affidavit that payrolls, materials and equipment bills and other project debts for which the City or the City's property or funds might be liable, have been paid or satisfied;

B. Your certification required by 8-3.1;

C. Surety's consent to Final Payment;

D. A certificate evidencing that the insurance required by the Contract Documents is in force;

E. Conditional Waiver and Release Upon Final Payment in the form required by California Civil Code § 8136, executed by you, all subcontractors of every tier and all material suppliers, covering the final payment period;

F. Unconditional Waiver and Release Upon Progress Payment in the form required by California Civil Code § 8134, executed by you, all subcontractors of every tier and all material suppliers of each, covering the previous payment period;

G. All Record Documents including, without limitation, complete and accurate record drawings which you kept up to date during performance of the Work;

H. Documentation that you have inspected, tested and adjusted the performance of every system or facility of the Work to ensure that it complies with the terms of the Contract Documents;

I. Four (4) copies of all warranties from vendors and subcontractors, operation and maintenance manuals, instructions and related agreements and equipment certifications and similar documents;

J. Releases of rights and claims relating to patents and trademarks required by the Contract Documents; and

K. Any other documents or information required by the Contract Documents as a condition of Final Payment or Final Completion.

8-3.3.3 Retention Release. Pursuant to Public Contract Code § 7107, within sixty (60) days after the City delivers the Notice of Completion, it will release the Final Payment, including Retention withheld, subject to the City's right to withhold 150% of any disputed amounts.

8-3.3.4 Disputed Amounts. Pursuant to California Public Contract Code § 7107, the City may deduct and withhold from the Final Payment due under 8-3.3.3, up to 150% of any disputed amounts including amounts to protect the City against any loss caused or threatened as a result of your failure to perform all obligations required as a condition of Completion and Final Payment. Alternatively, the City may elect, in its sole discretion, to accept the Work without correction or completion and adjust the Contract Price pursuant to the Contract Documents.

8-3.3.5 Acceptance of Final Payment. Accepting Final Payment constitutes a waiver of all your rights against the City to recover any loss excepting only those Claims you submitted as required by the Contract Documents before or at the time of Final Payment.

8-3.4 Miscellaneous.

8-3.4.1 Joint Payment. The City has the right, if it deems necessary in its sole discretion, to issue joint checks payable to you and to any subcontractor(s) of any tier. The joint check payees are solely responsible to allocate and disburse the joint payment funds. A payee's endorsement of the check constitutes its receipt of payee's payment. No joint check creates a contract between the City and a subcontractor of any tier, or any obligation from the City to a subcontractor or any third party rights against the City or the Engineer.

8-3.4.2 Withholding/Duty to Proceed. Paying, withholding or retaining all or part of a payment you claim is due to you does not relieve you of your obligations under the Contract Documents. Continue to perform the Work diligently regardless of the City's payment, withholding or retention of any payment. The City's good faith partial payment, withholding or retention of any disputed part of a payment, whether correctly or incorrectly asserted, is not a breach of the Contract Documents and is not grounds for an adjustment of the Contract Price or Contract Time.

8-3.4.3 No Acceptance. The City's payment or its partial or entire use of the Work does not constitute approval or acceptance of all or any portion of the Work.

8-3.4.4 Contractor Payment Warranty. Submitting an Application for Payment constitutes your warranty that:

A. Title to Work covered by an Application for Payment passes to the City either by integration into the construction or on receipt of your payment, whichever occurs first; and

B. Work covered by previous Applications for Payment are free and clear of liens, stop notices, claims, security interests or encumbrances you or any other person imposes.

8-3.4.5 Corrections. An inaccuracy or error in any Application for Payment does not release you from the error or from losses arising from the Work or from any obligation imposed by the Contract Documents. The City retains the right to subsequently correct any error made in any previously approved Application for Payment or progress payment issued by adjusting subsequent payments.

8-3.5 Payments By Contractor. Do not include in your Applications for Payment sums for any subcontractor's portion of the Work you do not intend to pay to that subcontractor. When you receive the City's payment, pay the subcontractor performing Work on the Project out of that payment for the portion of the Work the subcontractor is entitled to according to the terms of its contract with you and with applicable laws including, without limitation, California Public Contract Code § 7107.

Notwithstanding any City withholding pursuant to the terms of the Contract Documents, you remain responsible for promptly satisfying from your own funds, sums due all subcontractors who have performed Work included in your Application for Payment. Require each subcontractor, by appropriate agreement, to pay its subcontractors and material suppliers in a similar manner. The City is not obligated to pay or to be responsible in any way for paying a subcontractor of any tier or material supplier**.**

8-3.6 Payment Withheld.

8-3.6.1 Withholding by City. In addition to any other amounts the City may have the right to retain under the Contract Documents, it may withhold a sufficient amount of any payment otherwise due you as the City, in its sole discretion, determines is necessary to cover actual or threatened loss due to any of the following:

A. Third-Party Claims. Third-party claims or stop notices filed or reasonable evidence indicating the probable filing of claims or stop notices;

B. Defective Work. Defective Work not remedied;

C. Nonpayment. Failure to make proper payments to your subcontractors for services, labor, materials or equipment;

D. Inability to Complete. Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum or within the Contract Time;

E. Violation of Applicable Laws. Failure or failure of your subcontractors to comply with applicable laws or lawful orders of governmental authorities;

F. Penalty. Any claim or penalty asserted against the City because you failed to comply with applicable laws or lawful orders of governmental authorities including, without limitation, labor laws;

G. Failure to Meet Contract Time. Any damages which may accrue because you failed to meet the Construction Schedule or to perform within the Contract Time;

H. Setoff. Any reason specified elsewhere in the Contract Documents as grounds for a withholding offset or set off or that would legally entitle the City to a set-off or recoupment;

I. Consultant Services. Additional professional, consultant or inspection services required because you failed to comply with the Contract Documents;

J. Liquidated Damages. Liquidated damages assessed against you;

K. Materials. Materials the City ordered pursuant to the Contract Documents;

L. Damages. Loss you, or a subcontractor to the City, or separate contractors, or any other person or entity under contract to the City caused;

M. Clean Up. Clean up the City performed that is chargeable to you pursuant to the Contract Documents;

N. Employee Benefits. Failure to pay contributions due to employee benefits funds pursuant to any applicable collective bargaining agreement or trust agreement;.

O. Required Documents. Failure to submit on a timely basis, proper and sufficient documentation required by the Contract Documents including, without limitation, Construction Schedule updates, 'look ahead' schedules, Submittals, Schedules of Values, information on Subcontractors, Change Orders, certifications and other required reports or documentation;

P. Other Breach. A breach of any obligation or provision of the Contract Documents.

8-3.6.2 Release of Withholding. If the City determines, in its sole discretion, that you have removed the above-mentioned grounds for withholding and have paid, credited or otherwise satisfied all losses incurred or threated, the City will pay you the amounts withheld because of them.

8-3.6.3 Application of Withholding. The City may apply sums withheld pursuant to 8-3.6.1 to pay any loss or threatened loss the City determines, in its sole discretion, is appropriate. It may make these payments without a prior judicial determination of its actual rights regarding the loss. You agree and designate the City as your agent for this purpose and agree that these payments are payments made to you by the City under the Contract. The City is not liable to you for these payments made in good faith. The City will give you an accounting of funds paid on your behalf. Alternatively, the City, in its sole discretion, may exercise its right to adjust the Contract Price as provided in the Contract Documents.

8-3.6.4 Continuous Performance. If the City pays the undisputed portion, if any, of funds withheld in good faith, you must continue to perform the Work without interruption while any disputes or disagreements with the City are pending.

8-3.7 Substitution of Securities. At your request, the City will pay funds withheld from progress payments pursuant to the requirements of Public Contract Code § 22300, if you deposit in escrow with a bank acceptable to the City, securities eligible for the investment of state funds under Government Code § 16430, or bank or savings and loan certificates of deposit, on the following conditions:

A. Pay the City and the Escrow Agent for the escrow deposit.

B. The value of securities or certificates of deposit placed in escrow is at least equivalent to the retention amounts owed you pursuant to this section.

C. You enter into an escrow agreement satisfactory to the City that includes provisions governing, among other things;

1. Value of securities deposited;

2. Powers of attorney or other documents required to transfer the securities deposited;

3. Cash conversion to fund defaults including but not limited to, terminating your control over the

Work, stop notices legally filed, liquidated damages assessed or other amounts retained under the Contract ;

4. Decreased value of securities on deposit; and
5. Termination of escrow when the Contract is complete.

D. Obtain the surety's written consent to the agreement.

8-3.8 Delivered Materials. The City may make, at its discretion, payments for materials or equipment not incorporated into the Work but delivered on the ground at the site that you stored there or stored off-site under the City's control. The City will only consider these payments if you submit satisfactory evidence that you have title to the material or equipment, that the material or equipment will be used in the Work and that the material is satisfactorily stored, protected and insured and other procedures are in place, acceptable to the City, to protect the City's interests. To consider this payment, materials or equipment stored off-site must, in addition to the above requirements and unless otherwise specifically approved by the City in writing, be stored in a bonded warehouse, fully insured, and available to the City for inspection. The City has sole discretion to determine the amount of material and equipment stored on the site at any given time.

8-3.9 Mobilization

8-3.9.1 General. Mobilization is preliminary work and operations that include but are not limited to, those necessary to move personnel, equipment, materials and incidentals to the Work site for the Work and for all other necessary work and operations or costs incurred including bonds, insurance and financing before beginning work on Contract items.

Mobilization also includes the cost, time and labor to move necessary construction equipment to and from the job site, supervisory time on the job by your personnel to keep the site safe and all other related work required for all non-working days during construction. Secure adequate storage for equipment and materials.

Have as your agent, a competent English speaking superintendent who can read and thoroughly understand the plans, specifications, other related documents and directions from the City's Representative on-site at all times.

8-3.9.2 Measurement and Payment. Mobilization is eligible for partial payment if the Contract includes a bid item for it. Payment for mobilization is at the Lump-Sum (LS) price bid and includes obtaining and paying for all permits and business licenses as required by the City, state and other agencies. The City will waive its permit fee. Comply with the requirements specified by each license or permit. The City will not pay for mobilization until you submit a Construction Schedule that has been reviewed and accepted and is current. The City will make progress payments for this item according to the percent of the project completed and will include mobilization and administration costs for the entire contract period including the construction schedule required in these Specifications. The City will make payments based on the following:

A. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 5 percent or more of the original contract amount, 50 percent of the contract item price for mobilization or 5 percent of the original contract amount, whichever is less, will be included in the estimate for payment.

B. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 10 percent or more of the original contract amount, the total amount earned for mobilization is 75 percent of the mobilization contract item price or 7.5 percent of the original contract amount, whichever is less, will be included in the estimate for payment.

C. When the monthly partial payment estimate of the amount earned, not including the amount

earned for mobilization, is 20 percent or more of the original contract amount, the total amount earned for mobilization is 95 percent of the mobilization contract item price or 9.5 percent of the original contract amount, whichever is less, will be included in the estimate for payment.

D. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 50 percent or more of the original contract amount, the total amount earned for mobilization is 100 percent of the mobilization contract item price or 10 percent of the original contract amount, whichever is less, will be included in the estimate for payment.

E. When all the Work is complete, the City will pay any amount bid for mobilization exceeding 10 percent of the original contract amount.

8-4 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the Engineer's opinion, it is not practical to remove and replace the Work, the Engineer will specify one of the following remedies:
   1. The defective Work may remain but the unit price will be adjusted;
   2. The defective Work will be partially repaired at the Engineer's instructions and the unit price will be adjusted;

C. Individual Specification sections may modify these options or may require a specific formula or percentage price reduction.

D. The Engineer's authority to assess the defect and make a payment adjustment is final.

8-5 PROMPT PAYMENT. In addition to requirements specified elsewhere, the following also apply: Subsection (f) of § 20104.50 of the Public Contract Code, Article 1.7 of Part 3 of Division 2. Timely progress payments; legislative intent; interest; payment requests:

A. It is the intent of the Legislature in enacting this section to require all local governments to pay their contractors on time so that these contractors can meet their obligations. In requiring local governments to pay promptly, the Legislature finds that prompt payment of outstanding receipts is not merely a municipal affair, but is a matter of statewide concern.

B. It is the intent of the Legislature in enacting this article to regulate public policy relating to prompt payment of local governments' outstanding receipts. The Legislature finds that all government officials, including those in local government, must set a standard of prompt payment that any business in the private sector that may contract for services should look to for guidance.

C. Any local agency failing to make any progress payment within 30 days after receiving an undisputed and properly submitted payment request from a contractor on a construction contract must pay interest to the contractor equivalent to the legal rate in subdivision (a) of § 685.010 of the Code of Civil Procedure.

D. Upon receiving a payment request, each local agency must comply with both of the following:
   1. The local agency must review each payment request as soon as possible after receipt to determine whether the payment request is proper payment request.
   2. The local agency must return to the contractor as soon as possible but not later than seven days after receipt, any payment request determined not to be a proper payment request. A document setting out why the payment request is not proper must accompany any request returned pursuant to this paragraph.

E. The number of days available to a local agency to make a payment without incurring interest under this section is reduced by the number of days by which it exceeds the seven-day return requirement in paragraph (2) of subsection (c).
F. For purposes of this article:
    1. A “local agency” includes, but is not limited to, a city, including a charter city, a county, a city and county and any public entity subject to this part.
    2. A “progress payment” includes all payments due contractors, except that portion of the final payment designated by the contract as retention.
    3. A payment request is properly executed if funds are available to pay it and payment is not delayed by an audit inquiry by the local agency’s financial officer.
G. Each local agency must require that this article, or a summary of it, is included in the terms of any contract subject to this article.

8-6 CLAIMS. Any claims you submit against the City for Work covered by this Contract for $375,000 or less is subject to the procedures specified in Public Contract Code § 20104, *et seq*.

8-6.1 Claims Submission and Documentation.

A. You may submit a claim concerning a matter properly noticed according to the requirements of this Contract.
B. Furnish all claim documentation as specified here no later than thirty (30) days after the event or condition causing the claim has been resolved. If you do not furnish the required claim documentation within this time, you waive your right to compensation for the claim.
C. Furnish three (3) certified copies of the required claim documentation. The documentation must be complete when furnished. The City will evaluate your claim based on City project records and the documentation you provide.
D. Claim documentation must conform to Generally Accepted Accounting Principles and be in the following format:
    1. General Introduction
    2. General Background Discussion
    3. Issues
    4. Index of Issues (listed numerically)
    5. For each issue (begin each issue on a new page)
        a. Background
        b. Chronology
        c. Your position (why you believe the City is liable)
        d. Supporting documentation of merit or entitlement
        e. Supporting documentation of damages
    6. All critical path method schedules, both as-planned, monthly updates, schedule revisions, and as-built together with computer disks of all schedules related to the claim.
    7. Productivity Exhibits, if appropriate
    8. Summary of Issues and Damages
E. City by reference, photocopy or explanation, supporting documentation relevant to each issue. Supporting documentation may include, but is not be limited to, general conditions, general requirements, technical specifications, drawings, correspondence, conference notes, shop drawings and submittals, shop drawing logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, fragmentary CPM schedules or time impact

analyses, photographs, technical reports, requests for information, field instructions and all other related records that support your claim.

F. Cite, photocopy or explain supporting documentation of damages for each issue. Supporting documentation may include, but shall not be limited to, all documents related to preparing and submitting the bid, certified, detailed labor records including labor distribution reports, material and equipment procurement records, construction equipment ownership cost or rental records, subcontractor or vendor files and cost records, service cost records, purchase orders, invoices, project as-planned and as-built cost records, general ledger records, variance reports, accounting adjustment records and any other accounting materials that support your claim.

G. Have each copy of the claim documentation certified by a responsible office of yours according to the requirements of the Contract Documents.

H. If you cannot support any part of the claim and it is determined that this inability is due to the falsity of the certification or misrepresentation of fact or fraud on your part, you are liable to the City as provided under California Government Code § 12650 *et. seq*.

I. Your claims must be accompanied by a notarized certificate containing the following language: Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government code § 12650 *et. seq*., the undersigned,

(Name) _____

(Title) _____

(Company) _____

hereby certifies that the claim for the additional compensation and time, if any, made here for the work on this Contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the Contract between the parties.

Dated _____

Signature _____

Subscribed and sworn before me this _____ day

of _____

Notary Public

My Commissions expires _____

Failing to submit the notarized certificate is cause for denying the claim.

SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Building Safety Upgrades, Deerfield Community Park-Fire Sprinkler Systems.

B. Owner's Name: City of Irvine.

C. Project Manager's Name: Eric Gruber, Senior Project Manager.

D. Architect's Name: Catherine Peppard, CAP Architecture Inc.

E. The Project consists of the construction of new fire sprinkler system throughout the building including all trenching and demolition of associated items and repair and refill of all concrete walkways, roads, curbs and landscaping including other works required by the plans and the Special Provisions.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is shown on Plans and Specifications.

B. Scope of alterations work is shown on Plans.

C. Renovate the following areas, complete including operational mechanical and electrical work and finishes:
   1. New Fire Sprinkler System.

D. Plumbing: Alter existing system and add new construction, keeping existing in operation.

E. HVAC: Alter existing system and add new construction, keeping existing in operation.

F. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

G. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.

H. Telephone: Alter existing system and add new construction, keeping existing in operation.

I. Security System: Alter existing system and add new construction, keeping existing in operation.

J. City will remove the following items before start of work:
   a. Supplies within the interior closet for new standpipe location.

1.04 WORK BY CITY- Not Applicable

1.05 CITY OCCUPANCY

A. City intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. City intends to occupy the Project upon Substantial Completion.

C. City intends to occupy a certain portion of the Project prior to the completion date for the conduct of normal operations.

D. Cooperate with City to minimize conflict and to facilitate City's operations.

E. Schedule the Work to accommodate City occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Plans.

B. Arrange use of site and premises to allow:
   1. City occupancy.
   2. Work by Others.
   3. Work by City.

4. Use of site and premises by the public.

C. Provide access to and from site as required by law and by City:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

E. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours after 9 a.m.
   2. Limit conduct of especially noisy interior work to be coordinated with the facility programming.

F. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire alarm system, without 7 days notice to City and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

1.07 WORK SEQUENCE

A. Coordinate construction schedule and operations with City.

B. Coordinate construction schedule and operations with Engineer.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 35 53 - SECURITY PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security measures including formal security program, entry control, personnel identification, guard service, and miscellaneous restrictions.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: use of premises and occupancy.

B. Section 01 50 00 - Temporary Facilities and Controls: Temporary lighting.

1.03 SECURITY PROGRAM

A. Protect Work , existing premises and Owner's operations from theft, vandalism, and unauthorized entry.

B. Initiate program at project mobilization.

C. Initiate program in coordination with Owner's existing security system at project mobilization.

D. Maintain program throughout construction period until Owner occupancy.

E. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

F. Maintain program throughout construction period until directed by Engineer.

1.04 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors, make available to Owner on request.

D. Owner will control entrance of persons and vehicles related to Owner's operations.

E. Contractor shall control entrance of persons and vehicles related to Owner's operations.

F. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

1.05 CONTRACTOR BACKGROUND CHECK REQUIREMENTS

Prior to commencing services, Contractor workers are required to successfully pass a California Department of Justice and/or Federal Bureau of Investigation (FBI) Live Scan Fingerprinting background check (“Live Scan”) performed by the City of Irvine Police Department. The Contractor shall be responsible for obtaining the Live Scan for its workers prior to performing work and shall bear the cost thereof. The cost of this procedure shall be included in the Bid Item for Mobilization.

The City’s Human Resources staff will coordinate the scheduling of the Live Scan. On the day of the Live Scan, the worker must obtain an application form from the City of Irvine Human Resources Division (located on the third floor of the Civic Center). Upon completion of the application form, the worker will be directed to the Police Department, where the Live Scan will be performed. The worker must possess a photo ID such as a Driver’s License at the time of the Live Scan. Also at the time of the Live Scan, payment must be made to the Police Department via cash or check made payable to “The City of Irvine.” The cost of the Live Scan is approximately $60.00, per individual. Credit cards are not accepted. The Police Department will provide the City’s Human Resources Division with the results of the Live Scan. Human Resources staff will then notify the Contractor and City Representative of the results. The cost of this procedure shall be included in the Bid Item for Mobilization.

1.06 GUARD SERVICE-Not Applicable

1.07 RESTRICTIONS

Do not allow cameras on site or photographs taken except by written approval of Engineer.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. References and standards.

C. Testing and inspection agencies and services.

D. Control of installation.

E. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Submittal procedures.

1.03 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2016.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2015a.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2015.

1.04 SUBMITTALS

A. See Section 00 72 00 - General Conditions, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Owner and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Conformance with Contract Documents.
      k. When requested by Owner, provide interpretation of results.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Owner, in quantities specified for Product Data.
   1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.05 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Owner before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Owner shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.06 Testing and Inspection Agencies and Services

A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Owner and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Owner and Contractor of observed irregularities or non-conformance of Work or products.
   5. Perform additional tests and inspections required by Owner.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:

a. To provide access to Work to be tested/inspected.
b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
c. To facilitate tests/inspections.
d. To provide storage and curing of test samples.

4. Notify Owner and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

END OF SECTION

SECTION 01 45 33 - CODE-REQUIRED SPECIAL INSPECTIONS

PART 1 GENERAL

Refer to the City of Irvine – Special Inspection Manual and Contract Documents.

Refer to Orange County Fire Authority Inspection requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers, enclosures, and fencing.

D. Vehicular access and parking.

E. Waste removal facilities and services.

F. Project identification sign.

1.02 RELATED REQUIREMENTS

A. Section 01 51 00 - Temporary Utilities.

B. Section 01 55 00 - Vehicular Access and Parking.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.04 TEMPORARY UTILITIES - See Section 01 51 00

A. Owner will provide the following:
   1. Electrical power and metering, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

1.05 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

1.06 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.07 FENCING

A. Provide 6 foot (1.8 m) high fence with green screening around construction site; equip with vehicular and pedestrian gates with locks.

1.08 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.09 VEHICULAR ACCESS AND PARKING - See Section 01 55 00

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.10 WASTE REMOVAL

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from site periodically.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on Drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 57 21 - INDOOR AIR QUALITY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Construction procedures to promote adequate indoor air quality after construction.

B. Building flush-out after construction and before occupancy.

C. Testing indoor air quality before commencement of construction; existing building areas only.

D. Testing indoor air quality after completion of construction.

E. Testing air change effectiveness after completion of construction.

F. Testing smoking room ventilation and isolation.

1.02 PROJECT GOALS

A. Dust and Airborne Particulates: Prevent deposition of dust and other particulates in HVAC ducts and equipment.
   1. Cleaning of ductwork is not contemplated under this Contract.
   2. Contractor shall bear the cost of cleaning required due to failure to protect ducts and equipment from construction dust.
   3. Establish condition of existing ducts and equipment prior to start of alterations.

C. Airborne Contaminants: Procedures and products have been specified to minimize indoor air pollutants.
   1. Furnish products meeting the specifications.
   2. Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

D. Environmental Tobacco Smoke Control: Smoking rooms have been designed with direct exhaust to outdoors, no recirculated air, impermeable partitions from floor to structure above, and negative pressure of at least 0.03 inch wg (7 Pa).

E. Residential Units Air Isolation: Units have been designed with impermeable party walls and sealed openings in walls and floors.

1.03 RELATED REQUIREMENTS

B. Section 01 40 00 - Quality Requirements: Testing and inspection services.

C. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.

D. Section 23 40 00 - HVAC Air Cleaning Devices: HVAC filters.

E. Section 23 05 93 - Testing, Adjusting, and Balancing for HVAC: Testing HVAC systems for proper air flow rates, adjustment of dampers and registers, and settings for equipment.

F. Section 23 01 30.51 - HVAC Air Duct Cleaning: Cleaning air ducts, equipment, and terminal units.

1.04 REFERENCE STANDARDS

A. ASHRAE Std 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size; 2012, with 2015 amendments.

B. ASHRAE Std 129 - Measuring Air-Change Effectiveness; 1997 (Reaffirmed 2002).

C. ASTM D5149 - Standard Test Method for Ozone in the Atmosphere: Continuous Measurement by Ethylene Chemiluminescence; 2002 (Reapproved 2008).

D. ASTM D5197 - Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology); 2009.

E. ASTM E779 - Standard Test Method for Determining Air Leakage Rate by Fan Pressurization; 2010.

F. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions From Indoor Sources Using Environmental Chambers; California Department of Public Health; v1.1, 2010.

G. EPA 600/4-90/010 - Compendium of Methods for the Determination of Air Pollutants in Indoor Air; April 1990.

H. EPA 625/R-96/010b - Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air; Jan-99.

I. SMACNA (OCC) - IAQ Guidelines for Occupied Buildings Under Construction; 2007.

1.05 DEFINITIONS

A. Adsorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.

B. Contaminants: Gases, vapors, regulated pollutants, airborne mold and mildew, and the like, as specified.

C. Particulates: Dust, dirt, and other airborne solid matter.

D. Wet Work: Concrete, plaster, coatings, and other products that emit water vapor or volatile organic compounds during installation, drying, or curing.

1.06 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Indoor Air Quality Management Plan: Describe in detail measures to be taken to promote adequate indoor air quality upon completion; use SMACNA (OCC) as a guide.
   1. Submit not less than 60 days before enclosure of building.
   2. Identify potential sources of odor and dust.
   3. Identify construction activities likely to produce odor or dust.
   4. Identify areas of project potentially affected, especially occupied areas.
   5. Evaluate potential problems by severity and describe methods of control.
   6. Describe construction ventilation to be provided, including type and duration of ventilation, use of permanent HVAC systems, types of filters and schedule for replacement of filters.
   7. Describe cleaning and dust control procedures.

C. Interior Finishes Installation Schedule: Identify each interior finish that either generates odors, moisture, or vapors or is susceptible to adsorption of odors and vapors, and indicate air handling zone, sequence of application, and curing times.

D. Duct and Terminal Unit Inspection Report.

E. Air Contaminant Test Plan: Identify:
   1. Testing agency qualifications.
   2. Locations and scheduling of air sampling.
   3. Test procedures, in detail.
   4. Test instruments and apparatus.
   5. Sampling methods.

F. Air Contaminant Test Reports: Show:
   1. Location where each sample was taken, and time.
   2. Test values for each air sample; average the values of each set of 3.
   3. HVAC operating conditions.
   4. Certification of test equipment calibration.
   5. Other conditions or discrepancies that might have influenced results.

G. Ventilation Effectiveness Test Plan: Identify:
   1. Testing agency qualifications.
   2. Description of test spaces, including locations of air sampling.
   3. Test procedures, in detail; state whether tracer gas decay or step-up will be used.

4. Test instruments and apparatus; identify tracer gas to be used.
5. Sampling methods.

H. Ventilation Effectiveness Test Reports: Show:
1. Include preliminary tests of instruments and apparatus and of test spaces.
2. Calculation of ventilation effectiveness, E.
3. Location where each sample was taken, and time.
4. Test values for each air sample.
5. HVAC operating conditions.
6. Other information specified in ASHRAE Std 129.
7. Other conditions or discrepancies that might have influenced results.

I. Smoking Room Test and Inspection Plan: Identify:
1. Testing agency qualifications.
2. Description of test spaces, including locations of air sampling.
3. Test procedures, in detail.
4. Test instruments and apparatus; identify tracer gas to be used.
5. Sampling methods.

J. Smoking Room Test and Inspection Reports: Show:
1. Include preliminary tests of instruments and apparatus.
2. Include inspection of membrane seals in test spaces.
3. HVAC operating conditions.
4. Location where each sample was taken, and time.
5. Test values for each air sample.
6. Other information specified in ASHRAE Std 129.
7. Other conditions or discrepancies that might have influenced results.

1.07 QUALITY ASSURANCE

A. Testing and Inspection Agency Qualifications: Independent testing agency having minimum of 5 years experience in performing the types of testing specified.

PART 2 PRODUCTS

2.01 MATERIALS

A. Low VOC Materials: See Section 01 61 16.

B. Low VOC Materials: See other sections for specific requirements for materials with low VOC content.

C. Auxiliary Air Filters: MERV of 8, minimum, when tested in accordance with ASHRAE Std 52.2.

PART 3 EXECUTION

3.01 CONSTRUCTION PROCEDURES

A. Prevent the absorption of moisture and humidity by adsorptive materials by:
1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
3. Provide sufficient ventilation for drying within reasonable time frame.

B. Begin construction ventilation when building is substantially enclosed.

C. If extremely dusty or dirty work must be conducted inside the building, shut down HVAC systems for the duration; remove dust and dirt completely before restarting systems.

D. When working in a portion of an occupied building, prevent movement of air from construction area to occupied area.

E. Use of HVAC equipment and ductwork for ventilation during construction is not permitted:
1. Provide temporary ventilation equivalent to 1.5 air changes per hour, minimum.

2. Exhaust directly to outside.
3. Seal HVAC air inlets and outlets immediately after duct installation.

F. HVAC equipment and supply air ductwork may be used for ventilation during construction:
1. Operate HVAC system on 100 percent outside air, with 1.5 air changes per hour, minimum.
2. Ensure that air filters are correctly installed prior to starting use; replace filters when they lose efficiency.
3. Do not use return air ductwork for ventilation.
4. Do not use return air ductwork for ventilation unless absolutely necessary.
5. Seal return air inlets or otherwise positively isolate return air system to prevent recirculation of air; provide alternate return air pathways.
6. Where return air ducts must be used for ventilation, install auxiliary filters at return inlets, sealed to ducts; use filters with at least the equivalent efficiency as those required at supply air side; inspect and replace filters when they lose efficiency.

G. Do not store construction materials or waste in mechanical or electrical rooms.

H. Prior to use of return air ductwork without intake filters clean up and remove dust and debris generated by construction activities.
1. Inspect duct intakes, return air grilles, and terminal units for dust.
2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduit.
3. Clean tops of doors and frames.
4. Clean mechanical and electrical rooms, including tops of pipes, ducts, and conduit, equipment, and supports.
5. Clean return plenums of air handling units.
6. Remove intake filters last, after cleaning is complete.

I. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.

J. Use other relevant recommendations of SMACNA (OCC) for avoiding unnecessary contamination due to construction procedures.

3.02 BUILDING FLUSH-OUT

A. Contractor's Option: Either full continuous flush-out OR satisfactory air contaminant testing is required, not both.

B. Perform building flush-out before occupancy.

C. Do not start flush-out until:
1. All construction is complete.
2. HVAC systems have been tested, adjusted, and balanced for proper operation.
3. Cleaning of inside of HVAC ductwork, specified elsewhere, has been completed.
4. Inspection of inside of return air ducts and terminal units confirms that cleaning is not necessary.
5. New HVAC filtration media have been installed.

D. Building Flush-Out: Operate all ventilation systems at normal flow rates with 100 percent outside air until a total air volume of 14,000 cubic feet per square foot (4500 cubic meters per square meter) of floor area has been supplied.
1. Obtain Owner's concurrence that construction is complete enough before beginning flush-out.
2. Maintain interior temperature of at least 60 degrees F (15 degrees C) and interior relative humidity no higher than 60 percent.
3. If additional construction involving materials that produce particulates or any of the specified contaminants is conducted during flush-out, start flush-out over.
4. If interior spaces must be occupied prior to completion of the flush-out, supply a minimum of 25 percent of the total air volume prior to occupancy, and:

a. Begin ventilation at least three hours prior to daily occupancy.
b. Continue ventilation during all occupied periods.
c. Provide minimum outside air volume of 0.30 cfm per square foot (0.0015 cu m/s/sq m) or design minimum outside air rate, whichever is greater.

E. Install new HVAC filtration media after completion of flush-out and before occupancy or further testing.

3.03 AIR CONTAMINANT TESTING

A. Contractor's Option: Either full continuous flush-out, or satisfactory air contaminant testing is required, not both.

B. Perform air contaminant testing before starting construction, as base line for evaluation of post-construction testing.

C. Perform air contaminant testing before occupancy.

D. Do not start air contaminant testing until:
1. All construction is complete, including interior finishes.
2. HVAC systems have been tested, adjusted, and balanced for proper operation.
3. Cleaning of inside of HVAC ductwork, specified elsewhere, has been completed.
4. New HVAC filtration media have been installed.

E. Indoor Air Samples: Collect from spaces representative of occupied areas:
1. Collect samples while operable windows and exterior doors are closed, HVAC system is running normally as if occupied, with design minimum outdoor air, but with the building unoccupied.
2. Collect samples from spaces in each contiguous floor area in each air handler zone, but not less than one sample per 25,000 square feet (2300 square meters); take samples from areas having the least ventilation and those having the greatest presumed source strength.
3. Collect samples from height from 36 inches (915 mm) to 72 inches (1830 mm) above floor.
4. Collect samples from same locations on 3 consecutive days during normal business hours; average the results of each set of 3 samples.
5. Exception: Areas with normal very high outside air ventilation rates, such as laboratories, do not need to be tested.
6. When retesting the same building areas, take samples from at least the same locations as in first test.

F. Outdoor Air Samples: Collect samples at outside air intake of each air handler at the same time as indoor samples are taken.

G. Analyze air samples and submit report.

H. Air Contaminant Concentration Limits:
1. Formaldehyde: Not more than 16.3 parts per billion.
2. PM10 Particulates: Not more than 20 micrograms per cubic meter.
3. Total Volatile Organic Compounds (TVOCs): Not more than 500 micrograms per cubic meter.
4. Chemicals Listed in CAL (CDPH SM) Table 4-1, except Formaldehyde: Allowable concentrations listed in Table 4-1.
5. Carbon Monoxide: Not more than 9 parts per million and not more than 2 parts per million higher than outdoor air.
6. Carbon Dioxide: Measure in ppm, in relation to outdoor air ; not more than 700 ppm higher than outdoor air.
7. Airborne Mold and Mildew: Measure in relation to outside air ; not higher than outside air.
8. Regulated Pollutants: Measure in relation to outside air ; not more than contained in outside air.

I. Air Contaminant Concentration Test Methods:
   1. Formaldehyde: ASTM D5197, EPA 625/R-96/010b Method TO-11A, or EPA 600/4-90/010 Method IP-6.
   2. Particulates: EPA 600/4-90/010 Method IP-10.
   3. Ozone: ASTM D5149.
   4. Total Volatile Organic Compounds (TVOC): EPA 625/R-96/010b Method TO-1, TO-15, or TO-17; or EPA 600/4-90/010 Method IP-1.
   5. Chemicals Listed in CAL (CDPH SM) Table 4-1, except Formaldehyde: ASTM D5197, or EPA 625/R-96/010b Method TO-1, TO-15, or TO-17.
   6. Carbon Monoxide: EPA 600/4-90/010 Method IP-3, plus measure outdoor air; measure in ppm; report both indoor and outdoor measurements.

J. If air samples show concentrations higher than those specified, ventilate with 100 percent outside air and retest at no cost to Owner, or conduct full building flush-out specified above.

3.04 SMOKING ROOM INSPECTION AND TESTING

A. Perform smoking room inspection and testing before occupancy.

B. Do not begin testing until HVAC testing, adjusting, and balancing has been satisfactorily completed.

C. Smoking room(s) have been designed to have an airtight sealed membrane; inspect membrane seal at the following locations and repair as required:
   1. Between partitions and floor structure.
   2. Between partitions and roof structure.
   3. Around pipes, conduits, and ducts passing through floors within sealed membrane.

D. Test each smoking room for isolation and exhaust effectiveness by measuring pressure differential between smoking room and each adjacent space and vertical chase:
   1. With the smoking room doors closed, operate the exhaust system in normal manner.
   2. For each separate adjacent spaces, take pressure readings for 15 minutes, with minimum of one measurement every 10 seconds.
   3. The test is failed if the lowest pressure differential between the smoking room and an external space is less than 0.004 inches water gage (1 Pa), or if the average pressure differential is less than 0.02 inches water gage (5 Pa).
   4. Correct defects in the membrane seal. If seal is demonstrably correct, notify Engineer.

E. Test each smoking room for isolation and exhaust effectiveness using procedures similar to those defined in ASHRAE Std 129.
   1. Take air samples in each adjacent space approximately 10 feet (3 m) from each side of smoking room.
   2. Take one air sample at least 30 feet (9 m) from each side of doorway to smoking room.
   3. Calibration: Test with door(s) to adjacent spaces open and exhaust not operating; using tracer gas step-up procedure, increase tracer gas concentration in smoking room to a level that is detectable at all sample locations in adjacent spaces.
   4. Test: Allow tracer gas concentration outside smoking room to dissipate; close door(s) but do not seal; operate exhaust normally; test using same procedure, tracer gas concentration, and sample locations.
   5. Acceptable Results: Not more than 1 percent of smoking room tracer gas concentration detectable at any sample location.

3.05 VENTILATION EFFECTIVENESS TESTING

A. Perform ventilation effectiveness testing before occupancy.

B. Do not begin ventilation effectiveness testing until:
   1. HVAC testing, adjusting, and balancing has been satisfactorily completed.
   2. Building flush-out or air contaminant testing has been completed satisfactorily.
   3. New HVAC filtration media have been installed.

C. Test each air handler zone in accordance with ASHRAE Std 129.

D. If calculated air change effectiveness for a particular zone is less than 0.9 due to inadequate balancing of the system, adjust, and retest at no cost to Owner.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Document 00 43 25 - Substitution Request Form.

C. Document 00 21 13 - Instructions to Bidders: Product options and substitution procedures prior to bid date.

D. Section 01 10 00 - Summary: Lists of products to be removed from existing building.

E. Section 01 40 00 - Quality Requirements: Product quality monitoring.

F. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

G. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting packaging and substitutions.

H. Section 22 05 13 - Common Motor Requirements for Plumbing Equipment: Motors for plumbing equipment.

I. Section 23 05 13 - Common Motor Requirements for HVAC Equipment: Motors for HVAC equipment.

1.03 REFERENCE STANDARDS

A. 16 CFR 260.13 - Guides for the Use of Environmental Marketing Claims; Federal Trade Commission; Recycled Content; Current Edition.

B. ASTM D6866 - Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis; 2016.

C. C2C (DIR) - C2C Certified Products Registry; Cradle to Cradle Products Innovation Institute; www.c2ccertified.org/products/registry.

D. CAN/CSA Z809 - National Standard for Sustainable Forest Management; CSA International Inc; 2008.

E. EN 15804 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products; 2012.

F. GreenScreen (LIST) - GreenScreen for Safer Chemicals List Translator; Clean Production Action; www.greenscreenchemicals.org.

G. GreenScreen (METH) - GreenScreen for Safer Chemicals Method v1.2; Clean Production Action; www.greenscreenchemicals.org.

H. HPDC (Tool) - Create an HPD On-Line Tool; Health Product Declaration Collaborative; http://www.hpd-collaborative.org/.

I. ISO 14025 - Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures; 2006.

J. ISO 14040 - Environmental management -- Life cycle assessment -- Principles and framework; 2006.

K. ISO 14044 - Environmental management -- Life cycle assessment -- Requirements and guidelines; 2006.

L. ISO 21930 - Sustainability in building construction -- Environmental declaration of building products; 2007.

M. NEMA MG 1 - Motors and Generators; 2014.

N. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
   1. Submit within 15 days after date of Agreement.
   2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.05 QUALITY ASSURANCE

A. Bio-Based Content: Of vegetable or animal origin, not including products made by killing the animal.
   1. Determine percentage of bio-based content in accordance with ASTM D6866.
   2. Bio-based content must be sourced from a Sustainable Agriculture Network certified farm.

B. Cradle-to-Cradle Certified: End use product certified Cradle-to-Cradle v2 Basic or Cradle-to-Cradle v3 Bronze, minimum, as evidenced by C2C (DIR).

C. Environmental Product Declaration (EPD): Publicly available, critically reviewed life cycle analysis having at least a cradle-to-gate scope.
   1. Good: Product-specific; compliant with ISO 14044.
   2. Better: Industry-wide, generic; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   3. Best: Commercial-product-specific; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
   4. Where demonstration of impact reduction below industry average is required, submit both industry-wide and commercial-product-specific declarations; or submit at least 5 declarations for products of the same type by other manufacturers in the same industry.

D. GreenScreen Chemical Hazard Analysis: All ingredients of 100 parts-per-million or greater evaluated using GreenScreen (METH).
   1. Good: GreenScreen (LIST) evaluation to identify Benchmark 1 hazards; a Health Product Declaration includes this information.
   2. Better: GreenScreen Full Assessment.
   3. Best: GreenScreen Full Assessment by GreenScreen Licensed Profiler.
   4. Acceptable Evidence: GreenScreen report.

E. Health Product Declarations (HPD): Complete, published declaration with full disclosure of known hazards, prepared using HPDC (Tool); HPD's with "unknown" listed for any hazard will not be considered acceptable.

F. Manufacturer's Inventory of Product Content: Publicly available inventory of all ingredients identified by name and Chemical Abstract Service Registration Number (CAS RN).
   1. For ingredients considered a trade secret or intellectual property, the name and CAS RN may be omitted, provided the ingredient's role, amount, and GreenScreen Benchmark are given.

G. Recycled Content: Determine percentage of post-consumer and pre-consumer (post-industrial) content separately, using the guidelines contained in 16 CFR 260.13.
   1. Previously used, reused, refurbished, and salvaged products are not considered recycled.
   2. Wood fabricated from timber abandoned in transit to original mill is considered reused, not recycled.
   3. Determine percentage of recycled content of any item by dividing the weight of recycled content in the item by the total weight of all material in the item.
   4. Determine value of recycled content of each item separately, by multiplying the content percentage by the value of the item.
   5. Acceptable Evidence:
      a. For percentage of recycled content, information from manufacturer.
      b. For cost, Contractor's cost data.

H. Reused Products: Materials and equipment previously used in this or other construction, salvaged and refurbished as specified.
   1. Wood fabricated from timber abandoned in transit after harvesting is considered reused, not recycled.
   2. Acceptable Evidence: Information about the origin or source, from Contractor or supplier.

I. Source Location: Location of harvest, extraction, recovery, or manufacture; where information about source location is required to be submitted, give the postal address:
   1. In all cases, indicate the location of final assembly.
   2. For harvested products, indicate location of harvest.
   3. For extracted (i.e. mined) products, indicate location of extraction.
   4. For recovered products, indicate location of recovery.
   5. For products involving multiple manufacturing steps, provide a description of the process at each step, with location.
   6. Acceptable Evidence:
      a. Manufacturer's certification.
      b. Life cycle analysis (LCA) performed by third-party.

J. Sustainably Harvested Wood: Solid wood, wood chips, and wood fiber certified or labeled by an organization accredited by one of the following:
   1. American Forest Foundation, The American Tree Farm System; refer to http://www.treefarmsystem.org.
   2. Canadian Sustainable Forest Management System, under CAN/CSA Z809; refer to http://www.csasfmforests.ca.
   3. The Forest Stewardship Council, The Principles for Natural Forest Management; for Canada visit http://www.fsccanada.org, for the USA visit http://www.fscus.org.
   4. Sustainable Forestry Board, under The Sustainable Forestry Initiative® of the American Forest & Paper Association; refer to http://www.afandpa.org.
   5. Acceptable Evidence: Copies of invoices bearing the certifying organization's certification numbers.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
   1. See Section 01 10 00 for list of items required to be salvaged for reuse and relocation.
   2. If reuse of other existing materials or equipment is desired, submit substitution request.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. DO NOT USE products having any of the following characteristics:
   1. Made outside the United States, its territories, Canada, or Mexico.
   2. Made using or containing CFC's or HCFC's.
   3. Made of wood from newly cut old growth timber.
   4. Containing lead, cadmium, asbestos.

C. Where all other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 61 16.
   2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
   3. Are extracted, harvested, and/or manufactured closer to the location of the project.
   4. Have longer documented life span under normal use.
   5. Result in less construction waste.
   6. Are made of vegetable materials that are rapidly renewable.
   7. Are made of recycled materials.
   8. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.
   9. If bio-based, other than wood, are or are made of Sustainable Agriculture Network certified products.
   10. Are Cradle-to-Cradle Certified.
   11. Have a published Environmental Product Declaration (EPD).
   12. Have a published Health Product Declaration (HPD).
   13. Have a published GreenScreen Chemical Hazard Analysis.
   14. Have a published Manufacturer's Inventory of Chemical Content.

D. Provide interchangeable components of the same manufacture for components being replaced.

E. Motors: Refer to Section 21 05 13 - Common Motor Requirements for Fire Suppression Equipment, NEMA MG 1 Type. Specific motor type is specified in individual specification sections.

F. Motors: Refer to Section 22 05 13 - Common Motor Requirements for Plumbing Equipment, NEMA MG 1 Type. Specific motor type is specified in individual specification sections.

G. Motors: Refer to Section 23 05 13 - Common Motor Requirements for HVAC Equipment, NEMA MG 1 Type. Specific motor type is specified in individual specification sections.

H. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.

I. Cord and Plug: Provide minimum 6 foot (2 m) cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period and the documents required. Comply with requirements specified in Section 00 21 13.

B. Submit substitution requests by completing the form in Section 00 43 25; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

C. Engineer will consider requests for substitutions only within 15 days after date of Agreement.

D. Substitutions will not be considered when a product becomes unavailable through no fault of the Contractor.

E. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

F. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Agrees to reimburse Owner and Engineer for review or redesign services associated with re-approval by authorities.

G. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

H. Substitution Submittal Procedure (after contract award):
   1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. Engineer will notify Contractor in writing of decision to accept or reject request.

3.02 OWNER-SUPPLIED PRODUCTS

A. See Section 01 10 00 - Summary for identification of Owner-supplied products.

B. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

C. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Do not store products directly on the ground.

J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

L. Prevent contact with material that may cause corrosion, discoloration, or staining.

M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16 - VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

C. Requirement for installer certification that they did not use any non-compliant products.

1.02 RELATED REQUIREMENTS

A. Section 01 72 00 - General Conditions: Submittal procedures.

B. Section 01 33 29.04 - Material Content Form: Form for reporting emissions and VOC content.

C. Section 01 33 29.07 - Prohibited Content Installer Certification: Form for certifying that no non-compliant products were used.

D. Section 01 40 00 - Quality Requirements: Procedures for testing and certifications.

E. Section 01 57 21 - Indoor Air Quality Controls: Procedures and testing.

F. Section 01 60 00 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

G. Section 07 92 00 - Joint Sealants: Emissions-compliant sealants.

1.03 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings.
   2. Interior adhesives and sealants, including flooring adhesives.
   3. Flooring.
   4. Composite wood.
   5. Products making up wall and ceiling assemblies.
   6. Thermal and acoustical insulation.
   7. Free-standing furniture.
   11. Other products when specifically stated in the specifications.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings.
   2. Interior adhesives and sealants, including flooring adhesives.
   3. Wet-applied roofing and waterproofing.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Concrete.
   2. Clay brick.
   3. Metals that are plated, anodized, or powder-coated.
   4. Glass.
   5. Ceramics.

6. Solid wood flooring that is unfinished and untreated.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).

C. BIFMA e3 - Furniture Sustainability Standard; Business and Institutional Furniture Manufacturers Association; 2012.

D. BIFMA M7.1 - Standard Test Method for Determining VOC Emissions; Business and Institutional Furniture Manufacturers Association; 2011.

E. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions From Indoor Sources Using Environmental Chambers; California Department of Public Health; v1.1, 2010.

F. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; California Air Resources Board; current edition.

G. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

H. CHPS (HPPD) - High Performance Products Database; Current Edition at www.chps.net/.

I. CRI (GLP) - Green Label Plus Testing Program - Certified Products; www.carpet-rug.org; current edition.

J. GreenSeal GS-36 - Adhesives for Commercial Use; 2013.

K. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.

L. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

M. SCS (CPD) - SCS Certified Products; current listings at www.scscertified.com.

N. UL (GGG) - GREENGUARD Gold Certified Products; current listings at http://http://productguide.ulenvironment.com/QuickSearch.aspx.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

C. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of his products, or 2) that such products used comply with these requirements.

1.06 QUALITY ASSURANCE

A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.
   1. Wet-Applied Products: State amount applied in mass per surface area.
   2. Paints and Coatings: Test tinted products, not just tinting bases.
   3. Evidence of Compliance: Acceptable types of evidence are the following;
      a. Current UL (GGG) certification.
      b. Current SCS (CPD) Floorscore certification.
      c. Current SCS (CPD) Indoor Advantage Gold certification.
      d. Current listing in CHPS (HPPD) as a low-emitting product.
      e. Current CRI (GLP) certification.

f. Test report showing compliance and stating exposure scenario used.
4. Product data submittal showing VOC content is NOT acceptable evidence.
5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.

B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
1. Evidence of Compliance: Acceptable types of evidence are:
a. Report of laboratory testing performed in accordance with requirements.
b. Certification by manufacturer that product complies with requirements.

C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.
1. Evidence of Compliance: Acceptable types of evidence are:
a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.
b. Report of laboratory testing performed in accordance with requirements.
c. Published product data showing compliance with requirements.
d. Certification by manufacturer that product complies with requirements.

D. Furnishings Emissions Standard and Test Method: BIFMA e3 Sections 7.6.1 and 7.6.2, tested in accordance with BIFMA M7.1.
1. Evidence of Compliance:
a. Test report showing compliance and stating exposure scenario used.

E. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. Indoor-Emissions-Restricted Products: Comply with Indoor Emissions Standard and Test Method, except for:
1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.
2. Furnishings: Comply with Furnishings Emissions Standard and Test Method.
3. Inherently Non-Emitting Materials.

C. VOC-Content-Restricted Products: VOC content not greater than required by the following:
1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
2. Aerosol Adhesives: GreenSeal GS-36.
3. Joint Sealants: SCAQMD 1168 Rule.
4. Paints and Coatings: Each color; most stringent of the following:
a. 40 CFR 59, Subpart D.
b. SCAQMD 1113 Rule.
c. CARB (SCM).
5. Wet-Applied Roofing and Waterproofing: Comply with requirements for paints and coatings.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition , except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 72 00 - General Conditions: Submittals procedures , Electronic document submittal service.

C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

D. Section 01 50 00 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.

F. Section 01 51 00 - Temporary Utilities: Temporary heating, cooling, and ventilating facilities.

G. Section 01 57 13 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.

H. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

I. Section 01 76 10 - Temporary Protective Coverings: Materials for protection of installed work.

J. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

K. Section 01 79 00 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections.

L. Section 01 91 13 - General Commissioning Requirements: Contractor's responsibilities in regard to commissioning.

M. Section 02 41 00 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

N. Section 02 84 00 - Polychlorinate Biphenyl (PCB) Remediation: Removal of equipment containing substances regulated under the Federal Toxic Substances Control Act (TSCA), including but not limited to PCB- and mercury-containing equipment.

O. Section 07 84 00 - Firestopping.

P. Individual Product Specification Sections:
   1. Advance notification to other sections of openings required in work of those sections.
   2. Limitations on cutting structural members.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

A. See Section 01 72 00 - General Conditions, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

D. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.
   1. Minimum of two years of documented experience.

B. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Engineer. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.

D. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
   1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
   2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building at any time of day; excessively noisy includes jackhammers.
   2. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
   3. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

H. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
   1. Pest Control Service: Weekly treatments.

I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

J. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.07 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements , with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Engineer four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Engineer of any discrepancies discovered.

C. Owner will locate and protect survey control and reference points.

D. Contractor shall locate and protect survey control and reference points.

E. Control datum for survey is that established by Owner provided survey.

F. Control datum for survey is that indicated on Drawings.

G. Control datum for survey is TBD.

H. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

I. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

K. Utilize recognized engineering survey practices.

L. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.

M. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

N. Periodically verify layouts by same means.

O. Maintain a complete and accurate log of control and survey work as it progresses.

P. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Engineer before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.
   2. Provide sound retardant partitions of construction indicated on drawings in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
2. Remove items indicated on drawings.
3. Relocate items indicated on drawings.
4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications: Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    b. See Section 01 10 00 for other limitations on outages and required notifications.
    c. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer review and request instructions.
4. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work.
5. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.08 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.09 PROTECTION OF INSTALLED WORK

A. See Section 01 7610 for temporary protective covering materials.

B. Protect installed work from damage by construction operations.

C. Provide special protection where specified in individual specification sections.

D. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

E. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

F. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

G. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

H. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

I. Prohibit traffic from landscaped areas.

J. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate with requirements of Section 01 91 13 - General Commissioning Requirements.

B. Coordinate schedule for start-up of various equipment and systems.

C. Notify Engineer and owner seven days prior to start-up of each item.

D. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

E. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

F. Verify that wiring and support components for equipment are complete and tested.

G. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

H. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

I. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. See Section 01 79 00 - Demonstration and Training.

B. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

F. Perform instruction in a classroom environment: N/A

G. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

H. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

I. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

B. Testing, adjusting, and balancing HVAC systems: See Section 23 05 93 - Testing, Adjusting, and Balancing for HVAC.

3.13 FINAL CLEANING

A. Owner will provide comprehensive cleaning after final acceptance.

B. Execute final cleaning prior to final project assessment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

C. Use cleaning materials that are nonhazardous.

D. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

F. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

G. Clean filters of operating equipment.

H. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems.

I. Clean site; sweep paved areas, rake clean landscaped surfaces.

J. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

K. Clean Owner-occupied areas of work.

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Engineer.
   2. Provide copies to Owner.
   3. Provide copies to Engineer and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Engineer when work is considered ready for Engineer's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's Substantial Completion inspection.

E. Owner will occupy all of the building as specified in Section 01 10 00.

F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer.

G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

H. Accompany Project Coordinator on Contractor's preliminary final inspection.

I. Notify Engineer when work is considered finally complete and ready for Engineer's Substantial Completion final inspection.

J. Complete items of work determined by Engineer listed in executed Certificate of Substantial Completion.

3.15 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood : May be used as blocking or furring.
   5. Land clearing debris, including brush, branches, logs, and stumps; see Section 31 10 00 - Site Clearing for use options.
   6. Concrete : May be crushed and used as riprap, aggregate, sub-base material, or fill.
   7. Bricks : May be used on project if whole, or crushed and used as landscape cover, sub-base material, or fill.
   8. Concrete masonry units : May be used on project if whole, or crushed and used as sub-base material or fill.
   9. Precast concrete panels : May be used for erosion control or landscape features.
   10. Asphalt paving : May be recycled into paving for project.
   11. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   12. Glass.
   13. Gypsum drywall and plaster.
   14. Plastic buckets.
   15. Carpet, carpet cushion, carpet tile, and carpet remnants , both new and removed: DuPont (http://flooring.dupont.com) and Interface (www.interfaceinc.com) conduct reclamation programs.
   16. Asphalt roofing shingles.
   17. Paint.
   18. Plastic sheeting.
   19. Rigid foam insulation.
   20. Vinyl siding.
   21. Windows, doors, and door hardware.
   22. Plumbing fixtures.
   23. Mechanical and electrical equipment.
   24. Fluorescent lamps (light bulbs).
   25. Acoustical ceiling tile and panels.

F. The following recycling incentive programs are mandatory for this project; Contractor is responsible for compliance per the California Green-Building Code, and City of Irvine Municipal Code, Chapter 9 of Section 6, Division 7, City of Irvine’s Construction and Demolition Debris Recycling and Reuse Ordinance (07-18).

G. Owner has made arrangements for salvage of the following materials by others: N/A

H. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

I. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

J. The following sources may be useful in developing the Waste Management Plan:
   1. State Recycling Department,
   2. Recycling Haulers and Markets: The attached list contains local haulers and markets for recyclable materials. This list is provided for information only and is not necessarily comprehensive; other haulers and markets are acceptable.
   3. Recycling Economics Information: The attached list contains information that may be useful in estimating the costs or savings or recycling options.

K. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

L. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

A. See Section 01 72 – General Conditions, for submittal procedures.

B. Sustainable Design Documentation: Submit Landfill Alternatives Proposal, Waste Management Plan, and Waste Disposal Reports in accordance with procedures specified in Section 01 33 29.

C. Landfill Alternatives Proposal: Within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner, submit a projection of trash/waste that will require disposal and alternatives to landfilling, with net costs.
   1. Submit to Engineer for Owner's review and approval.
   2. If Owner wishes to implement any cost alternatives, the Contract Price will be adjusted as specified elsewhere.
   3. Include an analysis of trash/waste to be generated and landfill options as specified for Waste Management Plan described below.
   4. Describe as many alternatives to landfilling as possible:
      a. List each material proposed to be salvaged, reused, or recycled.
      b. List the proposed local market for each material.
      c. State the estimated net cost resulting from each alternative, after subtracting revenue from sale of recycled or salvaged materials and landfill tipping fees saved due to diversion of materials from the landfill.
   5. Provide alternatives to landfilling for at least the following materials:
      a. Aluminum and plastic beverage containers.
      b. Corrugated cardboard.
      c. Wood pallets.
      d. Clean dimensional wood.
      e. Land clearing debris, including brush, branches, logs, and stumps.
      f. Concrete.
      g. Bricks.
      h. Concrete masonry units.
      i. Precast concrete panels.
      j. Asphalt paving.
      k. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
      l. Glass.
      m. Gypsum drywall and plaster.
      n. Plastic buckets.
      o. Carpet, carpet cushion, carpet tile, and carpet remnants , both new and removed: DuPont (http://flooring.dupont.com) and Interface (www.interfaceinc.com) conduct reclamation programs.
      p. Asphalt roofing shingles.
      q. Paint.
      r. Plastic sheeting.
      s. Rigid foam insulation.
      t. Vinyl siding.
      u. Windows, doors, and door hardware.
      v. Plumbing fixtures.
      w. Mechanical and electrical equipment.
      x. Fluorescent lamps (light bulbs).
      y. Acoustical ceiling tile and panels.

D. Once Owner has determined which of the landfill alternatives addressed in the Proposal above are acceptable, prepare and submit Waste Management Plan; submit within 10 calendar days after notification by Engineer.

E. Submit Waste Management Plan within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner; submit projection of all trash and waste that will require disposal and alternatives to landfilling.

F. Waste Management Plan: Include the following information:
   1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
   2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
   3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
      a. List each material proposed to be salvaged, reused, or recycled.
      b. List the local market for each material.
      c. State the estimated net cost, versus landfill disposal.
   4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
   5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
   6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.
   7. Recycling Incentives: Describe procedures required to obtain credits, rebates, or similar incentives.

G. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards (cubic meters), date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.

d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.

6. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards (cubic meters).
   c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

H. Recycling Incentive Programs:
1. Where revenue accrues to Contractor, submit copies of documentation required to qualify for incentive.
2. Where revenue accrues to Owner, submit any additional documentation required by Owner in addition to information provided in periodic Waste Disposal Report.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 01 60 00 - Product Requirements for substitution submission procedures.

B. For each proposed product substitution, submit the following information in addition to requirements specified in Section 01 60 00:
1. Relative amount of waste produced, compared to specified product.
2. Cost savings on waste disposal, compared to specified product, to be deducted from the Contract Price.
3. Proposed disposal method for waste product.
4. Markets for recycled waste product.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 10 00 for list of items to be salvaged from the existing building for relocation in project or for Owner.

B. See Section 01 72 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.

D. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.

E. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Engineer.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
1. Pre-bid meeting.
2. Pre-construction meeting.
3. Regular job-site meetings.

4. Job safety meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. As a minimum, provide:
      a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
      b. Separate dumpsters for each category of recyclable.
      c. Recycling bins at worker lunch area.
   2. Provide containers as required.
   3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
   4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
   5. Locate enclosures out of the way of construction traffic.
   6. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
   8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 76 10 - TEMPORARY PROTECTIVE COVERINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.02 RELATED REQUIREMENTS

A. Section 01 70 00 - Execution and Closeout Requirements: Coordination of requirements for materials specified in this section.

1.03 REFERENCE STANDARDS

A. ANSI A135.4 - American National Standard for Basic Hardboard; 2012.

B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.

D. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2014.

E. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2015.

1.04 SUBMITTALS

A. See Section 01 72 00 - General Conditions for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes available; and installation instructions.

C. Shop Drawings: Indicate existing finished surfaces to be protected.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Temporary Protective Coverings:
   1. Fortifiber Building Systems Group ; fortifiber.com.
   2. Protex Products ; www.protex-products.com.
   3. Surface Shields, Inc ; www.surfaceshields.com.

B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 GENERAL

A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
   1. Water resistant.
   2. Vapor permeable.
   3. Impact resistant.
   4. Slip resistant.
   5. Flame retardant.

2.03 MATERIALS

A. Sheet Materials :
   1. Corrugated polypropylene sheet.
   2. Recycled paperboard/plastic composite sheet.
   3. Recycled paperboard sheet.
   4. Wood Hardboard: ANSI A135.4, tempered, 1/4 inch (6 mm) thick nominal.
   5. Plywood, 1/2 inch (13 mm) thick nominal.
   6. Fiberboard: ASTM C208, 1/2 inch (13 mm) thick nominal.
   7. Size: TBD
   8. Thickness: TBD
   9. Water Vapor Permeability: TBD, when tested in accordance with ASTM E96/E96M.

10. Flame Retardance: Meet requirements of NFPA 701.
11. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Rolled Materials :
1. Self-adhering polyethylene film.
2. Recycled cellulose fiberboard paper.
3. Laminated glass fiber reinforced kraft paper.
4. Rosin coated paper.
5. Roll Width: TBD
6. Thickness: TBD
7. Water Vapor Permeability: TBD, when tested in accordance with ASTM E96/E96M.
8. Flame Retardance: Meet requirements of NFPA 701.
9. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

C. Corner and Door Jamb Protection Materials:
1. Cardboard, shaped specifically for application.
2. PVC plastic.
3. Length: TBD

D. Tape: Type recommended by protective covering material manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

A. Remove dirt and debris from surfaces to be protected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Trim or overlap sheet materials to fit area to be covered.

C. Roll out and cut rolled materials to fit area to be covered.

D. Tape seams. Avoid taping directly to finished surfaces.

E. Stretch self-adhering film materials to completely cover surface.

F. Install door jamb protection to full height of opening.

G. Position corner protection TBD above finished floor to TBD high.

3.03 REMOVAL

A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

END OF SECTION

SECTION 01 78 00 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions and 00 73 00 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 72 00 - General Conditions: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Engineer with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports.

P. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Engineer , Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.

a. Source data.
b. Product data, shop drawings, and other submittals.
c. Operation and maintenance data.
d. Field quality control data.
e. Photocopies of warranties and bonds.

4. Design Data: To allow for addition of design data furnished by Engineer or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

F. Manual: Bind in commercial quality 8-1/2 by 11 inch (216 by 279 mm) three D side ring binders with durable plastic covers.

G. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

H. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

I. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

1.02 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.03 SUBMITTALS

A. Site Plan: Showing:
   1. Areas for temporary construction and field offices.
   2. Areas for temporary and permanent placement of removed materials.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: As specified in Section 31 23 23 - Fill.

PART 3 EXECUTION

3.01 SCOPE

A. Remove paving and curbs as required to accomplish new work.

B. Remove other items indicated, for salvage, relocation, and recycling.

C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 22 00.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Do not close or obstruct roadways or sidewalks without permit.
   6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

D. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

E. If hazardous materials are discovered during removal operations, stop work and notify Owner and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

F. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

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G. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Owner before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction as directed by owner. .

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Floors and slabs on grade.

B. Concrete reinforcement.

C. Joint devices associated with concrete work.

D. Concrete curing.

1.02 REFERENCE STANDARDS

A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

C. ACI 301 - Specifications for Structural Concrete; 2016.

D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).

E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

F. ACI 305R - Guide to Hot Weather Concreting; 2010.

G. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).

H. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).

I. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.

J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016.

K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2016b.

L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.

M. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.

N. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.

O. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2016.

P. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).

Q. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.

R. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2014.

S. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.

T. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2015.

U. ASTM E1643 - Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2011.

V. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.

W. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.03 SUBMITTALS

A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

B. Mix Design: Submit proposed concrete mix design.

C. Samples: Submit samples of underslab vapor retarder to be used.

D. Sustainable Design Submittal: If any fly ash, ground granulated blast furnace slag, silica fume, rice hull ash, or other waste material is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.

1.04 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.01 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Type: Deformed billet-steel bars.
   2. Finish: Unfinished, unless otherwise indicated.

2.02 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.

B. Fine and Coarse Aggregates: ASTM C 33.

C. Fly Ash: ASTM C618, Class C or F.

D. Calcined Pozzolan: ASTM C618, Class N.

E. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.

F. Water: Clean and not detrimental to concrete.

2.03 ACCESSORY MATERIALS

A. Underslab Vapor Retarder: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.
   1. Installation: Comply with ASTM E1643.
   2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.

2.04 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.

2.05 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
   1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

B. Normal Weight Concrete:
   1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: As indicated on drawings.
   2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
   3. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
   4. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
   5. Water-Cement Ratio: Maximum 40 percent by weight.
   6. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
   7. Maximum Slump: 3 inches (75 mm).
   8. Maximum Aggregate Size: 5/8 inch (16 mm).

2.06 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R,

B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
   1. Use latex bonding agent only for non-load-bearing applications.

C. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Notify Owner not less than 24 hours prior to commencement of placement operations.

D. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 feet (3 m).

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 CONCRETE FINISHING

A. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:

3.07 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.08 FIELD QUALITY CONTROL

A. Provide free access to concrete operations at project site and cooperate with appointed firm.

3.09 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Owner. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Owner for each individual area.

3.10 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concealed wood blocking, nailers, and supports.

B. Miscellaneous wood nailers, furring, and grounds.

1.02 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2009.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

D. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.

E. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2015a.

F. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.

G. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

I. PS 20 - American Softwood Lumber Standard; 2010.

J. SPIB (GR) - Grading Rules; 2014.

1.03 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.02 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

3.03 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 20 00
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

D. PS 20 - American Softwood Lumber Standard; 2010.

E. WI (CCP) - Certified Compliance Program (CCP); current edition at www.woodworkinstitute.com.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI (AWS) for Custom Grade.

B. Interior Woodwork Items:

1. Shelving..

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

2.04 ACCESSORIES

A. Primer: Alkyd primer sealer.

B. Wood Filler: Solvent base, tinted to match surface finish color.

2.05 FABRICATION

A. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim to conceal larger gaps.

3.03 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch (1.6 mm).

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch (0.79 mm).

END OF SECTION

SECTION 09 91 13
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 09 91 23 - Interior Painting.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).

D. ASTM D4259 - Standard Practice for Abrading Concrete; 1988 (Reapproved 2012).

E. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2005 (Reapproved 2012).

F. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

G. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

H. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

I. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.

J. SSPC V1 (PM1) - Good Painting Practice: Painting Manual, Volume 1; Fourth Edition.

K. SSPC V2 (PM2) - Systems and Specifications: Steel Structures Painting Manual, Volume 2; Fourth Edition.

L. SSPC-SP 1 - Solvent Cleaning; 2015.

M. SSPC-SP 2 - Hand Tool Cleaning; 1982 (Ed. 2004).

N. SSPC-SP 3 - Power Tool Cleaning; 1982 (Ed. 2004).

O. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

P. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015); 2003.

1.04 SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, submit each color in each sheen available.
   3. Where sheen is not specified, discuss sheen options with Owner before preparing samples, to eliminate sheens definitely not required.
   4. Allow 30 days for approval process, after receipt of complete samples by Owner.
   5. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.

1.05 MOCK-UP

A. Locate where directed by Architect.

B. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Provide paints and finishes from the same manufacturer to the greatest extent possible.
   1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Owner is obtained using the specified procedures for substitutions.
   2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
   3. Substitution of other products by the same manufacturer is preferred over substitution of products by a different manufacturer.
   4. Substitution of a different paint system using MPI-approved products by the same manufacturer will be considered.

C. Paints:
   1. Dunn Edwards: www.dunnedwards.com.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless required to be a field-catalyzed paint.
   1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
   3. Supply each paint material in quantity required to complete entire project's work from a single production run.
   4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:

1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
    a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
    b. SCAQMD 1113 Rule.
    c. CARB (SCM).
    d. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
        1) Opaque, Flat: 50 g/L, maximum.
        2) Opaque, Nonflat: 150 g/L, maximum.
        3) Opaque, High Gloss: 250 g/L, maximum.
        4) Varnishes: 350 g/L, maximum.
    e. Architectural coatings VOC limits of State in which the project is located.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Owner from the manufacturer's full line.

2.03 PAINT SYSTEMS - EXTERIOR

A. Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete, primed wood, and primed metal.
1. Two top coats and one coat primer.
2. Top Coat(s): Exterior Latex.

B. Galvanized Metals, Latex, 3 Coat:
1. One coat galvanize primer.
2. Semi-gloss: Two coats of latex enamel;

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
1. Alkali Resistant Water Based Primer.
2. Rust-Inhibitive Water Based Primer.
    a. Products:
        1) Dunn Edwards Bloc-Rust Primer.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
2. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Concrete:
   1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
   2. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi (10,350 to 27,580 kPa) at 6 to 12 inches (150 to 300 mm). Allow to dry.
   3. Clean concrete according to ASTM D4258. Allow to dry.
   4. Prepare surface as recommended by top coat manufacturer and according to SSPC-SP 13.

G. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
   2. Prepare surface according to SSPC-SP 2.

H. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance.

D. Sand wood and metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

A. Owner will provide field inspection.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

3.07 COLOR SCHEDULE

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Marble, granite, slate, and other natural stones.
   6. Floors, unless specifically indicated.
   7. Glass.
   8. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 09 91 13 - Exterior Painting.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).

D. ASTM D4259 - Standard Practice for Abrading Concrete; 1988 (Reapproved 2012).

E. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2005 (Reapproved 2012).

F. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

G. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

H. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

I. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.

J. SSPC V1 (PM1) - Good Painting Practice: Painting Manual, Volume 1; Fourth Edition.

K. SSPC-SP 1 - Solvent Cleaning; 2015.

L. SSPC-SP 2 - Hand Tool Cleaning; 1982 (Ed. 2004).

M. SSPC-SP 3 - Power Tool Cleaning; 1982 (Ed. 2004).

N. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.04 SUBMITTALS

A. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, submit each color in each sheen available.

3. Where sheen is not specified, discuss sheen options with Owner before preparing samples, to eliminate sheens definitely not required.
4. Allow 30 days for approval process, after receipt of complete samples by Owner.
5. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.

1.05 MOCK-UP

A. Locate where directed by Architect.

B. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Provide paints and finishes from the same manufacturer to the greatest extent possible.
1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Owner is obtained using the specified procedures for substitutions.
2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
3. Substitution of other products by the same manufacturer is preferred over substitution of products by a different manufacturer.
4. Substitution of a different paint system using MPI-approved products by the same manufacturer will be considered.

C. Paints:
1. Dunn Edwards: www.dunnedwards.com.

D. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Supply each paint material in quantity required to complete entire project's work from a single production run.
3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. SCAQMD 1113 Rule.
c. CARB (SCM).
d. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:

1) Opaque, Flat: 50 g/L, maximum.
2) Opaque, Nonflat: 150 g/L, maximum.
3) Opaque, High Gloss: 250 g/L, maximum.
4) Varnishes: 350 g/L, maximum.

e. Architectural coatings VOC limits of CA.

2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Owner from the manufacturer's full line.

E. Colors: As indicated on drawings.
1. Selection to be made by Owner after award of contract.
2. Extend colors to surface edges; colors may change at any edge as directed by Owner.
3. In utility areas, finish equipment, piping, conduit, and exposed duct work in colors according to the color coding scheme indicated.

2.03 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, wood, and plaster.
1. Two top coats and one coat primer.

B. Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including wood:
1. Two top coats and one coat primer.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
1. Interior Institutional Low Odor/VOC Primer Sealer.
2. Interior Drywall Primer Sealer.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 12 percent.
2. Plaster and Stucco: 12 percent.
3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

F. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

G. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand wood surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

A. Owner will provide field inspection.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 21 05 00

COMMON WORK RESULTS FOR FIRE SUPPRESSION

P1 - GENERAL

1.01 SUMMARY

A. Section includes pipe, fittings, valves, and connections for sprinkler system.

B. Related Sections:
   1. Section 09 90 00 - Painting and Coating: Execution requirements for piping painting specified by this section.

1.02 REFERENCES

A. American Society of Mechanical Engineers:
   1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
   2. ASME B16.11 - Forged Steel Fittings - Socket-Welding and Threaded.
   3. ASME B16.25 - Buttwelding Ends.
   4. ASME B16.3 - Malleable Iron Threaded Fittings.
   5. ASME B16.4 - Gray Iron Threaded Fittings.
   6. ASME B16.5 - Pipe Flanges and Flanged Fittings.
   7. ASME B16.9 - Factory-Made Wrought Steel Buttwelding Fittings.

B. ASTM International:
   1. ASTM A47 - Standard Specification for Ferric Malleable Iron Castings.
   2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   3. ASTM A135 - Standard Specification for Electric-Resistance-Welded Steel Pipe.
   4. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
   5. ASTM A795 - Standard Specification for Black and Hot-Dipped Zink-Coated (galvanized) Welded and Seamless Steel Pipe for Fire Protection Use

C. American Welding Society:
   1. AWS D1.1 - Structural Welding Code - Steel.

D. American Water Works Association:
   1. AWWA C110 - American National Standard for Ductile-Iron and Grey-Iron Fittings, 3 in. through 48 in. (75 mm through 1200 mm), for Water and Other Liquids.
   2. AWWA C111 - American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
   3. AWWA C151 - American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
   4. AWWA C105 - Polyethylene Encasement for Ductile Iron Pipe Systems.

E. National Fire Protection Association:
   1. NFPA 13 - Installation of Sprinkler Systems.
   2. NFPA 24 - Installation of Private Fire Service Mains and Their Appurtenances.

1.03 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate pipe materials used, jointing methods, supports, floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.

C. Product Data: Submit manufacturers' catalogue information. Indicate valve data and ratings.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.04 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of components and tag numbering.

B. Operation and Maintenance Data: Submit spare parts lists.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with NFPA 13 standard.

B. Maintain one copy of each document on site.

1.06 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

1.07 PRE-INSTALLATION MEETINGS

A. Convene minimum one week prior to commencing work of this section.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver and store valves in shipping containers, with labeling in place.

C. Furnish cast iron and steel valves with temporary protective coating.

D. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.

1.09 WARRANTY

A. Furnish five year manufacturer warranty for basic fire suppression materials and methods.

1.10 EXTRA MATERIALS

A. Furnish two sets of valve stem packing for each size and type of valve installed.

1.11 P2 - PRODUCTS

1.12 VALVES

A. Manufacturers:
   1. Milwaukee.
   2. Stockham.
   3. Kennedy.
   4. Mueller.
   5. Substitutions: Section 01 60 00 - Product Requirements.

B. Gate Valves:
   1. Up to and including 2 inches: Bronze body and trim, rising stem, hand wheel, solid wedge or disc, threaded ends. Similar to Stockham Model No. B-133.
   2. Over 2 inches: Iron body, bronze trim, rising stem pre-grooved for mounting tamper switch, hand wheel, OS&Y, solid bronze or cast iron wedge, flanged ends. Similar to Stockham Model No. G-634.

C. Globe or Angle Valves:
   1. Up to and including 2 inches: Bronze body, bronze trim, rising stem and hand wheel, inside screw, renewable Buna n Seat disc, threaded ends, with back seating capacity. Similar to Kennedy Model No. 98-SD.

D. Ball Valves:
   1. Up to and including 2 inches: Bronze two piece body, brass, chrome plated bronze, or stainless steel ball, teflon seats and stuffing box ring, lever handle, threaded ends. Similar to Kennedy Model No. 775.

E. Butterfly Valves:
   1. Bronze Body: Stainless steel disc, resilient replaceable seat, threaded or grooved ends, extended neck, hand wheel and gear drive and integral indicating device , and built-in tamper proof switch rated 10 amp at 115 volt AC.
   2. Cast or Ductile Iron Body: Cast or ductile iron, chrome or nickel plated ductile iron or aluminum bronze disc, resilient replaceable EPDM seat, wafer, lug, or grooved ends. With extended neck, hand wheel and gear drive and integral indicating device, and external tamper switch rated 10 amp at 115 volt AC.

F. Check Valves:
   1. Up to and including 2 inches: Bronze body and swing disc, rubber seat, threaded ends. Similar to Stockham Model No. B-319Y.
   2. Over 2 inches: Iron body, bronze trim, swing check, renewable disc and seat, flanged ends. Similar to Stockham Model No. G-939.
   3. 4 inches and Over: Iron body, bronze disc with stainless steel spring, resilient seal, threaded, wafer, or flanged ends.

1.13 BURIED PIPING

A. Double Iron: AWWA C151.
   1. Fittings: AWWA C110, ductile iron standard thickness.
   2. Joints: AWWA C111, rubber gasket.
   3. Mechanical Couplings: Shaped composition sealing gasket, steel bolts, nuts, and washers.
   4. Jackets: AWWA C105, polyethylene jacket for corrosive soils.

1.14 ABOVE GROUND PIPING

A. Steel Pipe: ASTM A53/A53M, Grade B; ASTM A135; ASTM A135 UL listed, threadable, light wall for mains larger than 2 inch; or ASTM A795; Schedule 40 black, outside applications shall be galvanized pipe. Pipes shall have a corrosion resistance ratio (CRR) of 1.00 or greater per UL listing. Piping shall be black carbon steel, except in FM approved dry systems, where pipe shall be hot-dipped galvanized to meet ASTM A795 zinc coating specifications. Pipe shall be Schedule 40 or equal; for 2 inches and smaller. Threaded joints and fittings. Schedule 10 for pipes size 2-1/2 inches or larger. Victaulic or grooved fittings may be used.
   1. Steel Fittings: ASME B16.9, wrought steel, butt welded; ASME B16.25, butt weld ends; ASTM A234/A234M, wrought carbon steel and alloy steel; ASME B16.5, steel flanges and fittings; or ASME B16.11, forged steel socket welded and threaded.
   2. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings; or ASME B16.4, threaded fittings.
   3. Malleable Iron Fittings: ASME B16.3, threaded fittings or ASTM A47.

1.15 PIPE HANGERS AND SUPPORTS

A. Conform to NFPA 13.

B. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.

C. Hangers for Pipe Sizes 2 inch and Over: Carbon steel, adjustable, clevis.

D. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

E. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.

F. Wall Support for Pipe Sizes 4 inches and Over: Welded steel bracket and wrought steel clamp.

G. Vertical Support: Steel riser clamp.

H. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

1.16 P3 - EXECUTION

1.17 PREPARATION

A. Ream pipe and tube ends. Remove burrs.

B. Remove scale and foreign material, from inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

1.18 INSTALLATION

A. Install piping in accordance with NFPA 13 for sprinkler systems and NFPA 24 for service mains.

B. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.

C. Install piping to conserve building space, to not interfere with use of space and other work.

D. Group piping whenever practical at common elevations.

E. Pipe through floors, wall, and ceilings, at head locations, shall be equipped with approved sleeves and escutcheons. Escutcheons shall be polished chrome plated.

F. Install pipe sleeve at piping penetrations through footings, walls, and floors. Seal pipe and sleeve penetrations to maintain fire resistance equivalent to fire separation.

G. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

H. Pipe Hangers and Supports:
   1. Install in accordance with NFPA 13.
   2. Install hangers to with minimum 1/2 inch space between finished covering and adjacent work.
   3. Place hangers within 12 inches of each horizontal elbow.
   4. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.

5. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
6. Where installing several pipes in parallel and at same elevation, provide multiple or trapeze hangers.
7. Prime coat exposed steel hangers and supports. Refer to Section 09 90 00. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

I. Slope piping and arrange systems to drain at low points. Install eccentric reducers to maintain top of pipe level.

J. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding. Refer to Section 09 90 00.

K. Do not penetrate building structural members unless indicated.

L. Where more than one piping system material is specified, install compatible system components and joints. Install flanges, union, and couplings at locations requiring servicing.

M. Die cut threaded joints with full cut standard taper pipe threads with red lead and linseed oil or other non-toxic joint compound applied to male threads only.

N. Install valves with stems upright or horizontal, not inverted. Remove protective coatings after installation.

O. Install gate or butterfly valves for shut-off or isolating service.

P. Install drain valves at main shut-off valves, low points of piping and apparatus.

Q. Sprinkler system shall be provided with complete drainage facilities in accordance with UBC Std drain discharge shall not spill on grade. It shall go into a sewer.

R. Where inserts are omitted, drill through concrete slab from below and install through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

S. Upon completion and prior to acceptance of installation, Contractor shall subject system, including underground supply connections, to tests required by UBC Std and shall furnish the District with a certificate of compliance as required.

T. Close nipples shall not be used. Threaded unions shall not be installed in concealed areas unless provided with an approved access panel.

U. Fire sprinkler systems piping hanger and supports shall conform to the UBC Std requirements.

V. Underground pipe shall be laid on a flat undisturbed sand bed. After required pressure-leak test, pipe shall be covered with sand not less than 6 inches thick, prior to backfilling.

W. Piping to a sprinkler head in the elevator machine room or elevator shaft shall not go out of the room or shaft.

X. Provide shunt trip on sprinklers located in the elevator machine rooms and elevator hoist way unless the sprinklers are located 2 feet or less from the pit floor.

1.19 INTERFACE WITH OTHER PRODUCTS

A. Inserts:
1. Install inserts for placement in concrete forms.
2. Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
3. Install hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.

1.20 CLEANING

A. Clean entire system after other construction is complete.

END OF SECTION

SECTION 21 05 53

IDENTIFICATION FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nameplates.

B. Tags.

C. Pipe markers.

1.02 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems; 2015.

B. ASTM D709 - Standard Specification for Laminated Thermosetting Materials; 2016.

1.03 SUBMITTALS

A. List: Submit list of wording, symbols, letter size, and color coding for mechanical identification.

B. Chart and Schedule: Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

C. Manufacturer's Installation Instructions: Indicate special procedures, and installation instructions.

PART 2 PRODUCTS

2.01 IDENTIFICATION APPLICATIONS

A. Automatic Controls: Tags.

B. Control Panels: Nameplates.

C. Instrumentation: Tags.

D. Major Control Components: Nameplates.

E. Piping: Tags.

F. Valves: Nameplates.

2.02 NAMEPLATES

A. Description: Laminated three-layer plastic with engraved letters.

2.03 TAGS

A. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch (40 mm) diameter with smooth edges.

2.04 PIPE MARKERS

A. Plastic Pipe Markers: Factory fabricated, flexible, semi- rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.

B. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6 inches (150 mm) wide by 4 mil (0.10 mm) thick, manufactured for direct burial service.

PART 3 EXECUTION

3.01 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION

A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Install tags with corrosion resistant chain.

C. Install plastic pipe markers in accordance with manufacturer's instructions.

D. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.

E. Install underground plastic pipe markers 6 to 8 inches (150 to 200 mm) below finished grade, directly above buried pipe.

F. Use tags on piping 3/4 inch (20 mm) diameter and smaller.
   1. Identify service, flow direction, and pressure.

2. Install in clear view and align with axis of piping.

END OF SECTION

SECTION 21 13 13

WET-PIPE SPRINKLER SYSTEMS

P1 - GENERAL

1.01 SUMMARY

A. Section includes wet-pipe sprinkler system, system design, installation, and certification.

B. Related Sections:
   1. Section 09 90 00: Paints and Coatings.

1.02 REFERENCES

A. National Fire Protection Association:
   1. NFPA 13 - Installation of Sprinkler Systems.

1.03 SYSTEM DESCRIPTION

A. Section Includes: Furnish and install fire sprinkler system for protection of all required areas of the entire building including attic and between floor spaces unless otherwise indicated. Items required for this work include but are not limited to:
   1. Automatic wet pipe fire sprinkler system.
   2. Preparation of complete shop installation drawings for the fire sprinkler systems and approvals.
   3. Required permits, licenses and inspections.
   4. Cleaning, testing and adjusting.
   5. Project record documents of work as installed.

B. Provide hydraulically designed system to NFPA 13 occupancy requirements.
   1. Hydraulic calculations shall be based on a format acceptable to the State Fire Marshal and the City or County fire authority. Calculations shall be performed utilizing no more than 90 percent of the minimum available water supply.
   2. Approval by the fire authorities may cover minimum legal requirements and does not supersede more extensive contractual requirements.

C. Determine volume and pressure of incoming water supply from water flow test data.

D. Interface system with building fire and smoke alarm system.

E. Provide fire department connections as indicated on Drawings.

1.04 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate layout of finished ceiling areas indicating sprinkler locations coordinated with ceiling installation. Indicate detailed pipe layout, hangers and supports, seismic restraint details, sprinklers, components and accessories.
   1. Shop drawings shall be prepared and be signed by a licensed fire protection engineer of the State of California.
   2. Installation of fire sprinkler system shall not start until approved drawings have been returned to Contractor by the architect. Alignment of fire sprinklers and relationship to ceiling tile locations shall be as approved by the architect.

C. Product Data: Submit data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.

D. Design Data: Submit design calculations; signed and sealed by professional engineer.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.05 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of sprinklers and deviations of piping from drawings. Indicate drain and test locations. Record prints as installed shall be kept current on site, available for Fire Inspector and the District Inspector to review. At completion of installation, record prints shall be signed by installer and delivered to the architect for correcting tracings to record drawing status.

B. Operation and Maintenance Data: Submit components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

1.06 QUALITY ASSURANCE

A. Standards: Comply with applicable national or local codes and standards: ASTM, ASME, ANSI, IAPMO, Federal Specifications, MSS Specifications, AWWA, CISPI, NFPA, FM, UL, UPC, UMC.

B. Unless otherwise noted, provisions of NFPA 13, Standard for Installation of Sprinkler Systems, are made part of this section.

C. Maintain one copy of each document on site.

1.07 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

C. Design system under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of California.

1.08 PRE-INSTALLATION MEETINGS

A. Convene minimum one week prior to commencing work of this section.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Store products in shipping containers until installation.

C. Deliver and store valves in shipping containers with labeling in place.

D. Provide temporary protective coating on cast iron and steel valves.

E. Furnish piping with temporary inlet and outlet caps until installation.

1.10 WARRANTY

A. Furnish five year manufacturer warranty for all valves.

1.11 EXTRA MATERIALS

A. Furnish extra sprinklers under provisions of NFPA 13.

B. Furnish suitable wrenches for each sprinkler type.

C. Furnish metal storage cabinet located adjacent to alarm valve or as directed by the Inspector.

1.12 P2 - PRODUCTS

1.13 SPRINKLERS

A. Manufacturers:
   1. Ansul Incorporated.
   2. Automatic Sprinkler Corp.
   3. Grinnell Corp.
   4. Reliable Sprinkler Corp.
   5. Substitutions: Section 01 60 00 - Product Requirements.

B. Exposed Area Type:
   1. Type: Standard upright type with guard as required.
   2. Finish: Brass.
   3. Fusible Link: Quick response glass bulb type temperature rated for specific area hazard.
   4. Similar to Reliable Model No. FIFR.

C. Guards: Finish to match sprinkler finish.

1.14 PIPING SPECIALTIES

A. Wet Pipe Sprinkler Alarm Valve: Check type valve with EPDM seat, clapper to automatically actuate water motor alarm, with pressure retard chamber and variable pressure trim similar to Reliable Model No. G.

B. Sprinkler Inspector's Test Fittings:
   1. Standard: UL's listed or FM Global approved.
   2. Pressure Rating: 3000 psig.
   3. Body Material: Bronze body, brass stem, steel handle, chrome-plated bronze ball, virgin Teflon valve seat. Sight Glass: Bronze housing with viewing window.
   4. Components: A tamper resistant test orifice and a tapped port for system access.

5. Test Orifice Size: Nominal ½" as required by NFPA.
6. Size: F.I.P.T., same as connected piping.
7. Inlet and Outlet: Threaded.
8. Similar to AGF Model No. 3011SG.

C. Water Flow Switch: Vane type switch for mounting horizontal or vertical, with two contacts; rated 10 amp at 125 volt AC. Similar to Potter Electric Model No. VSR.

D. Fire Department Connections:
1. Type: Refer to civil drawings and specifications.

1.15 P3 - EXECUTION

1.16 INSTALLATION

A. Install in accordance with NFPA 13.

B. Install buried shut-off valves in valve box. Furnish post indicator.

C. Install Fire Department connections, check valves, shut-off valves, test and drain assemblies and flow indicator as required.

D. Locate outside alarm-bell on building wall as indicated on Drawings or as required by the authority having jurisdiction.

E. Place pipe runs to minimize obstruction to other work.

F. Install piping in concealed spaces above finished ceilings.

G. Center sprinklers in two directions in ceiling tile and install piping offsets.

H. Install guards on sprinklers as required by NFPA 13.

I. Hydrostatically test entire system.

J. Require test be witnessed by authority having jurisdiction.

1.17 INTERFACE WITH OTHER PRODUCTS

A. Verify signal devices are installed and connected to fire alarm system.

1.18 CLEANING

A. Flush entire piping system of foreign matter.

1.19 PROTECTION OF INSTALLED CONSTRUCTION

A. Apply masking tape or paper cover to protect concealed sprinklers, cover plates, and sprinkler escutcheons not receiving field paint finish. Remove after painting. Replace painted sprinklers with new.

1.20 SYSTEM TESTS

A. For pressure test, use a hydrostatic pressure of 50 psi greater than the maximum working pressure of the system, except that for those portions of the system having pipe size larger than 2 inches in diameter, hydrostatic test pressure shall be not less than 200 psi. Hold this pressure not less than 2 hours. Prior to the pressure test, fill that portion of the pipeline being tested with water for a soaking period of not less than 24 hours. For leakage test, use a hydrostatic pressure not less than the maximum pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test. Repair all leaks and replace piping, fittings and other system components as required, at no additional cost to the Owner.

B. Test shall be witnessed by authority having jurisdiction and Architect.

END OF SECTION

SECTION 31 23 16
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Excavating for slabs-on-grade, paving, site structures, and utilities within the building.

1.02 RELATED REQUIREMENTS

A. Section 31 23 16.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

B. Section 31 23 23 - Fill: Fill materials, filling, and compacting.

1.03 SUBMITTALS

A. Field Quality Control Submittals: Document visual inspection of load-bearing excavated surfaces.

1.04 PROJECT CONDITIONS

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

PART 3 EXECUTION

2.01 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Protect plants, lawns, rock outcroppings, and other features to remain.

2.02 EXCAVATING

A. Excavate to accommodate new structures and construction operations.

B. Notify Owner of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Cut utility trenches wide enough to allow inspection of installed utilities.

F. Hand trim excavations. Remove loose matter.

G. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 23 23.

H. Grade top perimeter of excavation to prevent surface water from draining into excavation.

I. Remove excavated material that is unsuitable for re-use from site.

J. Remove excess excavated material from site.

2.03 FIELD QUALITY CONTROL

A. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

2.04 PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

END OF SECTION

SECTION 31 23 16.13
TRENCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Backfilling and compacting for utilities outside the building to utility main connections.

1.02 RELATED REQUIREMENTS

A. Section 31 23 16 - Excavation: Building and foundation excavating.

B. Section 31 23 23 - Fill: Backfilling at building and foundations.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; 2015.

B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3); 2012.

C. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3); 2012.

1.05 SUBMITTALS

A. Samples: 10 lb (4.5 kg) sample of each type of fill; submit in air-tight containers to testing laboratory.

B. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.

C. Compaction Density Test Reports.

1.06 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill: Conforming to City of Irvine Public Works Department standard. Refer City Standard Plan Detail 223.

B. Granular Fill: Coarse aggregate, conforming to City of Irvine Public Works Department standard.

C. Sand: Conforming to City of Irvine Public Works Department standard.

D. Topsoil: Conforming to City of Irvine Public Works Department standard.

2.02 SOURCE QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. Where fill materials are specified by reference to a specific standard, testing of samples for compliance will be provided before delivery to site.

D. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Protect plants, lawns, rock outcroppings, and other features to remain.

3.03 TRENCHING

A. Notify Owner of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

B. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored.

C. Do not interfere with 45 degree bearing splay of foundations.

D. Cut trenches wide enough to allow inspection of installed utilities.

E. Hand trim excavations. Remove loose matter.

F. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

G. Remove excavated material that is unsuitable for re-use from site.

H. Remove excess excavated material from site.

3.04 PREPARATION FOR UTILITY PLACEMENT

A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

3.05 BACKFILLING

A. Backfill to contours and elevations indicated using unfrozen materials.

B. Employ a placement method that does not disturb or damage other work.

C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Slope grade away from building minimum 2 inches in 10 ft (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

F. Correct areas that are over-excavated.
   1. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.

G. Compaction Density Unless Otherwise Specified or Indicated:

H. Reshape and re-compact fills subjected to vehicular traffic.

3.06 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 ("modified Proctor"), AASHTO T 180, or ASTM D698 ("standard Proctor").

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.07 CLEANING

A. Leave unused materials in a neat, compact stockpile.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

SECTION 31 23 23
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Backfilling and compacting for utilities outside the building to utility main connections.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 31 23 16 - Excavation: Removal and handling of soil to be re-used.

C. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; 2015.

B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3); 2012.

C. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3); 2012.

1.05 SUBMITTALS

A. Product Data for Manufactured Fill.

B. Materials Sources: Submit name of imported materials source.

C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used, including manufactured fill.

D. Compaction Density Test Reports.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.07 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where indicated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill: Conforming to City of Irvine Public Works Department standard.

B. Granular Fill: Coarse aggregate, conforming to City of Irvine Public Works Department standard.

C. Sand: Conforming to City of Irvine Public Works Department standard.

D. Topsoil: Conforming to City of Irvine Public Works Department standard.

2.02 SOURCE QUALITY CONTROL

A. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

B. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION

A. Identify required lines, levels, contours, and datum locations.

3.02 PREPARATION

A. Scarify and proof roll subgrade surface to a depth of 6 inches (150 mm) to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Employ a placement method that does not disturb or damage other work.

C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Slope grade away from building minimum 2 inches in 10 feet (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

F. Correct areas that are over-excavated.

1. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.

G. Compaction Density Unless Otherwise Specified or Indicated:

H. Reshape and re-compact fills subjected to vehicular traffic.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

END OF SECTION

SECTION 32 12 16
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aggregate base course.

B. Single course bituminous concrete paving.

C. Double course bituminous concrete paving.

D. Surface sealer.

1.02 RELATED REQUIREMENTS

A. Section 31 23 23 - Fill: Compacted subgrade for paving.

B. Section 32 13 13 - Concrete Paving: Concrete substrate.

C. Section 32 13 13 - Concrete Paving: Concrete curbs.

D. Section 32 17 23.13 - Painted Pavement Markings: Concrete bumpers.

1.03 REFERENCE STANDARDS

A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses; 1965 (2012).

B. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; 2015.

C. AI MS-19 - A Basic Asphalt Emulsion Manual; Fourth Edition.

D. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction; 2009a.

E. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.

1.04 QUALITY ASSURANCE

A. Perform Work in accordance with Municipality of City of Irvine Public Work's standard.

B. Obtain materials from same source throughout.

1.05 REGULATORY REQUIREMENTS

A. Conform to applicable code for paving work on public property.

1.06 FIELD CONDITIONS

A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F (4 degrees C), or surface is wet or frozen.

B. Place bitumen mixture when temperature is not more than 15 F degrees (8 C degrees) below bitumen supplier's bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt Cement: ASTM D946.

B. Aggregate for Base Course: In accordance with Municipality of City of Irvine Public Work's standards.

2.02 ASPHALT PAVING MIXES AND MIX DESIGN

A. Base Course: 3.0 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

B. Binder Course: 4.5 to 6 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

C. Wearing Course: 5 to 7 percent of asphalt cement by weight in mixture in accordance with AI MS-2.

D. Submit proposed mix design of each class of mix for review prior to beginning of work.

2.03 SOURCE QUALITY CONTROL

A. Test mix design and samples in accordance with AI MS-2.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.02 BASE COURSE

A. Place and compact base course.

3.03 PREPARATION - PRIMER

A. Apply primer in accordance with manufacturer's instructions.

B. Apply primer on aggregate base or subbase at uniform rate of 1/3 gal/sq yd (1.5 L/sq m).

C. Use clean sand to blot excess primer.

3.04 PREPARATION - TACK COAT

A. Apply tack coat in accordance with manufacturer's instructions.

B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 1/3 gal/sq yd (1.5 L/sq m).

3.05 PLACING ASPHALT PAVEMENT - SINGLE COURSE

A. Install Work in accordance with Municipality of City of Irvine Public Work's standards.

B. Place asphalt within 24 hours of applying primer or tack coat.

C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

D. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.06 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

A. Place asphalt binder course within 24 hours of applying primer or tack coat.

B. Place wearing course within two hours of placing and compacting binder course.

C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

D. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.07 SEAL COAT

A. Apply seal coat to surface course and asphalt curbs in accordance with AI MS-19.

3.08 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch (6 mm) measured with 10 foot (3 m) straight edge.

B. Variation from True Elevation: Within 1/2 inch (12 mm).

3.09 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for quality control.

B. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2.

3.10 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury for 3 days or until surface temperature is less than 140 degrees F (60 degrees C).

END OF SECTION

SECTION 32 13 13
CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. Work Included: Exterior cement concrete pavement for the following:
   1. Driveways and roadways.
   2. Parking lots.
   3. Curbs and gutters.
   4. Walkways, steps, ramps.

B. Related Sections include the following:
   1. Divisions 31 Section "Earthwork" for subgrade preparation, grading, and subbase course.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, under Division 00 Procurement and Contracting Requirements Section, apply to this Section.

1.03 REFERENCES

A. Local Jurisdiction Standard Specifications for Design and Construction, Latest Edition.

1.04 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, expansive hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

1.05 SUBMITTALS

A. Product Data: For each type of manufactured material and product indicated.

B. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

C. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:

D. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:
   1. Cementitious materials and aggregates.
   2. Fiber reinforcement.
   3. Admixtures.
   4. Curing compounds.
   5. Bonding agent or adhesive.
   6. Joint fillers.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed pavement work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
   1. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.

D. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by the requirements of the Contract Documents.

E. Concrete Testing Service: The Owner will engage a qualified independent testing agency to perform material testing.

F. Regulatory Requirements:
   1. Comply with County standards for sidewalks, curbs, ramps, gutters, and driveway approaches or aprons, including standard dimensions, profiles, thicknesses, reinforcing, and compressive strength.

In the event of conflict between the Contract Documents and the standards, the more stringent requirements will apply.

2. Comply with applicable requirements of ADA Handbook, ANSI A117.1, and local and State codes and ordinances regarding walks, steps, ramps and curb ramps.

1.07 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Field Measurements: Verify dimensions and existing conditions shown on the drawings by taking field measurements. Report discrepancies to the Architect for clarification and make minor adjustments in layout as required by field conditions and as approved by the Architect, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for curves of a radius 100 feet or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.02 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

B. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed.

C. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60. Cut bars true to length with ends square and free of burrs.

D. Supports for Reinforcement: Chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2.03 COLORED ADMIXTURE

A. Colored Admixture: L.M. Scofield Co. “Chromix” or Rockwood Industries “Davis Colors”, color as selected by Architect. Use for site concrete where indicated on the drawings.

2.04 EXPANSION JOINT FILLER

A. Sealed Joints: Preformed, compressible fiber or cork filler material complying with ASTM D1751 or D1752, Type II, guaranteed compatible with expansion joint sealant materials, ½” thick unless otherwise indicated. Provide high-impact polystyrene removable “void cap” to create ½” deep reveal for installation of sealant.

B. Self-Sealing Joints: Preformed, compressible asphalt fiber joint filler complying with ASTM D994, ½” thick unless otherwise indicated. Do not use asphalt fiber filler in joints to receive elastomeric joint sealants.

2.05 CONCRETE MATERIALS

A. General: Use the same brand and type of cementitious material from the same manufacturer throughout the Project.

B. Portland Cement: ASTM C 150, Type II.

1. Fly Ash: ASTM C 618, Class F.

C. Aggregate: ASTM C 33, uniformly graded, from a single source, with coarse aggregate as follows:

1. Maximum Aggregate Size: ¾ inches.
2. Do not use fine or coarse aggregates containing substances that cause spalling.

D. Water: Potable.

2.06 ADMIXTURES

A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures.

B. Air-Entraining Admixture: ASTM C 260.

C. Water-Reducing Admixture: ASTM C 494, Type A.

D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.

F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

2.07 CURING MATERIALS

A. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
   1. Waterproof paper.
   2. Polyethylene film.
   3. White burlap-polyethylene sheet.

B. Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type I or II, Class B.
   1. Provide material that has a maximum volatile organic compound (VOC) rating of 350 g/L.

2.08 CONCRETE MIXES

A. Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.

B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the trial batch method.
   1. Do not use Owner's field quality-control testing agency as the independent testing agency.

C. Proportion mixes to provide concrete with the following properties:
   1. Compressive Strength (28 Days): 4000 psi.
   2. Slump Limit: 4 inches.
   3. Maximum water-cement ratio at point of placement: 0.45.
   4. Minimum 594 lb. Cement per cubic yard.

D. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements for concrete exposed to deicing chemicals.

E. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 4.0 to 7.0 percent.

2.09 CONCRETE MIXING

A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94.

PART 3 - EXECUTION

3.01 PREPARATION

A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.02 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

3.03 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.04 JOINTS

A. General: Construct construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
   1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour, unless pavement terminates at isolation joints.
   1. Provide preformed galvanized steel or plastic keyway-section forms or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
   2. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
   3. Provide tie bars at sides of pavement strips where indicated.
   4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
   1. Locate expansion joints at intervals of 500 feet (maximum), unless otherwise indicated.
   2. Extend joint fillers full width and depth of joint.
   3. Terminate joint filler less than 1/2 inch or more than 1 inch below finished surface for joint sealant.
   4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
   5. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

E. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
   1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to the following radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
   2. Radius: 1/4 inch.
   3. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.

F. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to the following radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.
   1. Radius: 1/4 inch.

3.05 CONCRETE PLACEMENT

A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.

B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.

D. Comply with requirements and with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.

E. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

F. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R.
   1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced

shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

G. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading dry-shake surface treatments.

H. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified with expansion joints at intervals of approximately 50 feet and tooled control joints at 10' o.c. If results are not approved, remove and replace with formed concrete.

I. Walks: Minimum 4" thick, with expansion joints at intervals of approximately 50 feet and tooled control joints at intervals equal to width of walks or maximum 5 feet o.c. Tool edges to rounded profile and finish as noted herein or shown on the drawings. Pitch walks ¼" per foot for drainage unless otherwise indicated.

J. Ramps: Construct ramps similar to walks. Comply with applicable ADA Handbook, ANSI A117.1, and local and State codes and ordinances, including maximum allowable slope not to exceed 1 foot vertical in 12 foot horizontal, with maximum rise not to exceed 30" between level landings.

K. Steps: Minimum 6" thick at intersection of treads and risers, reinforced as indicated. Slope treads ¼" to nosing, and tool nosings to uniform ½" radius. Finish as specified below.

L. Paving: Minimum 6" thick unless otherwise indicated. Provide expansion joints at intervals of 100'-0" each way or as indicated on the drawings, and tooled control joints at 12'-0" o.c. Provide fibermesh reinforcing. Place concrete paving over compacted subgrade as specified in Section 02200. Provide minimum 2% slope for drainage unless otherwise indicated.

M. Approaches: Minimum 6" thick, with #4 rebar spaced 12" o.c.b.w. unless otherwise indicated or required by local public works standards or building codes. Construct to radius of flare indicated, and taper or warp into alignment with adjacent curbs, gutters, and walks. Place approaches over compacted subgrade as specified in section 02200.

N. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
   1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
   2. Do not use frozen materials or materials containing ice or snow.
   3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.

O. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows when hot-weather conditions exist:
   1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
   2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
   3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.06 CONCRETE FINISHING

A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots, and fill low spots. Refloat surface immediately to uniform granular texture.
   1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.07 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and follow recommendations in ACI 305R for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
   1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
   2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.08 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:
   1. Elevation: 1/4 inch.
   2. Thickness: Plus 3/8 inch, minus 1/4 inch.
   3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/4 inch.
   4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch.
   5. Vertical Alignment of Tie Bars and Dowels: 1/4 inch.
   6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch.
   7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches.
   8. Joint Spacing: 3 inches.
   9. Contraction Joint Depth: Plus 1/4 inch, no minus.
   10. Joint Width: Plus 1/8 inch, no minus.

3.09 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing and inspection agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include the following:
   1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C 172, except modified for slump to comply with ASTM C 94.
   2. Slump: ASTM C 143; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
   3. Air Content: ASTM C 231, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air-entrained concrete.
   4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each set of compressive-strength specimens.
   5. Compression Test Specimens: ASTM C 31/C 31M; one set of four standard cylinders for each compressive-strength test, unless otherwise indicated.
   6. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.
   7. Compressive-Strength Tests: ASTM C 39; one set for each day's pour of each concrete class exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. One specimen shall be tested at 7 days and two specimens at 28 days; one specimen shall be retained in reserve for later testing if required.
   8. When frequency of testing will provide fewer than five compressive-strength tests for a given class of concrete, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
   9. When total quantity of a given class of concrete is less than 50 cu. yd., Architect may waive compressive-strength testing if adequate evidence of satisfactory strength is provided.

10. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, current operations shall be evaluated and corrective procedures shall be provided for protecting and curing in-place concrete.
11. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive compressive-strength test results equal or exceed specified compressive strength and no individual compressive-strength test result falls below specified compressive strength by more than 500 psi.

B. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

C. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as the sole basis for approval or rejection.

D. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Architect. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

3.10 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements in this Section.

B. Drill test cores where directed by Architect when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION

SECTION 32 17 23

PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking lot markings, including parking bays, crosswalks, arrows, handicapped symbols, and curb markings.

1.02 RELATED REQUIREMENTS

A. Section 32 12 16 - Asphalt Paving.

B. Section 32 13 13 - Concrete Paving.

1.03 REFERENCE STANDARDS

A. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

B. FHWA MUTCD - Manual on Uniform Traffic Control Devices for Streets and Highways; U.S. Department of Transportation, Federal Highway Administration; Current Edition.

1.04 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

PART 2 PRODUCTS

2.01 MATERIALS

A. Line and Zone Marking Paint: MPI (APL) No. 97 Latex Traffic Marking Paint; color(s) as indicated.
   1. Roadway Markings: As required by authorities having jurisdiction.
   2. Parking Lots: Yellow.
   3. Handicapped Symbols: Blue.

B. Temporary Marking Tape: Preformed, reflective, pressure sensitive adhesive tape in color(s) required; Contractor is responsible for selection of material of sufficient durability as to perform satisfactorily during period for which its use is required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation.
   1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.

C. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.

D. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.

E. Temporary Pavement Markings: When required or directed by Owner, apply temporary markings of the color(s), width(s) and length(s) as indicated or directed.
   1. After temporary marking has served its purpose, remove temporary marking by carefully controlled sandblasting, approved grinding equipment, or other approved method so that surface to which the marking was applied will not be damaged.
   2. At Contractor's option, temporary marking tape may used in lieu of temporary painted marking; remove unsatisfactory tape and replace with painted markings at no additional cost to Owner.

3.03 INSTALLATION

A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F (10 degrees C) or more than 95 degrees F (35 degrees C).

C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.

D. Comply with FHWA MUTCD manual (http://mutcd.fhwa.dot.gov) for details not shown.

E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.

F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on the drawings true, sharp edges and ends.
   1. Apply paint in one coat only.
   2. Wet Film Thickness: 0.015 inch (0.4 mm), minimum.
   3. Width Tolerance: Plus or minus 1/8 inch (3 mm).

G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
   1. Mark the International Handicapped Symbol at indicated parking spaces.
   2. Hand application by pneumatic spray is acceptable.

H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

3.04 DRYING, PROTECTION, AND REPLACEMENT

A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.

B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.

C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.

D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.

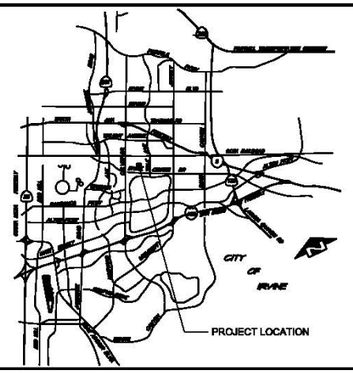
E. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.

F. Replace removed markings at no additional cost to Owner.

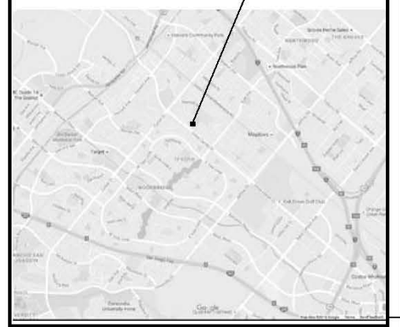
END OF SECTION

THE CITY OF IRVINE

BUILDING SAFETY UPGRADES
CIP No. 361707



VICINITY MAP



LOCATION MAP

PROJECT INFORMATION REQUIREMENTS
PROJECT LOCATION: < DEERFIELD PARK, 55 DEERWOOD WEST, IRVINE, CA 92604 >

PROJECT DESCRIPTION
<INSTALLATION OF NEW FIRE SPRINKLER SYSTEM>.

OCCUPANCY A-3

NUMBER OF STORIES <1 STORY>

MEZZANINES <NONE>

TYPE OF CONSTRUCTION <VB-1 HR>

FIRE PARTITION WALLS <NO>

FIRE BARRIER WALLS <NO>

FIRE WALL <NO>

HORIZONTAL ASSEMBLIES <NO>

FIRE SPRINKLERS

BASED ON NFPA 13, FIRE SPRINKLER SHALL BE PROVIDED UNDER SEPARATE APPROVAL THROUGH THE ORANGE COUNTY FIRE AUTHORITY.

TO COMPLY WITH THE CITY OF IRVINE MUNICIPAL CODE SECTION 5-9-401 FOR BUILDING HAVING A GROSS AREA EXCEEDING 5,000 SQUARE FEET, AND AS SUBSTITUTION FOR RATED CONSTRUCTION.

ALLOW HEIGHT AND AREA ANALYSIS PER CBC SECTION 504:

ALLOWABLE HEIGHT AND BUILDING AREA (CBC TABLE 503)		
COMMUNITY CENTER	ACTUAL	ALLOWABLE
HEIGHT (FT.)	21'-0"	---
NO. OF STORIES	1	---
AREA (PER STORY, FT ABOVE GRADE	4,950	---

PARKING SUMMARY: (NO CHANGE)
REQUIRED PARKING

ACCESSIBLE PARKING: (NO CHANGE)

APPLICABLE STATE CODES (WITH CITY OF IRVINE AMENDMENTS)

CALIFORNIA BUILDING CODE	<2016>
CALIFORNIA GREEN BUILDING STANDARDS CODE	<2016>
CALIFORNIA MECHANICAL CODE	<2016>
CALIFORNIA ELECTRICAL CODE	<2016>
CALIFORNIA PLUMBING CODE	<2016>
CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS	<2016>
CALIFORNIA FIRE CODE	<2016>

WATER CONSERVING PLUMBING FIXTURE VERIFICATION/RETROFIT:

BUILDINGS FOR WHICH AN INITIAL FINAL INSPECTION WAS RECEIVED ON OR BEFORE JANUARY 1, 1994 SHALL COMPLY WITH THE CITY OF IRVINE'S INFORMATION BULLETIN # 331. WAS THE INITIAL FINAL INSPECTION ON THE PROPERTY UNDERGOING THE PROPOSED TENANT IMPROVEMENT RECEIVED PRIOR TO JANUARY 1, 1994: <YES>

CALIFORNIA GREEN BUILDING STANDARDS CODE

PROVISIONS OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE APPLY TO ALL NEW LOW-RISE RESIDENTIAL BUILDINGS (THREE STORIES AND LESS INCLUDING HOTELS AND MOTELS) AND ALL NON-RESIDENTIAL TENANT IMPROVEMENT WITH VALUATION EQUAL OR GREATER THAN $200,000 AND ADDITIONS EQUAL OR GREATER THAN 1,000 SQUARE FEET.

SEE GREEN BUILDING STANDARDS <SHEET T1.1> FOR COMPLETE COMPLIANCE DOCUMENTATION.

CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS

PROVISIONS OF THE CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARD APPLY TO THIS PROJECT SEE TITLE 24 SHEET <SHEETS E3.0 & E4.0> FOR COMPLETE COMPLIANCE DOCUMENTATION.

SPECIAL INSPECTION AND STRUCTURAL OBSERVATION

THIS PROJECT IS SUBJECT TO BOTH SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATION PER CALIFORNIA BUILDING CODE (CBC) CHAPTER 17 AND SHALL FOLLOW THE REQUIREMENTS AS DEFINED IN CITY OF IRVINE INFORMATION BULLETINS NO. 276 AND 251.
*N/A FOR THIS PROJECT

CITY OF IRVINE MUNICIPAL CODE

THE DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH ALL APPLICABLE IRVINE MUNICIPAL CODE PROVISIONS INCLUDING BUT NOT LIMITED TO:

SECURITY DESIGN STANDARDS [IMC SECT. 5-9-520 AND 5-9-526] SEE SHEET (N/A) FOR APPLICABLE COMPLETED SECURITY CODE PROVISIONS.

ROOFING [IMC 5-9-401 I. & 5-9-402 E.]

ROOF COVERING CLASSIFICATION SHALL MEET MINIMUM CLASS A.

ATTIC AND UNDERFLOOR VENT COVERS [IMC 5-9-401 H. & 5-9-402 D.]

ROOF AND UNDERFLOOR VENT OPENINGS SHALL BE COVERED WITH NON-COMBUSTIBLE, CORROSION RESISTANT, METAL WIRE MESH OR OTHER MATERIALS HAVING OPENINGS OF 1/16 INCH MINIMUM TO 1/8 INCH MAXIMUM. (CBC 708A.2) SEE DETAIL

*N/A FOR THIS PROJECT

OFF-SITE FABRICATION

ALL OFF-SITE FABRICATION OF STRUCTURAL STEEL COMPONENTS INCLUDING STEEL STAIRS AND PRE-CAST CONCRETE SHALL BE DONE IN AN APPROVED FABRICATOR SHOP AS REQUIRED BY CITY OF IRVINE INFORMATION BULLETIN NO. 311, AND REQUIRED DOCUMENTATION REQUIRED AT THE RECEIPT OF ANY SHIPMENT OF OFF-SITE FABRICATED ITEMS.

*N/A FOR THIS PROJECT

PRE-CONSTRUCTION MEETING REQUIREMENT

ALL CONSTRUCTION PROJECTS INVOLVING ADDITIONS TO NON-RESIDENTIAL STRUCTURES SHALL NOT COMMENCE UNTIL A PRE-CONSTRUCTION MEETING HAS BEEN HELD. THESE MEETINGS, WHILE NOT REQUIRED BY CITY CODE FOR TENANT IMPROVEMENTS NOT ADDING AREA, ARE BENEFICIAL FOR MAJOR TENANT IMPROVEMENTS OR ANY RESTAURANT INSTALLATIONS. TO SCHEDULE A PRE-CONSTRUCTION MEETING CONTACT ROGER CARTON, NON-RESIDENTIAL INSPECTIONS SUPERVISOR AT (949)724-6331.

DEFERRED SUBMITTALS

THIS PROJECT HAS BEEN PERMITTED WITHOUT REVIEW AND/OR APPROVAL OF THE FOLLOWING DEFERRED SUBMITTALS. PLANS APPROVED BY THE CITY SHALL BE OBTAINED FOR EACH DEFERRED ITEM LISTED BELOW PRIOR TO COMMENCING ANY WORK WITHIN THIS SCOPE OF SUCH DEFERRAL. DEFERRALS MUST BE REVIEWED AND ACCEPTED BY THE ARCHITECT OR ENGINEER OF RECORD PRIOR TO SUBMITTING FOR REVIEW WITH THE CITY.

*N/A FOR THIS PROJECT

ADDITIONS AND ALTERATIONS:

PRIOR TO USE, OCCUPANCY OR FINAL INSPECTION, EXISTING OR RETROFITTED ADDRESSING MEETING THE HEIGHT, CONTRAST AND FONT REQUIREMENTS OF SECTION 5-9-517 ITEM I. OF THE CITY OF IRVINE MUNICIPAL CODE SHALL BE VERIFIED BY THE CITY INSPECTOR.

ASBESTOS REMOVAL:

NOTE:
THE REMOVAL OF ASBESTOS AND/OR LEAD CONTAINING MATERIAL SHALL BE EXECUTED BY A CERTIFIED FIRM IN COMPLIANCE WITH CAL-OSHA, FEDERAL STANDARDS AND AHERA.

FIRE DEPARTMENT NOTES:

1. FOR ASSISTANCE WITH FIRE-RELATED PLAN REVIEW ISSUES OR TECHNICAL QUESTIONS, PLEASE CALL (714) 573-6108. FOR FIRE-RELATED INSPECTION QUESTIONS OR ISSUES, PLEASE CONTACT YOUR OCFA INSPECTOR DIRECTLY OR OCFA INSPECTION SCHEDULING AT (714) 573-6150 FOR ASSISTANCE.
2. THE PROJECT SHALL COMPLY WITH THE CURRENTLY ADOPTED CALIFORNIA BUILDING CODE, CALIFORNIA FIRE CODE, AND OTHER CODES, STANDARDS, REGULATIONS AND REQUIREMENTS AS ENFORCED BY THE ORANGE COUNTY FIRE AUTHORITY. APPROVAL OF THESE PLANS SHALL NOT PERMIT THE VIOLATION OF ANY CODE OR LAW.
3. FOR PROJECTS INVOLVING NEW STRUCTURES, ADDITIONS TO EXISTING STRUCTURES, INSTALLATION OF GATES/WALLS/FENCES, OR ALTERATION OF VEHICULAR ACCESS, A FIRE MASTER PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE OCFA PRIOR TO SUBMITTAL OF ARCHITECTURAL PLANS. AN APPROVED FIRE MASTER PLAN SHALL BE SUBMITTED WITH THE ARCHITECTURAL PLANS.
4. ALL WEATHER FIRE ACCESS ROADS SHALL BE APPROVED BY THE OCFA AND BE IN PLACE BEFORE ANY COMBUSTIBLE MATERIALS ARE PLACED ON THE SITE. ACCESS ROADS SHALL BE MAINTAINED CLEAR OF OBSTRUCTIONS DURING AND AFTER CONSTRUCTION.
5. ADDRESS NUMBERS SHALL BE PROVIDED FOR ALL NEW AND EXISTING BUILDINGS, BE A MINIMUM SIX INCHES HIGH, CONTRAST WITH THEIR BACKGROUND, AND BE PLAINLY VISIBLE FROM THE ROADWAY THE BUILDING IS ADDRESSED ON OR AS OTHERWISE ALLOWED BY OCFA GUIDELINE B-09.
6. BUILDINGS UNDER CONSTRUCTION OR DEMOLITION SHALL CONFORM TO CFC CHAPTER 14. NO SMOKING OR COOKING IS ALLOWED IN STRUCTURES WHERE COMBUSTIBLE MATERIALS ARE EXPOSED OR WITHIN 25' OF COMBUSTIBLE MATERIALS STORAGE AREAS. CUTTING, WELDING, OR OTHER HOT WORK SHALL BE IN CONFORMANCE WITH CFC CHAPTER 26.
7. LOCATIONS AND CLASSIFICATIONS OF EXTINGUISHERS SHALL BE IN ACCORDANCE WITH THE CFC AND CCR TITLE 19. AT LEAST ONE EXTINGUISHER SHALL BE PROVIDED DURING CONSTRUCTION ON EACH FLOOR AT EACH STAIRWAY. IN EACH STORAGE AND CONSTRUCTION SHED, IN LOCATIONS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED OR USED, OR WHERE SIMILAR HAZARDS ARE PRESENT. BEFORE FINAL OCCUPANCY, AT LEAST ONE 2A:10B:C EXTINGUISHER SHALL BE PROVIDED SO THAT NO POINT IS MORE THAN 75' TRAVEL DISTANCE FROM THE EXTINGUISHER. EXTINGUISHERS SHALL BE LOCATED ALONG THE PATH OF EGRESS TRAVEL AND IN A READILY VISIBLE AND ACCESSIBLE LOCATION, WITH THE BOTTOM OF THE EXTINGUISHER AT LEAST 4" ABOVE THE FLOOR. ADDITIONAL EXTINGUISHERS MAY BE REQUIRED BY THE INSPECTOR AND FINAL PLACEMENT IS SUBJECT TO APPROVAL.
8. WALL, FLOOR AND CEILING FINISHES AND DECORATIVE MATERIALS SHALL NOT EXCEED THE FLAME SPREAD CLASSIFICATIONS IN CBC/CFC CHAPTER 8. DECORATIVE MATERIALS SHALL BE PROPERLY TREATED BY A PRODUCT OR PROCESS APPROVED BY THE STATE FIRE MARSHAL. SUCH ITEMS SHALL BE APPROVED AND INSPECTED PRIOR TO INSTALLATION.
9. KNOX BOXES/KEY CABINETS SHALL BE PROVIDED FOR ALL POOL ENCLOSURES, GATES IN THE PATH OF FIREFIGHTER TRAVEL TO STRUCTURES, SECURED PARKING LEVELS, DOORS GIVING ACCESS TO ALARM PANELS AND/OR ANNUNCIATORS, AND ANY OTHER STRUCTURES OR AREAS WHERE IMMEDIATE ACCESS IS REQUIRED OR IS UNDULY DIFFICULT.
10. DUMPSTERS AND TRASH CONTAINERS EXCEEDING 1.5 CUBIC YARDS SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FEET OF COMBUSTIBLE WALLS, OPENINGS OR COMBUSTIBLE ROOF EAVE LINES UNLESS PROTECTED BY AN APPROVED SPRINKLER SYSTEM OR LOCATED IN A TYPE I OR IIA STRUCTURE SEPARATED BY 10 FEET FROM OTHER STRUCTURES. CONTAINERS LARGER THAN 1 CUBIC YARD SHALL BE OF NON- OR LIMITED-COMBUSTIBLE MATERIALS OR SIMILARLY PROTECTED OR SEPARATED. CFC 304.3
11. EXITS, EXIT SIGNS, FIRE ALARM PANELS, HOSE CABINETS, FIRE EXTINGUISHER LOCATIONS, AND STANDPIPE CONNECTIONS SHALL NOT BE CONCEALED BY CURTAINS, MIRRORS, OR OTHER DECORATIVE MATERIAL. THE EGRESS PATH SHALL REMAIN FREE AND CLEAR OF ALL OBSTRUCTIONS AT ALL TIMES. NO STORAGE IS PERMITTED IN AISLES.
12. EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. DOORS SHALL NOT BE PROVIDED WITH THUMB-TURN LOCKS OR DEADBOLTS THAT DO NOT UNLATCH IN TANDEM WITH THE NORMAL OPERATING LEVER. RATED DOORS SHALL BE SELF-CLOSING AND LATCHING; SUCH DOORS SHALL NOT BE EQUIPPED WITH DOOR STOPS OR OTHERWISE PROPPED OPEN.
13. SPRINKLER AND ALARM SYSTEMS SHALL BE PROVIDED WHEN REQUIRED BY CBC/CFC CHAPTER 9 AND LOCAL ORDINANCE. IN STRUCTURES OF UNDETERMINED USE, THE MINIMUM FIRE SPRINKLER DESIGN DENSITY REQUIRED SHALL BE ORDINARY HAZARD (GROUP 2) WITH A DESIGN AREA OF 3000 SQUARE FEET.
14. EXISTING SPRINKLER AND ALARM SYSTEMS IN SPACES UNDERGOING REMODELING SHALL BE EVALUATED BY A LICENSED CONTRACTOR KNOWLEDGEABLE IN SUCH SYSTEMS TO DETERMINE WHETHER CHANGES WILL BE NECESSARY TO MAINTAIN THESE SYSTEMS IN CONFORMANCE WITH APPLICABLE STANDARDS. IF MODIFICATIONS ARE NECESSARY, PLANS SHALL BE SUBMITTED TO THE OCFA FOR REVIEW AND APPROVAL PRIOR TO MODIFICATION OF THE SYSTEM. SPRINKLER AND ALARM SYSTEMS SHALL BE SUPERVISED BY A UL-LISTED CENTRAL ALARM STATION.
15. WHERE COMMERCIAL-TYPE FOOD HEATING OR COOKING EQUIPMENT THAT PRODUCES GREASE-LADEN VAPORS IS PRESENT, AN AUTOMATIC EXTINGUISHING SYSTEM SHALL BE PROVIDED AND SHALL COMPLY WITH CFC, CMC, AND NFPA 17A. REVIEW AND APPROVAL OF A HOOD AND DUCT EXTINGUISHING SYSTEM PLAN BY THE OCFA IS REQUIRED PRIOR TO INSTALLATION, MODIFICATION, REARRANGEMENT, OR USE OF COOKING EQUIPMENT.
16. HAZARDOUS MATERIALS EQUIPMENT, PROCESSES, STORAGE, DISPENSING, OR USE SHALL COMPLY WITH CBC AND CFC REGULATIONS AND SHALL BE REVIEWED AND APPROVED BY THE OCFA PRIOR TO SUCH MATERIALS OR EQUIPMENT BEING BROUGHT ON SITE.
17. STORAGE AREAS GREATER THAN 500 SQ.FT. WITH HIGH HAZARD MATERIALS STORED HIGHER THAN SIX FEET AND OTHER MATERIALS STORED HIGHER THAN TWELVE FEET ARE NOT PERMITTED WITHOUT FIRST SUBMITTING PLANS TO AND OBTAINING APPROVAL FROM THE OCFA.
18. A NEW HVAC UNIT EXCEEDING A 2,000 CFM CAPACITY SHALL BE PROVIDED WITH A DUCT SMOKE DETECTOR. THIS DETECTOR SHALL SHUT DOWN ONLY THE AFFECTED INDIVIDUAL HVAC UNIT UPON SMOKE DETECTION. THIS DETECTOR MUST ALSO BE INTERFACED TO AN EXISTING FIRE ALARM SYSTEM. THE DETECTOR SHALL ONLY PROVIDE A SUPERVISORY SIGNAL AT THE FIRE ALARM PANEL UPON SMOKE DETECTION.

STORM WATER POLLUTION PREVENTION NOTES

STORMWATER POLLUTION PREVENTION DEVICES AND PRACTICES SHALL BE INSTALLED AND/OR INSTITUTED AS NECESSARY TO ENSURE COMPLIANCE TO THE CITY OF IRVINE WATER QUALITY STANDARDS CONTAINED IN CHAPTER 3, WATER, OF DIVISION 5 OF TITLE 6 OF THE IRVINE MUNICIPAL CODE AND ANY EROSION CONTROL PLAN ASSOCIATED WITH THIS PROJECT. ALL SUCH DEVICES AND PRACTICES SHALL BE MAINTAINED, INSPECTED AND/OR MONITORED TO ENSURE ADEQUACY AND PROPER FUNCTION THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT.

COMPLIANCE TO THE WATER QUALITY STANDARDS AND ANY EROSION AND SEDIMENT CONTROL PLAN ASSOCIATED WITH THIS PROJECT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING REQUIREMENTS:

1. AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROL MEASURES (BMPs) SHALL BE IMPLEMENTED TO PROTECT THE EXPOSED PORTIONS OF THE SITE FROM EROSION AND TO PREVENT SEDIMENT DISCHARGES.
2. SEDIMENTS AND OTHER POLLUTANTS SHALL BE RETAINED ON SITE UNTIL PROPERLY DISPOSED OF, AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS SHALL BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND AND WATER FLOW.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS SHALL BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM, NOR BE ALLOWED TO SETTLE OR INFILTRATE INTO SOIL.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTES.
6. TRASH AND CONSTRUCTION SOLID WASTES SHALL BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICULAR TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITS SHALL BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. STORMWATER POLLUTION PREVENTION DEVICES AND/OR PRACTICES SHALL BE MODIFIED AS NEEDED AS THE PROJECT PROGRESSES TO ENSURE EFFECTIVENESS.

RECYCLING:

AT LEAST 50% OF CONSTRUCTION WASTE MATERIALS ARE TO BE RECYCLED.

SHEET INDEX:

SHEET INDEX	
SHEET #	DESCRIPTION
T1.0	TITLE SHEET
T1.1	GREEN BUILDING STANDARDS & SPECIAL INSPECTIONS
ARCHITECTURAL	
AO.1	OVERALL SITE PLAN
AO.2	DISABLED ACCESS PLAN
A1.0	FLOOR PLAN
A2.0	REFLECTED CEILING PLAN
UNDERGROUND FIRE PROTECTION	
1	UNDERGROUND FIRE PROTECTION PLAN TITLE SHEET
2	UNDERGROUND FIRE PROTECTION PLAN SITE PLAN
FIRE PROTECTION	
FP0.1	GENERAL NOTES, LEGEND AND DRAWING LIST
FP0.2	DETAILS
FP0.3	SEISMIC DETAILS
FP1.1	FIRE PROTECTION SITE PLAN (FOR REFERENCE ONLY)
FP2.1	FIRE PROTECTION FLOOR PLAN
FP2.2	CUT SECTION
FP3.1	FIRE PROTECTION RCP

DIGALERT®
811®
Know what's below.
Call before you dig.

NO.	DATE	REVISIONS
7		
6		
5		
4		
3	06/09/17	ADDENDUM 1
2	01/24/17	PLAN CHECK
1	12/09/16	DESIGN DEVELOPMENT

DESIGNED: MP
DRAWN:
CHECKED: CP
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:

PLANS PREPARED BY:
CAD architecture
ARCHITECT:
LICENSE NO. EXP. DATE

SHEET TITLE: TITLE SHEET

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK:
FORMAT:

T1.0
SHEET: OF

PLAN CHECK

SPECIAL INSPECTION

INFORMATIONAL BULLETIN

Bulletin No.: 278
Page 1 of 2
Effective: 2/18/99
Approved:

Chief Building Official

Special Inspection Program Requirements

When special inspection is required for a project, the Uniform Building Code requires a special inspection program to be submitted to the Chief Building Official for approval prior to issuance of the building permit. Such program shall be prepared by the architect or engineer of record and submitted with the plan check documents for the project. The program shall be included on the project plans in a prominent location such as on the first sheet of architectural or structural plans.

Attached: Special Inspection Program Form

B1

SPECIAL INSPECTION PROGRAM SUMMARY

Building Address: 88 Diamond West, Irvine, CA 92994
Project Description: Installation of a New Fire Sprinkler System
Plan Check Number: TBD

I, as the owner, or agent of the owner (contractors may not employ the special inspector), certify that I or the architect/engineer of record, will be responsible for employing the special inspector(s) as required by Uniform Building Code (UBC) Section 1701.1 for the construction project located at the site listed above. UBC Section 106.3.5.

Signed _____ Date _____

Print Name _____ ☐ Owner ☐ Engineer ☐ Architect

Firm _____

I, as the engineer/architect of record, certify that I have prepared the following special inspection program as required by UBC Section 106.3.5 for the construction project located at the site listed above.

Engineer/Architect's Seal & Signature Here

Signed _____ Date _____

Firm CAP Architecture Phone 714-975-3660

1. List of work requiring special inspection:

☐	Concrete	☐	Structural Welding
☐	Bolts in concrete and epoxy installation	☐	High-Strength Bolting
☐	Special-Moment Resisting Frame	☐	Structural Masonry
☐	Reinforcing Steel	☐	Insulating Concrete Fill or Reinforced Gypsum Concrete
☐	Prestressed Concrete	☐	Spray-applied Fireproofing
☐	Piling, and drilled piers	☐	Shotcrete
☐	Smoke-Control System	☒	Other: Fire Riser & Sprinklers

2. Name(s) of individual(s) or firm(s) responsible for the special inspections listed above:

A. _____
B. _____
C. _____

3. Duties of the special inspectors for the work listed above: (Attach additional sheets as necessary)

A. _____
B. _____
C. _____

Special inspectors shall notify the City of Irvine Building and Safety Division at (949) 724-6331 and present their credentials for approval prior to beginning work on the job site.

FORM 65-34

B2

GREEN BUILDING STANDARDS

Composite wood products shall meet the applicable stardards of CGBSC 5.504.4.5 and table 5.504.4.5.

Environmental Tobacco Smoke Control (5.504.5.3)
N/A See plan sheet _____ for designated outdoor smoking area which shows a minimum of 25 feet from building entries, outdoor ventilation intakes and operable windows.

Ventilation filtration- Outside and return air shall pass through filtration media having a rating of MERV 8 or better, see plan sheet _____ for specification (CGBSC 5.504.5.3).

ENVIRONMENTAL COMFORT (CGBSC 5.507)

Exterior Noise *[Note for zone boundaries refer to Sound Transmission Class (STC) Map 'Sound Transmission Class (STC) Map @ www.cityofirvine.org in the form catalog]*

N/A 1. A portion or the entire building is within 1,000 feet of freeway right-of-way therefore the specified exterior wall assemblies and roof or roof-ceiling assemblies have a sound transmission coefficient of 50 or more and the specified window assemblies have a sound transmission coefficient of 30 or more. For details and specifications see plan sheets _____.

N/A 2. A portion or the entire building is within the 65 CNEL contour for John Wayne Airport therefore the specified exterior wall assemblies and roof or roof-ceiling assemblies have a sound transmission coefficient of 50 or more and the specified window assemblies have a sound transmission coefficient of 30 or more. For details and specifications see plan sheets _____.

N/A 3. The project site fronts a street indentified as producing 65 CNEL contours extending beyond the right of way therefore the specified exterior wall assemblies and roof or roof-ceiling assemblies have a sound transmission coefficient of 50 or more and the specified window assemblies have a sound transmission coefficient of 30 or more. For details and specifications see plan sheets _____.

N/A This building is a factory, storage facility, utility building, enclosed parking structure or stadium therefore no STC assemblies are required.

N/A A noise study has been approved by the City that demonstrates a CNEL below 65 therefore no STC assemblies are required. (Note: This may only be accepted to relieve the requirement for item 3 above.)

Interior Sound

N/A Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40. Note: Examples of assemblies and their various STC ratings may be found in the catalog of STC and ICC Ratings for Wall and Floor/Ceiling Assemblies. For details and specifications see plan sheets _____.

N/A No interior walls separate tenant spaces or occupant spaces and public areas.

Note: Sound transmission control (STC) ratings shall be in accordance with ASTM E 90 and ASTM E 413.

FORM 66-113
Revised 9/27/11

5 of 5

Landscape and irrigation design shall comply with the City of Irvine Municipal Code Chapter 7 of Title 5, Sustainability In Landscaping.

WATER RESISTANCE AND MOISTURE MANAGEMENT (CGBSC 5.407)
ENTRIES AND OPENINGS To prevent water intrusion into exterior entries and/or openings subject to foot traffic or wind-driven rain, the following features have been incorporated into the design:
N/A Overhangs and/or recesses, see plan sheet _____.
N/A Flashings integrated with a drainage plane, see plan sheet: _____.
N/A Nonabsorbent floor and wall finishes within at least two feet around and perpendicular to such openings, see plan sheet: _____.

MATERIAL CONSERVATION AND RESOURCE EFFICIENCY- CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING (CGBSC 5.408)
Recycling of materials shall conform to the Construction and Demolition Materials Recycling Requirements of the City of Irvine Municipal Code, sections 6-7-901 through 6-7-912.

BUILDING MAINTENANCE AND OPERATION (CGBSC 5.410)
RECYCLING BY OCCUPANTS
N/A **[P]** Designated recycling areas shall be provided as required by sections 3-23-1 through 3-23-4 of the City of Irvine Zoning Code. See plan sheet _____.

N/A **COMMISSIONING** For buildings greater than 10,000 square feet, building commissioning.

Design
Using the templates available through the California Building Commission available in "Part 4 Suggested Forms and Templates" of the Guide to the Nonresidential CalGreen Code at: www.bsc.ca.gov/Home/CALGreen.aspx, the following documents are complete and included in the plans as follows:
- Completed and signed Owner's Project Requirements (OPR), see sheet _____.
- Completed and signed Basis of Design (BOD), see sheet _____.
- Commissioning Plan, including a completed and signed "Commissioning Plan" form and complete coverage of each of the elements 1-9 as specified therein. Functional performance testing shall utilize templates available at the above referenced website, see sheet _____.

Construction-Prior to Final Inspection Approval
- A completed Commissioning Report shall be provided to the City Inspector prior to final inspection approval. Contents, pursuant to section 5.410.2.6, shall include a description of the commissioning process activities undertaken through the design, construction and reporting recommendations for post construction phases. In addition all required functional performance testing reports shall be included.
- A completed Systems Manual shall be made available for review by the City Inspector prior to final inspection approval. Contents shall include a completed and signed "System Manual" Form from the above referenced website and complete coverage of each of the elements 1-7 as specified therein.

Note: Approved equals may be substituted for the forms specified herein which may include acceptance forms required under the California Building Energy Efficiency Standards.

FORM 66-113
Revised 9/27/11

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CITY OF IRVINE STANDARD NOTES
NON-RESIDENTIAL CONSTRUCTION
2010 CALIFORNIA GREEN BUILDING STANDARD (2.1)

Applies to ***Newly Constructed Non-residential Buildings and any subsequent initial tenant improvements*** for which permit application is made on or after January 1, 2011- the following standard notes shall be completed and incorporated into the approved plans and all effected design features and specifications shall be made to conform.

(Instructions: Designer to place an **X** *preceding each applicable section and complete the notes or indicate* **N/A** *if not applicable. Building plan check shall be responsible for verification except for those items preceded by a* **[P]** *which will be verified by Planning.)*

PARKING AND CHANGING ROOMS (CGBSC 5.106.4)
Check the appropriate box and provide complete input for each selection as applicable:
N/A **[P]** Short-term bicycle parking (bicycle racks) are provided to accommodate anticipated visitor traffic. The total number provided is: _____. These racks are located within 200 feet of the visitor's entrance as depicted on plan sheet: _____.
N/A This project will accommodate over 10 tenant-occupants, therefore long term bicycle parking is provided. The total number provided equal to 5% of the required parking is: _____. The method(s) selected to satisfy this requirement is (are):

___ Covered, lockable enclosures with permanently anchored racks for bicycles, the total number provided is: _____, see plan sheet: _____.

___ Lockable bicycle rooms with permanently anchored racks, the total number provided is: _____, see plan sheet: _____.

___ Lockable, permanently anchored bicycle lockers, the total number provided is: _____, see plan sheet: _____.

DESIGNATED PARKING FOR "CLEAN AIR VEHICLES (CGBSC 5.106.5.2)
N/A Per Table 5.106.5.2, a total of _____ Clean Air Vehicle parking spaces are provided. Spaces shall be permanently identified in 12 inch high lettering that says "CLEAN AIR VEHICLES". Such lettering shall align with the end of the stall striping so as to be visible when a vehicle is parked in the stall. See plan sheet _____ defining designated stalls and lettering details.

LIGHT POLLUTION REDUCTION (CGBSC 5.106.8)
N/A **[P]** Outdoor lighting designed to comply with the City of Irvine Security Code and section 3-16-1 of the City of Irvine Zoning Code which requires all direct rays to be confined to the site and that adjacent properties are protected from glare are depicted on plan sheet _____ along with photometrics.

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N/A **TESTING AND ADJUSTING.** For buildings not exceeding 10,000 square feet, testing and adjusting are required.

Design
See sheet _____ for procedures for testing and adjusting systems, which includes:
- HVAC systems and controls.
- HVAC balancing per the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; or Associated Air Balance Council National Standards or approved equal.
- Indoor and outdoor lighting and controls.
- Water heating systems.
- Renewable energy systems.
- Landscape irrigation systems.
- Water reuse systems.

Functional performance testing report scope and content shall be consistent with CALGreen Compliance Form "Functional Performance Testing" available in the Guide to Nonresidential Commissioning at www.bsc.ca.gov/Home/CALGreen.aspx, or approved equals and may incorporate acceptance forms required under the California Building Energy Efficiency Standards. For itemized list of functional tests required see sheet _____.

Construction-Prior to Final Inspection Approval
Completed testing, adjusting, and balancing reports shall be provided to the City Inspector prior to final inspection approval. Contents shall match those specified in the procedures section above and be signed by the responsible parties.

ENVIRONMENTAL QUALITY

N/A **FIREPLACES** Wood burning devices including fireplaces are not permitted under SQAQMD Rule 445. Any installed gas fireplace shall be a direct-vent sealed-combustion type. (CGBSC 5.503)

MECHANICAL EQUIPMENT AND DUCT PROTECTION To reduce the amount of dust and debris collected in mechanical equipment and ducts, all duct openings and other related air distribution equipment component openings shall be covered from the time of delivery at the jobsite through the construction until final start up. (CGBSC 5.504.3)

FINISH MATERIAL POLLUTANT CONTROL
- **Adhesives, sealants and caulks** shall meet the applicable standards of CGBSC 5.504.4.1 and tables 5.504.4.1 and 5.504.4.2 for VOC limits and content prohibitions.
- **Paints and coatings** shall meet the applicable standards of CGBSC 504.4.3 and table 5.504.4.3 for VOC limits.
- **Aerosol paints and coatings** shall meet the applicable standards of CGBSC 5.504.4.3.1.

Carpet systems shall meet the applicable standards of CGBSC 5.504.4.4 including CGBSC 5.504.4.4.1 for **carpet cushions** and CGBSC 5.504.4.4.2 for **carpet adhesives**.

Resilient flooring shall meet the applicable standards of CGBSC 5.504.4.6.

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WATER EFFICIENCY AND CONSERVATION (CGBSC 5.3)
Separate Meters or metering devices
N/A This project consists of a single tenant building with a dedicated meter.
N/A A separate meter or metering device is provided for the following spaces: _____. See plan sheet _____ for details and specifications defining metering design.
N/A Separate meters or metering devices are not provided.

Notes: (1) A single tenant building without a dedicated meter must be shown to use less than 1000 gals/day via worksheet WS-1 found in chapter 8 of the CGBSC and any necessary addendum worksheet to reflect process water or other uses not represented on the worksheet. (2) For buildings having a total floor area greater than 50,000 square feet, all its spaces not having a separate meter must be shown to have a projected consumption of less than 100 gals/day via worksheet WS-1 found in chapter 8 of the CGBSC and any necessary addendum worksheet to reflect process water or other uses not represented on the worksheet.

INDOOR WATER USE(CGBSC 5.303)
Indoor water use shall be reduced by 20 percent using one of the following methods:
N/A Water saving fixtures shall be used meeting the flow rate of the "20% Reduction" column specified in Table 5.303.2.3, see below, unless item 2 below is selected and an approved alternate fixture table is included in the plans and cross-referenced from these notes.
N/A A 20 percent reduction in baseline water use shall be demonstrated via approved calculations pursuant to CGBSC section 5.303.2 item 2. For alternate fixture table, see plan sheet: _____.

TABLE 5.303.2.3 (modified)
FIXTURE FLOW RATES

FIXTURE TYPE	FLOW RATE	MAXIMUM FLOW RATE AT 20% REDUCTION
Showerheads	2.5 gpm @ 80 psi	2 gpm @ 80 psi
Lavatory faucets	0.5 gpm @ 60 psi	0.4 gpm @ 60 psi
Kitchen faucets	2.2 gpm @ 60 psi	1.8 gpm @ 60 psi
Wash fountain	2.2rim space (in.)/20 gpm @60 psi]	1.8 rim space (in.)/20 gpm @60 psi]
Metering faucet	0.2 gallons/cycle	0.2 gallons/cycle
Metering faucet for wash fountains	0.25[rim space (in.)/20 gpm @60 psi]	0.2 rim space (in.)/20 gpm @60 psi]
Water Closets	1.6 gallons/flush	1.28 gallons/flush*
Urinal	1.0 gallons/flush	0.5 gallons/flush

* Includes single and dual flush water closets with an effective flush rate of 1.28 gallons or less.
Single flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19/2B3.2.
Dual flush toilets—The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.

Note: The combined flow of multiple showerheads serving a single shower shall not exceed maximum allowable flow rate for a single fixture shower or the control valves shall be arranged to only allow one shower head to operate at a time.

OUTDOOR WATER USE (CGBSC 5.304)

FORM 66-113
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DESIGNED:		7			
DRAWN:	MP	6			
CHECKED:	CP	5			
DATE:	11/22/10	4	05/06/11	ADDENDUM 1	
		3	07/04/11	PLAN CHECK	
SCALE:	AS SHOWN	2	11/06/11	DESIGN DEVELOPMENT	
		1			
		NO.	DATE	REVISIONS	

CONSULTANT ENGINEER:

REGISTERED ARCHITECT — CHRISTOPHER PRYNOSKI — No. C-29591 — STATE OF CALIFORNIA

PLANS PREPARED BY:
CAP architecture — Planning, Architecture, Interiors — Newport Beach, California — tel 714.975.3660

ARCHITECT: LICENSE NO. EXP. DATE

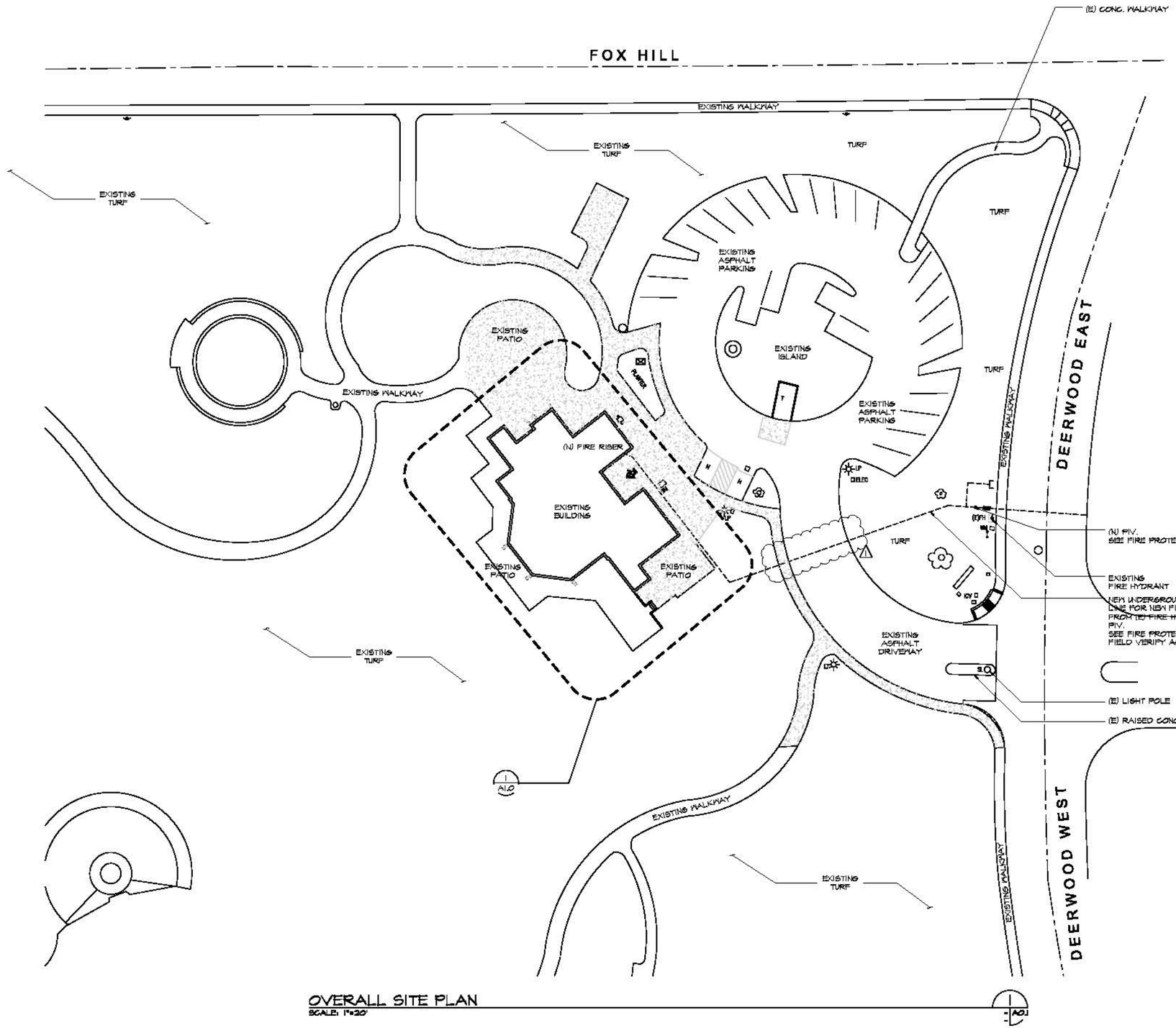
SHEET TITLE: GREEN BUILDING STANDARDS & SPECIAL INSPECTIONS

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK: _____
PERMIT: _____

T1.1
SHEET: CP

PLAN CHECK



OVERALL SITE PLAN
SCALE: 1"=20'

NO.	DATE	REVISIONS
1	12/05/16	DESIGN DEVELOPMENT
2	01/04/17	PLAN CHECK
3	05/05/17	ADDENDUM 1
4		
5		
6		
7		

DESIGNED: MP
DRAWN:
CHECKED: CP
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:

PLANS PREPARED BY:
cwd architecture
ARCHITECT: LICENSE NO. EXP. DATE

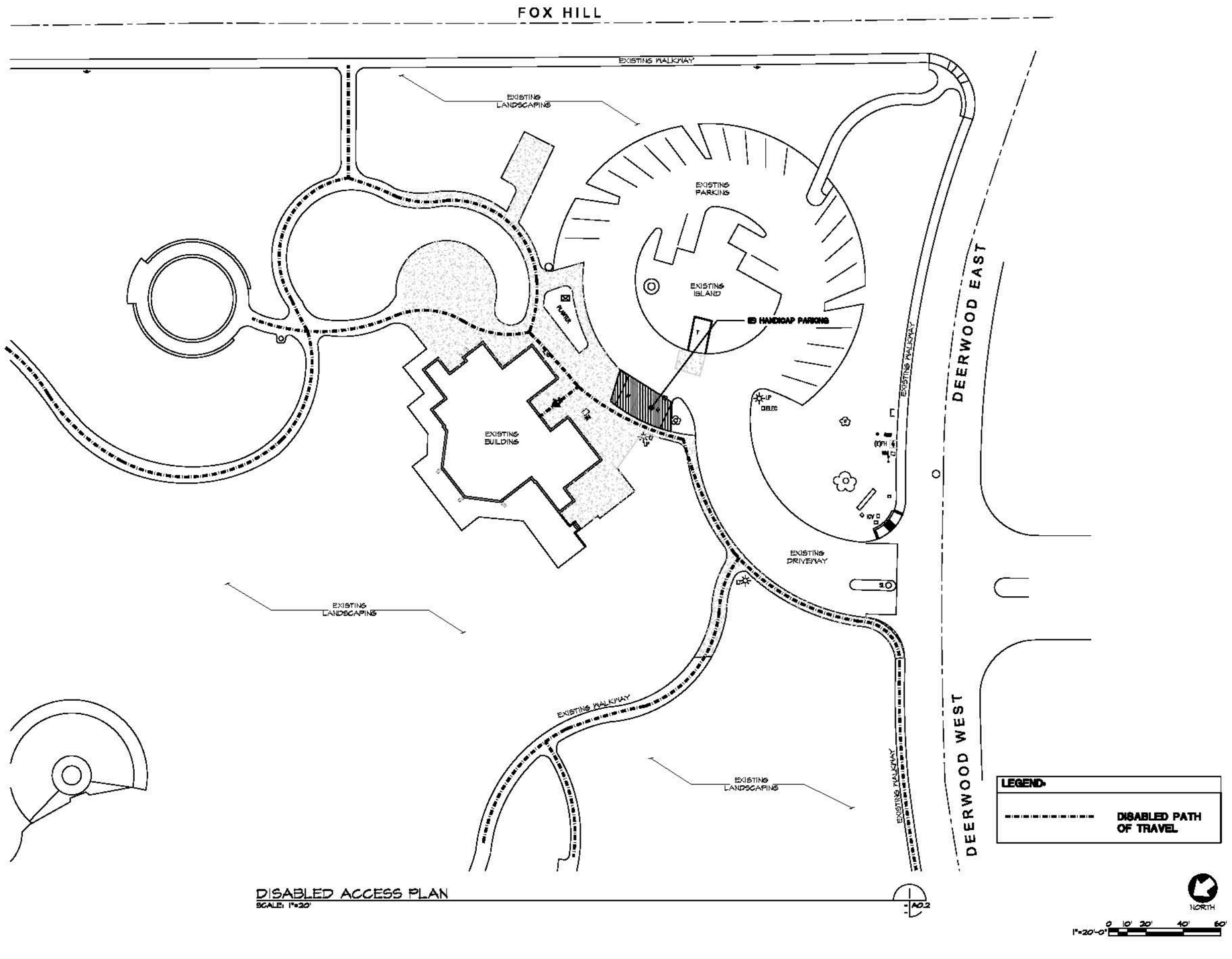
SHEET TITLE: OVERALL SITE PLAN

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK:
PERMIT:

A0.1
SHEET OF

PLAN CHECK



DISABLED ACCESS PLAN
SCALE: 1"=20'

A0.2

NO.	DATE	REVISIONS
1	12/05/16	DESIGN DEVELOPMENT
2	01/04/17	PLAN CHECK
3	05/05/17	ADDENDUM 1
4		
5		
6		
7		

DESIGNED:
DRAWN: MP
CHECKED: CP
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:

PLANS PREPARED BY:
architecture
ARCHITECT:
LICENSE NO. EXP. DATE

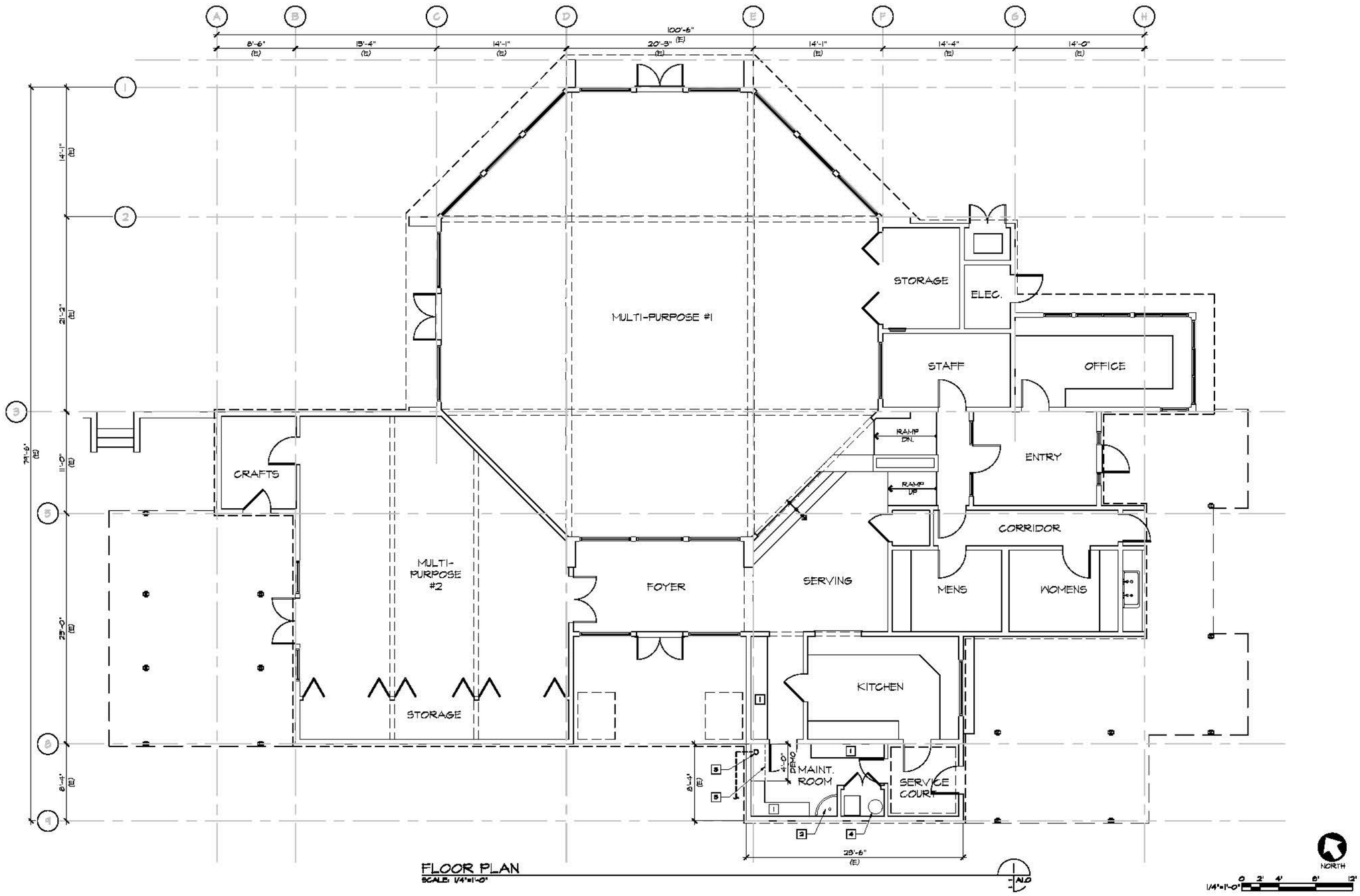
SHEET TITLE:
DISABLED ACCESS PLAN

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK:
PERMIT:

A0.2
SHEET OF

PLAN CHECK



FLOOR PLAN
SCALE: 1/4"=1'-0"

KEYNOTES:

1. (E) SHELVING, TO REMAIN.
2. (E) JANITOR SINK, TO REMAIN.
3. (N) FIRE RISER, PATCH & REPAIR CONC. @ INTERIOR OF BUILDING. SEE FIRE PROTECTION DWG'S.
4. (E) WATER HEATER, TO REMAIN.
5. REMOVE 4'-0" SECTION OF (E) SHELVING.

GENERAL NOTES:

1. CONTRACTOR TO VERIFY DIMENSIONS IN FIELD. ANY DISCREPANCIES SHALL BE REPORTED TO PROJECT MANAGER AND ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
2. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING FIXTURES, FINISHES, & EQUIPMENT UNLESS NOTED OTHERWISE.
3. INCLUDE FOR PATCH & REPAIR TO WALLS AROUND DEMO WORK..
4. PATCH & REPAIR INTERIOR AND EXTERIOR WALLS WHERE NEW FIRE SPRINKLERS AND RISER ARE INSTALLED.

NO.	DATE	REVISIONS
1	12/05/16	DESIGN DEVELOPMENT
2	01/04/17	PLAN CHECK
3	06/06/17	ADDENDUM 1
4		
5		
6		
7		

DESIGNED: MP
DRAWN:
CHECKED: CP
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:

PLANS PREPARED BY:
CAD architecture
ARCHITECT:
LICENSE NO. EXP. DATE

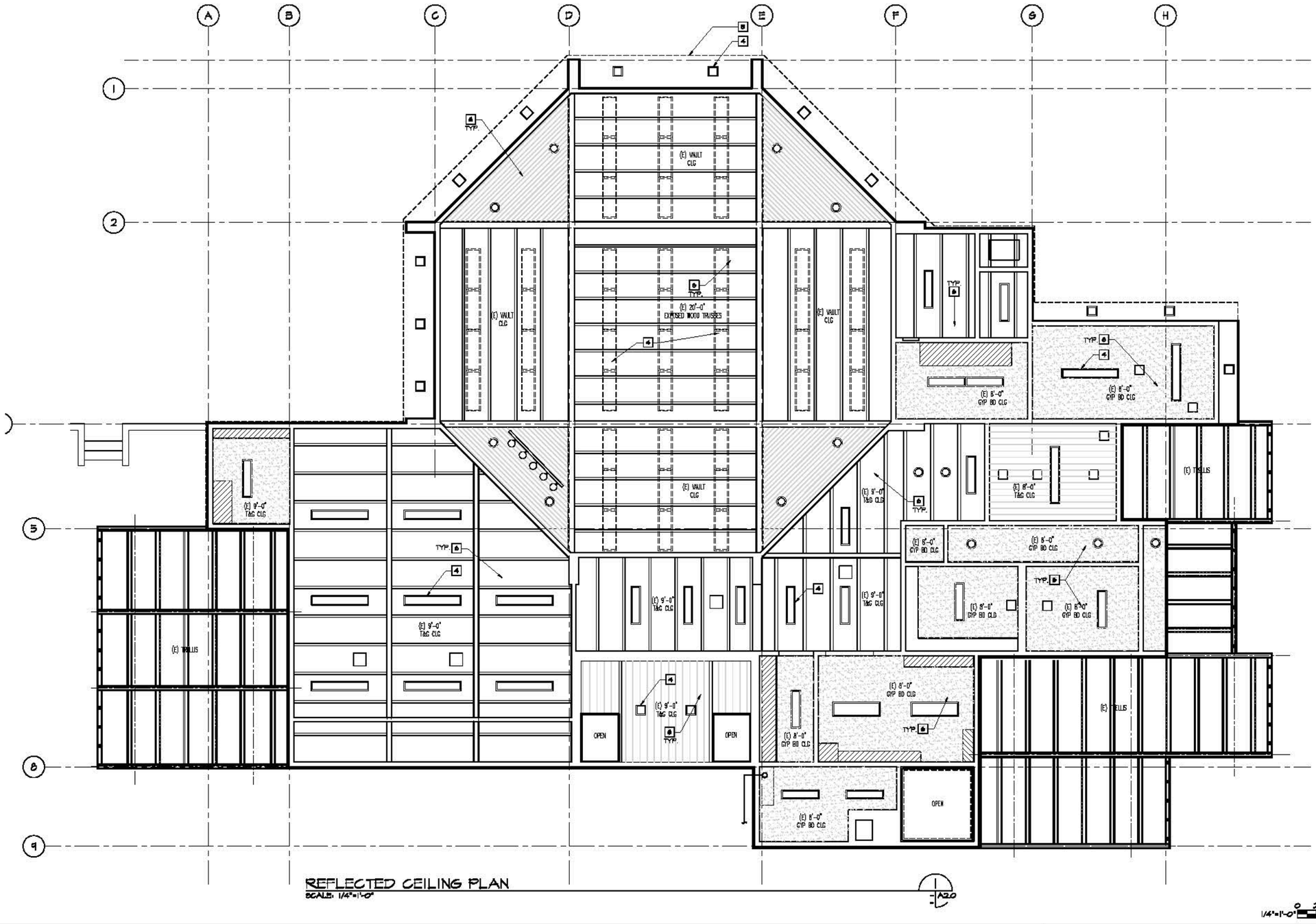
CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

SHEET TITLE: FLOOR PLAN

PLAN CHECK:
PERMIT:

A1.0
SHEET OF

PLAN CHECK



REFLECTED CEILING PLAN

SCALE: 1/4"=1'-0"

A2.0

NORTH

1/4"=1'-0" 0 2' 4' 8' 12'

RCP KEYNOTES:

1. (E) GYP. BD. CEILING. FOR REPAIRS SEE CEILING DETAILS SHEET A2.1.
2. (E) WOOD PANEL/ T&G CEILING.
3. (E) SOFFIT.
4. (E) LIGHT FIXTURE.
5. (E) HVAC GRILLE, TO REMAIN.
6. (N) FIRE SPRINKLER HEAD, SEE FIRE PROTECTION DWG'S.

GENERAL NOTES:

1. CONTRACTOR TO VERIFY DIMENSIONS IN FIELD. ANY DISCREPANCIES SHALL BE REPORTED TO PROJECT MANAGER AND ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
2. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING FIXTURES, FINISHES, & EQUIPMENT UNLESS NOTED OTHERWISE.
3. INCLUDE FOR PATCH & REPAIR TO WALLS & CEILING AROUND WHEREVER FIRE SPRINKLERS ARE INSTALLED.

NO.	DATE	REVISIONS
1	12/05/16	DESIGN DEVELOPMENT
2	01/04/17	PLAN CHECK
3	06/06/17	ADDENDUM 1
4		
5		
6		
7		

DESIGNED: MP
DRAWN:
CHECKED: CP
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:

PLANS PREPARED BY:
CHD architecture
ARCHITECT:
LICENSED NO. EXP. DATE

SHEET TITLE:
COMMUNITY CENTER
REFLECTED CEILING PLAN

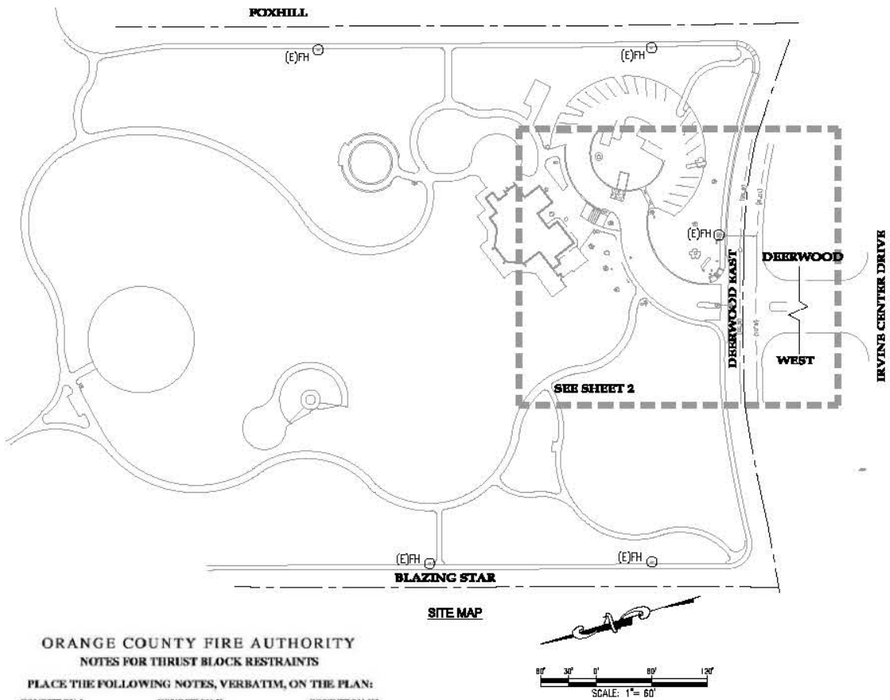
CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK:
PERMIT:

A2.0
SHEET: OF

PLAN CHECK

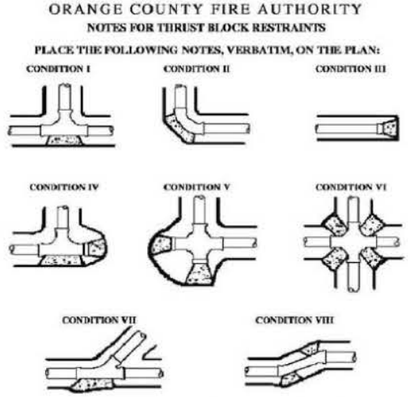
OCFA SERVICE REQUEST 213341
UNDERGROUND FIRE PROTECTION PLAN
City of Irvine



SITE MAP

ORANGE COUNTY FIRE AUTHORITY
NOTES FOR THRUST BLOCK RESTRAINTS

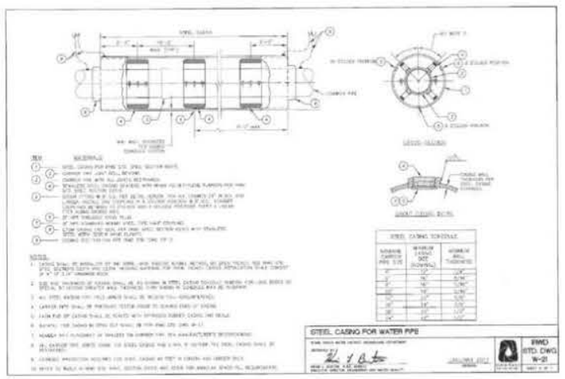
PLACE THE FOLLOWING NOTES, VERBATIM, ON THE PLAN:



THRUST BLOCK BEARING AREA IN SQUARE FEET

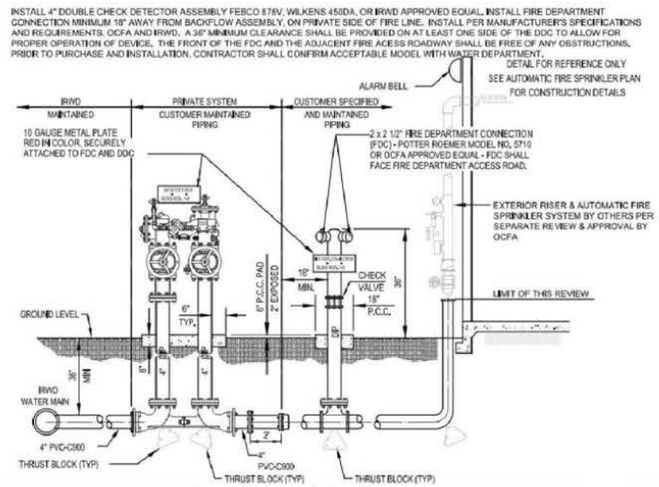
Pipe Size	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
<6"	2.0	2.9	2.0	2@ 2.0	2@ 2.0	4@ 1.6	2.0	2@ 1.6
6"	4.3	4.0	4.3	2@ 4.3	2@ 4.3	4@ 3.3	4.3	2@ 3.3
8"	7.4	10.6	7.4	2@ 7.4	2@ 7.4	4@ 5.7	7.4	2@ 5.7
10"	12.1	17.1	12.1	2@ 12.1	2@ 12.1	4@ 9.3	12.1	2@ 9.3
12"	17.2	24.1	17.2	2@ 17.2	2@ 17.2	4@ 13.2	17.2	2@ 13.2

NOTES
1. Thrust block areas based on 225 PSI and 2, 000 PSF soil pressure with 2 ½ feet of cover minimum.
2. Thrust block bearing faces shall be placed against undisturbed soil, approved compacted backfill, or Class 100-E-100 slurry.
3. Thrust blocks shall be Class S60-C-3250 concrete, unless specified otherwise.
4. To facilitate future removal of thrust blocks and line extension use cardboard separators between blocks, if needed.

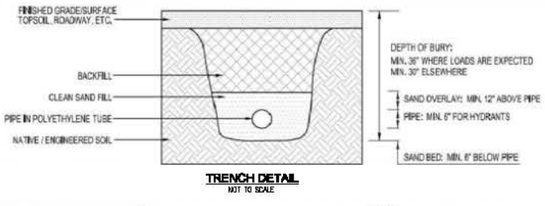


1 JACK AND BORE DETAIL
NOT TO SCALE

INSTALL 4" DOUBLE CHECK DETECTOR ASSEMBLY FEBCO 878V, WILKENS 450DA, OR IRWD APPROVED EQUAL. INSTALL FIRE DEPARTMENT CONNECTION MINIMUM 18" AWAY FROM BACKFLOW ASSEMBLY, ON PRIVATE SIDE OF FIRE LINE. INSTALL PER MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS, OCFA AND IRWD. A 36" MINIMUM CLEARANCE SHALL BE PROVIDED ON AT LEAST ONE SIDE OF THE DDC TO ALLOW FOR PROPER OPERATION OF DEVICE. THE FRONT OF THE FDC AND THE ADJACENT FIRE ACCESS ROADWAY SHALL BE FREEE OF ANY OBSTRUCTIONS. PRIOR TO PURCHASE AND INSTALLATION, CONTRACTOR SHALL CONFIRM ACCEPTABLE MODEL WITH WATER DEPARTMENT.

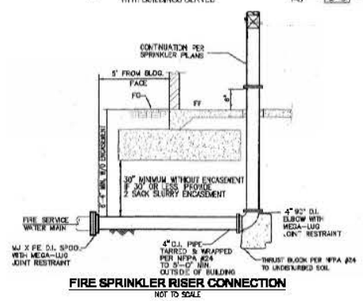


DOUBLE CHECK DETECTOR ASSEMBLY DETAIL
NOT TO SCALE



TRENCH DETAIL
NOT TO SCALE

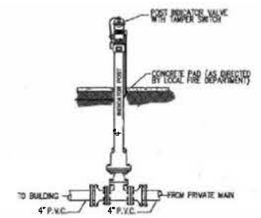
- THR. ST BLOCK
- FW — 4" FIRE WATER LINE
- DW — P.U.B.I.C WATER
- SS — SANITARY SEWER MAIN
- W — DOMESTIC WATER MAIN
- SD — STORM DRAIN LINE
- EX FH — EXISTING FIRE HYDRANT BY PRIOR APPROVAL
- PUB FH — PROPOSED PUBLIC FIRE HYDRANT
- BLUE DOT REFLECTIVE HYDRANT MARKER PER OCFA STANDARDS, 2 FEET FROM CENTERLINE
- FIRE SPRINKLER RISER
- FIRE DEPARTMENT CONNECTION WITH BUILDINGS SERVED
- 1 — BUILDING NUMBER
- INDICATES PARKING SPACE
- UNIT ADDRESS SIGN WITH 6" HIGH LETTERS MINIMUM
- DDC 1-3 — BACKFLOW ASSEMBLY WITH BUILDINGS SERVED



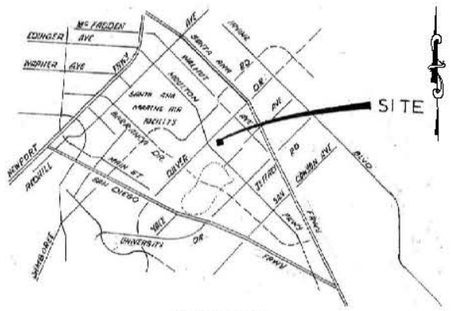
FIRE SPRINKLER RISER CONNECTION
NOT TO SCALE

NOTE:
CONTRACTOR MUST POSSES A VALID A, OR C34 LICENSE OR BE REGISTERED AS A PROFESSIONAL ENGINEER (PE).

PROJECT LOCATION
DEERFIELD COMMUNITY PARK
RECREATION CENTER (C)
55 DEERWOOD WEST
IRVINE, 92604



POST INDICATOR VALVE
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

OCFA NOTES

INSPECTION REQUIREMENTS:
1. A MINIMUM OF TI-REE OCFA INSPECTIONS ARE REQUIRED FOR UNDERGROUND PIPING SERVING SPRINKLER SYSTEMS AND /OR PRIVATE HYDRANTS: 1) PRE-POUR INSPECTION; 2) HYDROINSPECTION; 3) FLUSH INSPECTION. PLEASE SCHEDULE ALL INSPECTIONS AT LEAST 48 HOURS IN ADVANCE. INSPECTIONS CANCELED AFTER 1 P.M. ON THE DAY BEFORE THE SCHEDULED DATE WILL BE SUBJECT TO A RE-INSPECTION FEE. CALL OCFA INSPECTION SCHEDULING AT (714) 573-6150.
2. PRE-POUR INSPECTION: THRUST BLOCK EXCAVATION SHALL BE COMPLETED, BUT THRUST BLOCK SHALL NOT BE POURED. ALL PIPE SHALL BE IN PLACE AND EXPOSED FOR VISUAL INSPECTION. PIPE SHALL BE LAID ON A MINIMUM TWELVE-INCH BED OF CLEAN SAND. TRENCH SHALL BE OF A SUFFICIENT DEPTH TO ALLOW REQUIRED COVER ABOVE PIPE. FERROUS PIPE AND FITTINGS SHALL BE ENCASED IN POLYETHYLENE TUBING (NOT WRAPPED) AND TIGHTLY TAPED TO INHIBIT WATER INFILTRATION. FERROUS JOINTS (WITH EXCEPTION OF STAINLESS STEEL 316) SHALL BE COATED WITH ASPHALTIC SEALANT OR OTHER CORROSION RETARDING MATERIAL. SEE ITEMS 11-19, 21 AND 22 BELOW FOR DETAILED REQUIREMENTS.
3. HYDRO TESTING: THRUST BLOCKS SHALL BE IN PLACE. PIPE SHALL BE CENTER-LOADED WITH CLEAN SAND TO PREVENT UPLIFT, BUT ALL JOINTS SHALL REMAIN EXPOSED. THE SYSTEM SHALL BE HYDROSTATICALLY TESTED AT 200 PSI (OR 50 PSI OVER MAXIMUM STATIC PRESSURE, WHICHEVER IS GREATER) FOR AT LEAST TWO HOURS PRIOR TO ARRIVAL OF THE OCFA INSPECTOR. SEE ITEM 16 FOR DETAILED REQUIREMENTS.
4. FLUSH INSPECTION: ALL PORTIONS OF THE UNDERGROUND SYSTEM SHALL BE FLUSHED TO REMOVE DEBRIS PRIOR TO CONNECTION TO OVERHEAD PIPING. FLOW SHALL BE THROUGH A MINIMUM OF A FOUR-INCH HOSE OR PIPE, UNLESS OTHERWISE APPROVED BY THE OCFA INSPECTOR PRIOR TO SCHEDULING THE FLUSH. HOSE OR PIPE SHALL BE RESTRAINED TO PREVENT INJURY AND DAMAGE. DISCHARGED WATER SHALL BE COLLECTED OR DIVERTED IN ACCORDANCE WITH APPLICABLE SWPPP/NPDES PROVISIONS. THE LOCAL PUBLIC WORKS DEPARTMENT, WATER DISTRICT AND/OR OTHER APPLICABLE AGENCY SHALL BE NOTIFIED OF THE SCHEDULED FLUSH BY THE CONTRACTOR. THE OCFA FLUSH AND HYDRO INSPECTIONS MAY BE SCHEDULED CONCURRENTLY. SEE ITEMS 11, 18 AND 20-23 BELOW FOR DETAILED REQUIREMENTS.
5. UPON FLUSH INSPECTION OR PRIOR TO FINAL SPRINKLER OR SITE INSPECTION, ALL DETECTOR CHECK ASSEMBLIES, CONTROL VALVES, AND FIRE DEPARTMENT CONNECTIONS (FDC) SHALL BE CLEARLY LABELED WITH THE ADDRESS(ES) SERVED BY THE DEVICE. ADDRESS SIGNS SHALL BE SECURELY ATTACHED TO THE DEVICE AND BE OF A DURABLE, FADE-RESISTANT MATERIAL AND VISIBLE AND LEGIBLE FROM THE FIRE LANE. FDC AND FOUR-INCH HYDRANT OUTLETS SHALL BE UNOBSTRUCTED AND ORIENTED TOWARD THE FIRE LANE. VALVES SHALL BE LOCKED IN THE OPEN POSITION WITH BREAKAWAY LOCKS. ALL PIV VALVES AND PRIVATE HYDRANTS SHALL BE PAINTED OSHA SAFETY RED. THE CLOSEST UPSTREAM INDICATING VLVE TO THE RISER SHALL BE PAINTED OSHA SAFETY RED. HYDRANT AND FDC CAPS SHALL BE IN PLACE. SEE ITEMS 8-9, 18 AND 20-23 FOR DETAILED REQUIREMENTS.
GENERAL REQUIREMENTS:
6. INSTALLATION, INSPECTION AND TESTING SHALL CONFORM TO 2013 EDITIONS OF NFPA 13 AND NFPA 24. OCFA JURISDICTION BEGINS AT THE DOWNSTREAM SIDE OF THE LAST VALVE ON THE DETECTOR CHECK ASSEMBLY. VERIFY DESIGN AND INSTALLATION REQUIREMENTS FOR THE PORTION OF THE SYSTEM PRECEDING THIS POINT WITH THE LOCAL WATER DISTRICT.
7. VEGETATION SHALL BE SELECTED AND MAINTAINED IN SUCH A MANNER AS TO ALLOW IMMEDIATE LOCATION OF AND UNOBSTRUCTED ACCESS TO ALL HYDRANTS, CONTROL VALVES, FIRE DEPARTMENT CONNECTIONS, AND OTHER DEVICES OR AREAS USED FOR FIREFIGHTING PURPOSES.
8. A MINIMUM THREE-FOOT CLEARANCE SHALL BE PROVIDED AROUND ALL HYDRANTS AND POST INDICATING VALVES. A MINIMUM THREE-FOOT CLEARANCE SHALL BE PROVIDED ON AT LEAST ONE SIDE OF A DETECTOR CHECK ASSEMBLY TO ALLOW PROPER OPERATION OF THE DEVICE. THE FRONT OF FDC AND THE ADJACENT FIRE ACCESS ROADWAY SHALL BE FREE OF ANY OBSTRUCTIONS.
9. ANY FUTURE MODIFICATION TO THE APPROVED PRIVATE UNDERGROUND PIPING SYSTEM SHALL REQUIRE REVIEW, INSPECTION AND APPROVAL BY THE ORANGE COUNTY FIRE AUTHORITY.
10. APPROVAL OF THIS PLAN SHALL NOT BE INTERPRETED AS APPROVAL OF ANY INFORMATION OR PROJECT CONDITIONS OTHER THAN THOSE ITEMS AND REQUIREMENTS IDENTIFIED IN OCFA GUIDELINE B-03, AND APPLICABLE SECTIONS OF THE 2013 EDITIONS OF NFPA 13 AND NFPA 24. THIS PROJECT MAY BE SUBJECT TO ADDITIONAL REQUIREMENTS NOT STATED HEREIN UPON EXAMINATION OF ACTUAL SITE AND PROJECT CONDITIONS OR DISCLOSURE OF ADDITIONAL INFORMATION.
PIPE AND TRENCH REQUIREMENTS:
11. A 6-INCH BED OF CLEAN FILL SAND SHALL BE PROVIDED BELOW AND 12-INCHES ABOVE THE PIPE (TOTAL OF 18 INCHES PLUS OUTER DIAMETER OF THE PIPE).
12. PIPE SHALL BE BURIED AT LEAST 36" WHERE SUBJECT TO LOADING (E.G. DRIVEWAYS, PARKING LOTS) AND AT LEAST 30" ELSEWHERE.
13. ALL PIPE SHALL BE APPROVED FOR USE IN FIRE SERVICE SYSTEMS. CLASS 150 WILL BE USED AT A MINIMUM, AND CLASS 200 PIPE SHALL BE USED WHERE THE PRESSURE EXCEEDS 150 PSI. THE USE OF GALVANIZED PIPE SHALL NOT BE USED WHEN A PORTION OF THE SYSTEM IS BURIED.
14. ALL FERROUS PIPE AND FITTINGS SHALL BE PROTECTED WITH A LOOSE 8-MIL POLYETHYLENE TUBE. WRAPPING THE PIPE IN POLYETHYLENE SHEETING IS NOT ACCEPTABLE. THE ENDS OF THE TUBE AND ANY SPLICES MADE FOR TEES OR OTHER PIPING COMPONENTS SHALL BE TIGHTLY SEALED WITH TWO-INCH TAPE APPROVED FOR UNDERGROUND USE.
15. ALL BOLTS USED FOR UNDERGROUND CONNECTIONS, INCLUDING T BOLTS, SHALL BE 316 STAINLESS STEEL. ASPHALTIC SEALANTS (AND OTHER OPAQUE SEALANTS) SHALL NOT BE USED TO COAT BOLTS (THIS IS TO ENSURE BOLTS CAN STILL BE VERIFIED AS 316 STAINLESS STEEL DURING INSPECTION). ALL FERROUS FITTINGS (WITH THE EXCEPTION OF 316 STAINLESS STEEL) SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION RETARDING MATERIAL AFTER ASSEMBLY AND PRIOR TO THE INSTALLATION OF POLYETHYLENE TUBE.
16. THRUST BLOCKS OR ANOTHER APPROVED METHOD OF THRUST RESTRAINT, SHALL BE PROVIDED WHEREVER PIPE CHANGES DIRECTION.
17. A MINIMUM TWO-INCH CLEARANCE SHALL BE PROVIDED WHERE THE PIPE PASSES THOROUGH SLABS OR WALLS. UNDERGROUND SYSTEM SHALL TERMINATE AT THE RISER FLANGE AND PLACED A MAXIMUM OF 18 INCHES FROM AN EXTERIOR WALL AND 6 INCHES ABOVE THE SLAB.
18. THE FDC SHALL CONTAIN A MINIMUM OF TWO, TWO-AND-ONE-HALF-INCH INLETS. WHEN THE SYSTEM DESIGN DEMAND, INCLUDING THE INTERIOR HOSE STREAM DEMAND OR A STANDPIPE, IS A MINIMUM 500 GPM, FOUR TWO-AND-ONE-HALF-INCH INLETS SHALL BE PROVIDED. FDC'S SHALL BE PAINTED OSHA SAFETY RED.
19. FIRE RUNNING UNDER A BUILDING OR BUILDING FOUNDATION SHALL BE STAINLESS STEEL AND SHALL NOT CONTAIN MECHANICAL JOINTS.
HYDRANT REQUIREMENTS:
20. PRIVATE FIRE HYDRANTS SHALL BE UL LISTED WITH A MINIMUM OF ONE TWO-AND-ONE-HALF-INCH AND ONE FOUR-INCH OUTLET. THE FOUR-INCH OUTLET SHALL FACE THE FIRE DEPARTMENT ACCESS ROAD. ALL OUTLETS SHALL BE PROVIDED WITH NATIONAL STANDARD THREADS (NST). PRIVATE HYDRANTS SHALL BE PAINTED OSHA SAFETY RED.
21. FIRE HYDRANT SUPPLY PIPING SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER. THE LOWEST VALVE OPERATING NUT SHALL BE A MINIMUM OF EIGHTEEN INCHES ABOVE GRADE AND THE HYDRANT FLANGE SHALL BE A MINIMUM OF TWO-INCHES ABOVE GRADE.
22. A KEYED GATE VALVE SHALL BE PROVIDED FOR EACH HYDRANT IN AN ACCESSIBLE LOCATION. KEYED GATE VALVES SHALL BE LOCATED WITHIN SIX TO TEN FEET OF THE HYDRANT IN AN AREA THAT IS UNOBSTRUCTED AND CLEARLY VISIBLE. VALVES SHALL NOT BE LOCATED IN PARKING STALLS.
23. ALL FIRE HYDRANTS SHALL HAVE A "BLUE REFLECTIVE PAVEMENT MARKER" INDICATING THEIR LOCATION PER THE OCFA STANDARD DETAILED IN GUIDELINE B-09. PRIVATE HYDRANTS AND MARKERS ARE TO BE MAINTAINED IN GOOD CONDITION BY THE PROPERTY OWNER.

UNDERGROUND SERVICE ALERT
CALL TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

NO.	REVISION	BY	DATE
1	BULLETIN 1	R.C.	9-08-17

SEAL—ENGINEER
No. 33036 — PROFESSIONAL ENGINEER — RICHARD L. CODINA — STATE OF CALIFORNIA — CIVIL

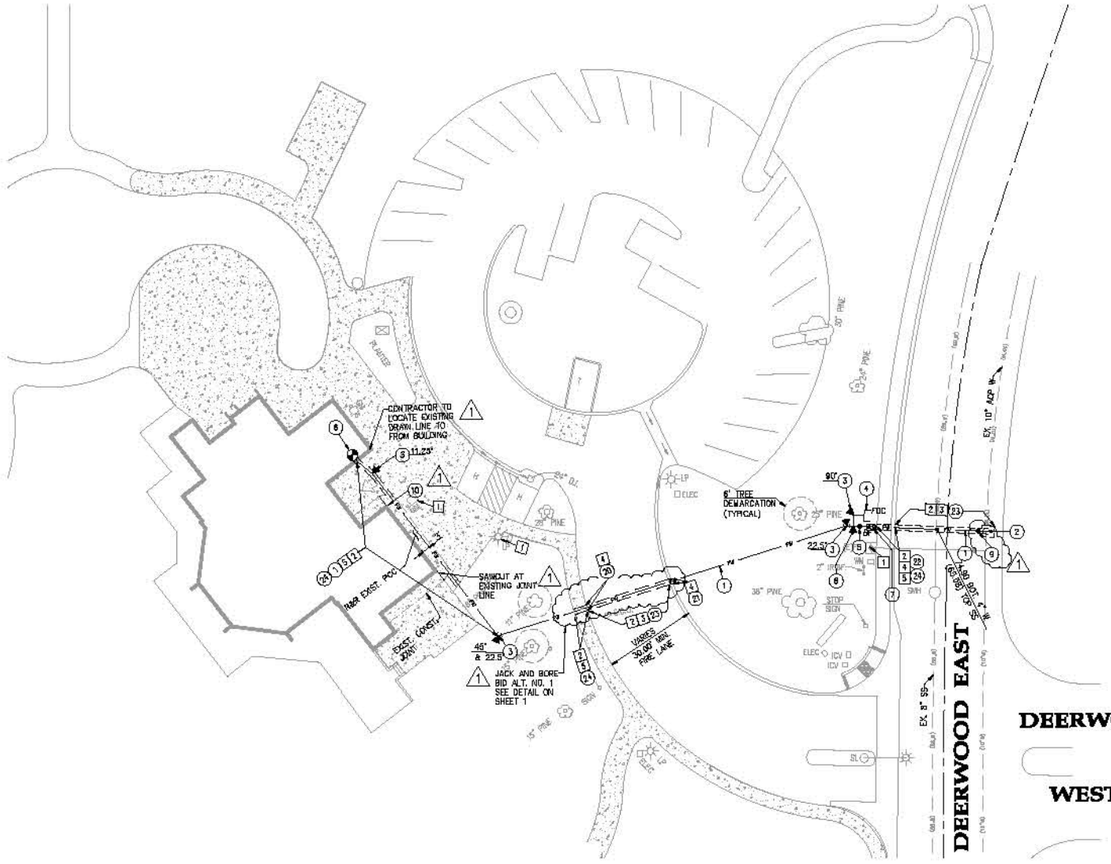
TTG — STRUCTURAL · MECHANICAL · ELECTRICAL · CIVIL
300 N. Lake Avenue, 14th Floor
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Phone: 626.449.3600 Fax: 626.449.3601
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RICHARD CODINA R.C.E. 33036 09/08/17
EXP. 12-31-18 DATE

PREPARED FOR:
CAP ARCHITECTURE
9700 WARNER AVE. SUITE 200
FOUNTAIN VALLEY, CA 92708
PH.: 714-348-3350

UNDERGROUND FIRE PROTECTION PLAN
S.R. 213341-REVISED 9-08-17
DEERFIELD COMMUNITY CENTER

SHT. 1 OF 2 SHTS

Revision Sep 07, 2017 — 8:28am
DWG: \\FILSRV\PROJECTS\Active\Deerfield\CIVIL\TTGREVISIONS\VIEWS\Deerfield CIVIL TTGREVISIONS.DWG
CAD: Architects Drawings\The Plan\Production\Fire Dept\Underground Fire Protection Plan\UNDERGROUND FIRE PROTECTION PLAN.dwg



DEMOLITION NOTES

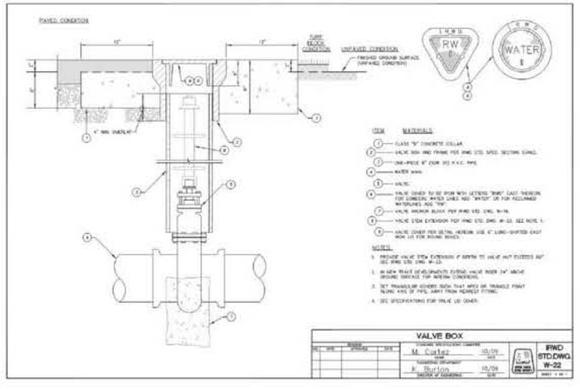
1. PROTECT IN PLACE.
2. SAWCUT EXISTING PCC/AC PAVEMENT.
3. REMOVE EXISTING AC PAVING.
4. REMOVE EXISTING PCC CURB/CURB AND GUTTER.
5. REMOVE EXISTING PCC SIDEWALK.

FIRE CONSTRUCTION NOTES

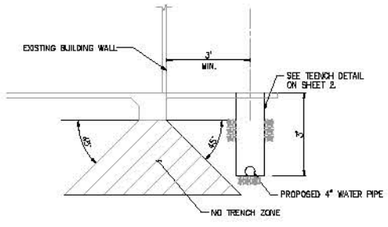
1. INSTALL 4" C-900 CLASS 200 PVC FIRE LINE PER OCFA STANDARDS.
2. INSTALL 4"X10" SS TAPPING SLEEVE W/TAPPING VALVE.
3. INSTALL 4" BEND WITH THRUST BLOCK PER DETAIL AND OCFA STANDARDS.
4. INSTALL UL APPROVED AND OCFA APPROVED FIRE DEPARTMENT CONNECTION PER DETAIL ON SHEET 1.
5. INSTALL 4" P.I.V. PER DETAIL ON SHEET 1.
6. INSTALL FIRE SPRINKLER RISER CONNECTION PER DETAIL ON SHEET 1.
7. INSTALL 4" DOUBLE CHECK DETECTOR PER DETAIL ON SHEET 1.
8. INSTALL 4"X4" TEE WITH THRUST BLOCK PER DETAIL AND OCFA STANDARDS.
9. INSTALL 4" GATE VALVE PER DETAIL HEREON.
10. INSTALL 2 KNOX BOXES, LOCATION TO BE DETERMINED.

SITE CONSTRUCTION NOTES

20. CONSTRUCT 6" PCC CURB ONLY TO MATCH EXISTING.
21. CONSTRUCT 6" PCC CURB AND 12" GUTTER TO MATCH EXISTING.
22. CONSTRUCT 6" PCC CURB AND 18" GUTTER TO MATCH EXISTING.
23. INSTALL A.C. PAVING, MIN. 1" THICKER THAN EXISTING.
24. INSTALL 4" PCC SIDEWALK, MATCH EXISTING FINISH.



⚠1 **VALVE BOX DETAIL**
NOT TO SCALE



⚠1 **TRENCH PARALLEL TO BUILDING**
SCALE: 1"=2'

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

NO.	REVISION	BY	DATE
⚠ BULLETIN 1		R.C.	9-08-17

SEAL-ENGINEER
REGISTERED PROFESSIONAL ENGINEER RICHARD D. GOTTA No. 33035 STATE OF CALIFORNIA CIVIL

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RICHARD GOTTA R.C.E. 33035 09/08/17
EXP. 12-31-18 DATE

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UNDERGROUND FIRE PROTECTION PLAN
S.R. 213341-REVISED 9-08-17
DEERFIELD COMMUNITY CENTER

SHT. 2 OF 2 SHTS.

DWG: \\FILENAME\P$\Jobs\Jobfiles\Pasadena\2016\170340016\Work\Projects\2016170340016.00 CAP Architecture_Deerwood Fire Prot\Construction\Fire Dept\Underground Fire Protection Plan\UNDERGROUND FIRE PROTECTION PLAN.dwg
Plotted: Sep 07, 2017 - 8:57am

FLOW TEST

IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Ave., P.O. Box 57000, Irvine, CA 92619-7000 (949) 453-5300

Water Flow Test Results

Location: Deerwood W

Test Date: 1/12/2017

IDENTIFIED BY TEST OR HYDRANTS FLOWED

These tests are not performed with calibrated equipment.

Test # 1

HGL	436
Differential psi	9
Outlet Size (inches)	4
Outlet Coefficient	0.9
Pitot Pressure	37
Flow - GPM	2613

IRWD does not provide the static or residual pressures that are taken at the time of flow tests. The static pressure at the location of the flow test will differ from that of the location of your building site, which will result in incorrect calculations when designing your system. To find the answers to your static/residual questions please follow the example below.

1) Take the given HGL and subtract the pad elevation of your building site from it.
2) Multiply that number by .433 (psi per foot).
3) This is the theoretical static psi at the building site.
4) Take your static psi and subtract the given differential psi.
5) This is the theoretical residual psi at the building site.

Example:

HGL-436', Differential psi- 6psi, Building Pad Elevation- 250'

436 – 250 = 186 186x.433 = 80.5 psi static

80.5 – 6 = 74.5 psi residual

436-79 = 357
357x.433 = 155 PSI Static
155-9 = 146 PSI Residual

HANGER NOTES

HANGING OF SYSTEM PIPING SHALL BE PER NFPA 13, SECTION 9.1.

BUILDING STRUCTURAL BEAMS SHALL BE ADEQUATE TO SUPPORT THE SYSTEM. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON–SYSTEM COMPONENTS. THE DISTANCE BETWEEN A HANGER AND THE CENTERLINE OF AN UPRIGHT SPRINKLER SHALL NOT BE LESS THAN 3 INCHES (76 MM).

HOLES THROUGH SOLID STRUCTURAL MEMBERS SHALL BE PERMITTED TO SERVE AS HANGERS FOR THE SUPPORT OF SYSTEM PIPING PROVIDED SUCH HOLES ARE PERMITTED BY APPLICABLE BUILDING CODES AND THE SPACING AND SUPPORT PROVISIONS FOR HANGERS OF THIS STANDARD ARE SATISFIED.

TRAPEZE HANGERS SHALL BE USED WHERE NECESSARY TO TRANSFER LOADS TO APPROPRIATE STRUCTURAL MEMBERS.

MAXIMUM DISTANCE BETWEEN HANGERS:

THE MAXIMUM DISTANCE BETWEEN HANGERS SHALL NOT EXCEED THAT SPECIFIED IN TABLE NFPA 13, 9.2.2.1(A), EXCEPT WHERE THE PROVISIONS OF NFPA 13, SECTION 9.2.4 APPLY.
TABLE 9.2.2.1(A) MAXIMUM DISTANCE BETWEEN HANGERS (FT–IN)

STEEL PIPE EXCEPT THREADED LIGHTWALL	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	
	N/A	12–0	12–0	15–0	15–0	15–0	15–0	15–0	15–0	15–0	15–0	15–0	
THREADED LIGHTWALL	N/A	12–0	12–0	12–0	12–0	12–0	12–0	N/A	N/A	N/A	N/A	N/A	

LOCATION OF HANGERS ON BRANCH LINES:

THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH SECTION OF PIPE, EXCEPT WHERE SPRINKLERS AND MULTIPLE PIPE FITTINGS ARE SPACED LESS THEN 6 FT THE APART, HANGERS SHALL BE SPACED UP TO A MAXIMUM OF 12 FT. HANGERS ARE NOT REQUIRED WHERE BRANCH LINES STARTER LENGTHS ARE LESS THAN 6 FT. UNLESS ON THE END LINE OF A SIDE FEED SYSTEM OR WHERE AN INTERMEDIATE CROSS MAIN HANGER HAS BEEN OMITTED.

UNSUPPORTED LINE PIPE LENGTH

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT BE GREATER THEN 36 INCHES FOR 1 INCH PIPE, 48 INCH FOR 1 1/4 INCH PIPE,, AND 60 INCHES FOR 1 1/2 INCH OR LARGER PIPE. WHERE THE LIMITS ARE EXCEEDED, THE PIPE SHALL BE EXTENDED BEYOND THE END SPRINKLER AND SHALL BE SUPPORTED BY ADDITIONAL HANGER.

UNSUPPORTED ARMOVER LENGTH

THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP OR SPRIG SHALL NOT EXCEED 24 INCHES FOR STEEL PIPE.

LOCATION OF HANGERS ON MAINS

LOCATION OF HANGERS ON MAINS SHALL COMPLY WITH NFPA 13, SECTION 9.2.4 FOR STEEL PIPE CROSS MAINS, A HANGER CAN BE INSTALLED BETWEEN EVERY TWO BRANCH LINES OR, ALTERNATIVELY, ON EACH BRANCHLINE AS NEAR AS POSSIBLE TO THE CROSS MAIN, WHILE OMITTING ONE INTERMEDIATE CROSS MAIN HANGER IN EACH BAY. THE OPTION TO OMIT THE INTERMEDIATE CROSS MAIN HANGER APPLIES TO THE LAST PIECE OF CROSS MAIN ONLY IF THE MAIN IS EXTENDED TO THE NEXT FRAMING MEMBER AND A HANGER IS INSTALLED AT THAT POINT.

END OF LINE RESTRAINT

1. WIRE USED FOR RESTRAINT SHALL BE LOCATED WITHIN 2 FT. OF A HANGER. THE HANGER CLOSEST TO A RESTRAINT SHALL HAVE A SURGE RESTRAINER TO RESIST UPWARD MOVEMENT OF THE BRANCHLINE.
   BRANCHLINE SHALL BE RESTRAINED AT:

   PER NFPA 13, TABLE 9.3.6.4 CP= .70

   36' FOR 1" PIPE
   39' FOR 1 1/4" PIPE
   41' FOR 1 1/2" PIPE
   45' FOR 2" PIPE
2. THE END SPRINKLER ON A LINE SHALL BE RESTRAINED AGAINST EXCESSIVE VERTICAL AND LATERAL MOVEMENT.
3. SPRIGS 4 FT. OR LONGER SHALL BE RESTRAINED AGAINST LATERAL MOVEMENT.
4. BRACES AND RESTRAINTS SHALL NOT OBSTRUCT SPRINKLERS.
5. WHEN THE MAXIMUM STATIC OR FLOWING PRESSURE AT THE SPRINKLER EXCEEDS 100 PSI: BRANCH LINES ABOVE THE CEILING WHICH SUPPLIES SPRINKLERS IN A PENDENT POSITION BELOW THE CEILING, THE HANGER ASSEMBLY SUPPORTING THE PIPE SUPPLYING AN END SPRINKLER IN A PENDENT POSITION SHALL BE OF A TYPE THAT PREVENTS UPWARD MOVEMENT OF THE PIPE.
6. HANGER SUPPORTING 1" ARMOVER LONGER THAT 12 INCHES. THE HANGER CLOSEST TO THE SPRINKLER SHALL BE OF A TYPE THAT PREVENTS UPWARD MOVEMENT OF THE PIPING.

SWAY BRACING NOTES

1. SEISMICALLY BRACE ALL REQUIRED PIPING IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 (2013 EDITION). SEE CALCULATIONS PROVIDED.
2. SWAY BRACING SIZE, LOCATION, SPACING, AND CONNECTIONS SHALL BE IN ACCORDANCE WITH NFPA 13, SECTION 9.3.5. SEE FP2.1 FOR SPACING, AND FP0.2 FOR BRACE TYPES, AND ATTACHMENT METHODS.
3. LATERAL SWAY BRACING MAY BE OMITTED WHERE ROD TYPE HANGERS DO NOT EXCEED 6" IN OVERALL LENGTH ACCORDANCE WITH NFPA 13, SECTION 9.3.5.3.8
4. SWAY BRACING SHALL BE REQUIRED ON ALL FEED MAINS AND CROSS MAINS REGARDLESS OF SIZE AND ON ALL BRANCH LINES AND PIPING WITH A DIAMETER OF 2 1/2" AND LARGER.
5. LATERAL SWAY BRACES SHALL BE ABLE TO ACT AS LONGITUDINAL BRACES IF THEY ARE LOCATED WITH 24 INCHES ON THE CENTERLINE OF THE PIPING BRACED.
6. BRACES AND RESTRAINTS SHALL NOT OBSTRUCT SPRINKLERS

HYDRAULIC WATER DATA

ITEM	SOURCE
STATIC PRESSURE, PSI	155
RESIDUAL PRESSURE, PSI	146
FLOW, GPM	2613

MATERIAL

1. ALL DEVICES AND EQUIPMENT SHALL BE NEW, U.L. LISTED AND OR F.M. APPROVED FOR FIRE SPRINKLER APPLICATION.
2. ALL MATERIAL SHALL BE PROTECTED FROM DAMAGE WHILE STORED ON SITE.
3. MAIN PIPE: FEED MAINS AND RISERS 2 ½" AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL MANUFACTURED TO MEET ASTM A–795 TYPE E, GRADE A UL LISTED AND FM APPROVED AND ULC LISTED. WALL THICKNESS FOR PRESSURE UP TO 300 PSI.
   a. ALL MAIN OUTLETS SHALL BE U.L. LISTED WELDED.
   b. ALL MAIN FITTINGS SHALL BE GROOVED.
   c. ALL MAIN COUPLINGS SHALL BE GROOVED.
   d. FLEXIBLE COUPLINGS SHALL BE INSTALLED ON THE SYSTEM PIPING PER NFPA 13, SECTION 9.3.2. COUPLINGS.
4. BRANCH LINE: (2" NOMINAL DIAMETER AND UNDER) PIPE NOTES: BRANCHLINE AND RISER NIPPLE PIPING SHALL BE SCHEDULE 40 BLACK STEEL.
5. ALL EXPOSED (BELOW CEILING) PIPING SHALL BE PAINTED TO MATCH THE BACKGROUND.
6. ALL WELD PIPE SHALL BE MADE AVAILABLE FOR INSPECTION BY THE SERVICE FIRE DEPARTMENT BEFORE START OF INSTALLATION. CERTIFIED WELDER SHALL PROVIDE I.D.I STAMP ON EACH WELD.
7. ALL PIPE HANGERS SHALL BE IN ACCORDANCE WITH NFPA 13, SECTION 9.2.
8. IDENTIFICATION SIGNS SHALL BE PROVIDED FOR EACH LOCAL ALARM BELL, CONTROL VALVE, TEST AND DRAIN VALVE, MAIN, AUXILIARY DRAINS AND FIRE DEPARTMENT CONNECTION. ALL SIGNS SHALL BE METAL.

FIELD TESTING AND FLUSHING

1. OVERHEAD SYSTEM HYDROSTATIC TEST @ 200 PSI FOR 2 HOURS.
2. UNDERGROUND SYSTEM INSTALLED, FLUSHED AND TESTED BY OTHERS.
3. BUILDING SPRINKLER SYSTEM SHALL NOT BE CONNECTED TO THE SITE UNDERGROUND MAIN UNTIL THE SITE PIPING HAS BEEN FLUSHED AND TESTED PER NFPA 24.
4. PROVIDE INSPECTION AND HYDROSTATIC TEST CERTIFICATE AND SUBMIT THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATES FOR ABOVE GROUND PIPING.

PROJECT DESCRIPTION

PROJECT DESCRIPTION:

TO PROVIDE A WET–PIPE SPRINKLER SYSTEM FOR AN EXISTING SINGLE STORY BUILDING BEING CONSTRUCTED OF WOOD. BUILDING CONSISTS OF A MULTI PURPOSE ROOMS, OFFICE, KITCHEN AND RESTROOM SPACES. WORK INCLUDES PROVIDING SPRINKLER COVERAGE FOR BOTH THE SPACE ABOVE (IF APPLICABLE) AND BELOW THE CEILINGS.

FIRE SPRINKLER SYSTEM DESCRIPTION

SCOPE OF WORK:

1. PROVIDE A COMPLETE WET PIPE SPRINKLER FIRE PROTECTION SYSTEM FOR THE EXISTING BUILDING. THE SPRINKLER SYSTEM SHALL INCLUDE FULL PROTECTION OF THE ROOMS PROPER, ABOVE THE CEILING IF APPLICABLE. DESIGN AND INSTALL TO THE FOLLOWING CODES AND STANDARDS:

   NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) PAMPHLET 13 (2016 EDITION)

   TITLE 24 CALIFORNIA BUILDING AND FIRE CODE (2016 EDITION)

   TITLE 19 STATE FIRE MARSHALL, AND TITLE 24 CALIFORNIA BUILDING AND FIRE CODE (PARTS 1–9 INCLUSIVE).

SUPPORT OF RISERS

1. RISERS SHALL BE SUPPORTED BY RISER CLAMPS OR BY HANGERS LOCATED ON THE HORIZONTAL CONNECTIONS WITHIN 24 INCHES OF THE CENTERLINE OF THE RISER.
2. RISER CLAMPS ANCHORED TO WALLS USING HANGER RODS IN THE HORIZONTAL POSITION SHALL NOT BE PERMITTED TO VERTICALLY SUPPORT RISERS.
3. SUPPORTS ABOVE THE LOWEST LEVEL SHALL ALSO RESTRAIN THE PIPE TO PREVENT MOVEMENT BY AN UPWARD THRUST WHERE FLEXIBLE FITTINGS ARE USED.
4. WHERE RISERS ARE SUPPORTED FROM THE GROUND, THE GROUND SUPPORT SHALL CONSTITUTE THE FIRST LEVEL OF RISER SUPPORT.
5. DISTANCE BETWEEN SUPPORTS FOR RISERS SHALL NOT EXCEED 25 FT.

APPLICABLE CODES & STANDARDS

- 2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
- 2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2012 INTERNATIONAL BUILDING CODE VOLUMES 1–2 AND 2013 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2011 NATIONAL ELECTRICAL CODE AND 2013 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R. (2012 UNIFORM MECHANICAL CODE AND 2013 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2012 UNIFORM PLUMBING CODE AND 2013 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
- 2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2012 INTERNATIONAL FIRE CODE AND 2013 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
- 2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
- TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	2016 EDITION
NFPA 14	STANDPIPE SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2016 EDITION
NFPA 17a	WET CHEMICAL SYSTEMS	2016 EDITION
NFPA 20	STATIONARY PUMPS	2016 EDITION
NFPA 24	PRIVATE FIRE MAINS (CA AMENDED)	2016 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CA AMENDED)	2016 EDITION
NFPA 80	FIRE DOOR AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2016 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS – 2013 CBC (SFM) CHAPTER 35. SEE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS.

FIRE PROTECTION NOTES

1. POINT OF CONNECTION IS SIX INCHES ABOVE FINISH SLAB. ALL UNDERGROUND AND AND BACKFLOW DEVICE ARE BY OTHERS.
2. ALL FIRE PROTECTION SYSTEMS WORK SHALL BE BY UNDER A LICENSED C16 CONTRACTOR.
3. ALL WORK AND MATERIAL SHALL COMPLY WITH THE LATEST; CALIFORNIA BUILDING CODE, CALIFORNIA FIRE CODES, NFPA 13, 24, 72, 75, AND 101, CALIFORNIA STATE FIRE MARSHAL, AND APPLICABLE LOCAL CODES, AMENDMENTS AND REQUIREMENTS.
4. THE FIRE PROTECTION SYSTEMS SHALL BE DESIGNED TO MEET OWNER'S INSURANCE COMPANY STANDARDS WHERE APPLICABLE. THE MORE STRINGENT OF THE OWNER'S INSURANCE UNDERWRITER'S DESIGN CRITERIA AND THE NFPA STANDARDS SHALL BE USED.
5. ALL BUILDING AREAS SHALL BE FULLY SPRINKLERED INCLUDING CANOPIES, WALKWAYS OR AND BUILDING PROJECTION OVER 48 INCHES.
6. ALL ACCESSIBLE COMBUSTIBLE CONCEALED SPACES SHALL BE FULLY PROTECTED BY THE SPRINKLER SYSTEM.
7. THE ENTIRE SYSTEM SHALL BE HYDRAULICALLY CALCULATED.
8. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE TEMPERATURE SPRINKLER HEADS IN ALL AREAS WHERE REQUIRED BY NFPA 13.
9. THE INSTALLATION OF THE SEISMIC BRACING FOR THE FIRE SPRINKLER SYSTEM SHALL BE SUBJECT TO THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION.
10. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES AND COORDINATE SPRINKLER HEAD LOCATION AND PIPING WITH LIGHTING FIXTURES, SPEAKERS AND DIFFUSERS, MECHANICAL DUCTWORK. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PARTITIONS, SUSPENDED CEILINGS, SOFFITS. SPRINKLER HEADS SHALL BE INSTALLED AS INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
11. THERE SHALL BE NO SPRINKLER PIPING THAT PASSES BELOW ANY SKYLIGHT OR CLEARSTORY THAT MAY BE SEEN FROM BELOW.
12. THE CONTRACTOR SHALL COORDINATE ALL STRUCTURAL PENETRATIONS WHERE REQUIRED WITH THE STRUCTURAL ENGINEER.
13. THE CONTRACTOR SHALL COORDINATE FIRE ALARM BELL LOCATION AND CONNECTION WITH ELECTRICAL CONTRACTOR.
14. ALL PIPES SHALL BE LOCATED AS HIGH AS POSSIBLE AND SHALL HAVE THEIR ROUTING FULLY COORDINATED WITH THE MECHANICAL CONTRACTOR AND ALL OTHER TRADES.
15. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PARTITIONS, SUSPENDED CEILINGS, SOFFITS, ETC.
16. THE SPRINKLER HEADS SHALL BE INSTALLED AS INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
17. SPRINKLER HEADS SHALL BE QUICK–RESPONSE, UL LISTED, AND FM APPROVED.
18. ALL SPRINKLER HEADS SHALL BE IN ACCORDANCE WITH THE BUILDING STANDARDS, IF SUCH A STANDARD EXISTS.
19. SPRINKLER HEADS LOCATED IN ACOUSTICAL TILE CEILINGS SHALL BE INSTALLED IN THE CENTER OF THE TILE OR HALF TILE.
20. THE CONTRACTOR SHALL LOCATE SPRINKLER HEADS SUCH THAT THEY ARE ALIGNED WITH THEMSELVES, LIGHTING, DIFFUSERS, ANY OTHER FEATURE IN THE CEILING, AND IF APPLICABLE ANY EXISTING SPRINKLER HEADS.
21. IF REQUIRED, THE CONTRACTOR SHALL REVISE ANY EXISTING SPRINKLER HEADS AS NECESSARY SUCH THAT THEY WILL BE ARE ALIGNED WITH THEMSELVES, LIGHTING, DIFFUSERS, ANY OTHER FEATURE IN THE CEILING.
22. IN GYPSUM CEILING AREAS THE SPRINKLERS SHALL BE CONCEALED WITH A FACTORY FINISH AS DEFINED BY THE ARCHITECT.
23. IN ACOUSTICAL TILE CEILING AREAS THE SPRINKLERS SHALL BE RECESSED AND/OR CONCEALED WITH A FACTORY FINISH AS DEFINED BY THE ARCHITECT.
24. IN EXPOSED AREAS THE SPRINKLERS SHALL BE HEADS, UPRIGHT AND/OR PENDANT HEADS WITH A FACTORY FINISH AS DEFINED BY THE ARCHITECT.
25. FINAL HEAD LOCATION, TYPE AND FINISH SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT.
26. SPRINKLER DRAINS SHALL BE DISCHARGED INTO APPROVED RECEPTORS.
27. PAINT ALL EXPOSED PIPING TO MATCH BACKGROUND OR AS DIRECTED BY THE ARCHITECT.
28. THE BUILDING ENGINEER MUST BE NOTIFIED PRIOR TO EACH AND EVERY DRAINING OR RECHARGING OF THE SPRINKLER SYSTEM.
29. THE CONTRACTOR SHALL PREPARE A COORDINATED SET OF SHOP DRAWINGS AND SHALL OBTAIN APPROVAL FROM THE AUTHORITIES HAVING JURISDICTION AND THE LOCAL FIRE DEPARTMENT PRIOR TO ANY INSTALLATION.
30. ALARM AND TROUBLE SIGNAL SHALL BE MONITORED BY AN OFF–SITE SUPERVISORY STATION. SUPERVISORY SYSTEM AND CENTRAL STATION SHALL BE UL LISTED AND/OR FM APPROVED, AND ACCEPTABLE TO THE SERVING FIRE DEPARTMENT.
31. ELECTRICAL ALARM SWITCHES AND BELLS, AS REQUIRED, TO PROVIDE INTERCONNECTION TO THE EXISTING FIRE ALARM SYSTEM AND SHALL PROVIDE AN AUDIBLE LOCAL WATERFLOW ALARM BY OTHERS. ALL ALARM DEVICES SHALL COMPLY WITH NFPA 72 AND BE UL LISTED AND CSFM APPROVED.
   a. BELL OR OTHER AUDIBLE DEVICE AS REQUIRED BY THE SERVING FIRE DEPARTMENT.
   b. WATERFLOW ALARM SWITCH FOR MAIN SYSTEM RISER AND ALL SECTIONS/FLOOR CONTROL VALVES AS REQUIRED.
   c. SUPERVISORY (TAMPER) SWITCHES SHALL BE INSTALLED ON ALL VALVES CONTROLLING FIRE PROTECTION WATER SUPPLIES.
32. PIPING PASSING THRU WALLS, FLOORS, PLATFORMS, AND FOUNDATIONS, AND BEAMS CONSIDERED PRIMARY STRUCTURAL MEMBERS SHALL BE PREVENTED FROM BEING DAMAGED ACCORDING TO NFPA 13, SECTION 9.3.4 NO CLEARANCE IS REQUIRED IF FLEXIBLE COUPLING ARE PROVIDED WITHIN 1 FT. OF EACH SIDE OF WALLS, FLOORS, PLATFORMS, FOUNDATIONS, OR BEAMS. NO CLEARANCE IS REQUIRED FOR GYPSUM BOARD OR FRANGIBLE CONSTRUCTION THAT IS NOT REQUIRE TO HAVE A FIRE RATING.
33. PROPERLY FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, OR PARTITIONS WITH A UL APPROVED SYSTEM APPROPRIATE FOR THE PENETRATION TYPE AND FIRE RATING IN ACCORDANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS.
34. UNDER UNOBSTRUCTED CONSTRUCTION, THE DISTANCE BETWEEN THE SPRINKLER DEFLECTOR AND THE CEILING SHALL BE A MINIMUM OF 1 INCH AND A MAXIMUM OF 12 INCH THROUGHOUT THE AREA OF COVERAGE OF THE SPRINKLER.
35. SPRINKLER HEADS SHALL BE SPACED PER NFPA 13 AND/OR IN ACCORDANCE WITH THE MANUFACTURER'S LISTING. SPRINKLER ARE SPACED AT A MAXIMUM OF 225 FT IN LIGHT HAZARD ROOMS/AREAS WHEN USING QUICK RESPONSE UPRIGHT OR PENDENT SPRINKLERS.

   SMALL ROOM RULE APPLIES TO LIGHT HAZARD ROOMS 800 FT 2 MAX. (PER NFPA 13 3.3.17)

   SPRINKLER ARE SPACED AT A MAXIMUM OF 130 FT IN ORDINARY HAZARD ROOMS/AREAS WHEN USING QUICK RESPONSE UPRIGHT OR PENDENT SPRINKLERS.
36. PROPERLY FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, OR PARTITIONS WITH A UL APPROVED SYSTEM APPROPRIATE FOR THE PENETRATION TYPE AND FIRE RATING IN ACCORDANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS.
37. ALL PAINTING OF ANY KIND IS BY OTHERS.
38. SOFFITING AND FURRING TO CONCEAL PIPE BY OTHERS.
39. ACCESS PANEL/DOORS INSTALLED BY OTHERS.

EXISTING FIRE ALARM

CONTRACTOR TO INTERFACE NEW SPRINKLER SYSTEM WITH BUILDINGS EXISTING FIRE ALARM SYSTEM.

3

DRAWING LIST

DWG.NO.	DESCRIPTION
FP0.1	GENERAL NOTES, LEGEND AND DRAWING LIST
FP0.2	DETAILS
FP0.3	SEISMIC DETAILS
FP1.1	FIRE PROTECTION SITE PLAN (FOR REFERENCE ONLY)
FP2.1	FIRE PROTECTION FLOOR PLAN
FP2.2	CUT SECTION
FP3.1	FIRE PROTECTION RCP

LEGEND

SYMBOL	ABBREV.	DESCRIPTION
	F	FIRE WATER SUPPLY
(E)F	(E)F	(E) FIRE WATER SUPPLY
	SSU	SPRINKLER, UPRIGHT
	SSP	SPRINKLER, PENDENT
	SSP	SPRINKLER, CONCEALED PENDENT
	HSW	SPRINKLER, SIDEWALL
		PIPE DOWN
		PIPE UP
		PIPE TEE DOWN
		PIPE CAP
		30° ELBOW
		HANGER
		HANGER, END OF LINE & BRANCH LINE RESTRAINT
		SEISMIC BRACE, 2 WAY
		SEISMIC BRACE, 4 WAY
	GV	GATE VALVE
	BV	BALL VALVE
	BFV	BUTTERFLY VALVE
	GLV	GLOBE VALVE
	AGV	ANGLE VALVE (GLOBE)
	CV	**CHECK VALVE**
	U	UNION
	STR	STRAINER
	IV	LISTED INDICATING VALVE
	HGV	HOSE GATE VALVE
	AHV	ANGLE HOSE (GLOBE) VALVE
	PRV	PRESSURE REDUCING VALVE
	POPRV	**PILOT OPERATED PRV**
R	AHV	PRESSURE REDUCING HOSE VALVE
	ASR	AUTOMATIC SPRINKLER RISER
A	AV	ALARM CHECK VALVE
P	PAV	PRE–ACTION VALVE
FL	FLS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	EAB	ELECTRIC ALARM BELL
	AD	AUTOMATIC DRAIN
	PG	PRESSURE GAUGE W/COCK
	FH	FIRE HYDRANT
	PIV	POST INDICATOR VALVE
	RPBFP	REDUCED PRESSURE BFP
	DCBFP	DOUBLE CHECK BFP
	FDC	FIRE DEPARTMENT SIAMESE CONNECTION
		HORN/STROBE
		STROBE
		ABORT
		MANUAL PULL
FSCP	FSCP	FIRE SUPPRESSION CONTROL PANEL
SDCP	SDCP	SAMPLING DETECTOR CONTROL PANEL
	POD	POINT OF DISCONNECTION
	POC	POINT OF CONNECTION
KN		REMODEL KEY NOTE
HN		HYDRAULIC NODE (FOR CALCULATION ONLY)
X / X		DETAIL OR ENLARGEMENT CALL OUT
X / X		EQUIPMENT CALL OUT
	Ø	DIAMETER
	ABV	ABOVE
	AFF	ABOVE FINISHED FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BFP	BACKFLOW PREVENTER
	℄	CENTERLINE
	CLG	CEILING
	DET	DETAIL
	DN	DOWN
	EA	EACH
	EXIST	EXISTING
	FIN	FINISH
	FLR	FLOOR
	EA	EACH
	FIN	FINISH
	NC	NORMALLY CLOSED VALVE
	NO	NORMALLY OPEN VALVE
	PSI	POUNDS PER SQUARE INCH (GAUGE)
	SHT	SHEET
	THRU	THROUGH
	TYP	TYPICAL
	W/	WITH
	ZV	ZONE VALVE
FS		FLOW SWITCH
TS		TAMPER SWITCH
M		MONITOR MODULE
SD		SMOKE DETECTOR

NO.	DATE	REVISIONS
7		
6		
5		
4	09/08/17	ADDENDUM 1
3	01/24/17	PLAN CHECK
2	12/08/16	DESIGN DEVELOPMENT
1	11/22/16	

DESIGNED:
DRAWN: BW
CHECKED: RS
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER: TTG • STRUCTURAL • MECHANICAL • ELECTRICAL • CIVIL
901 Via Piemonte, Suite 400, Ontario, CA 91764
Phone: 909.477.7500
Fax: 909.477.7515
www.ttgsfla.com Project No: 0216.S123.00

PROFESSIONAL ENGINEER — CHRISTOPHER E. KRATOVIL — No. 14245 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY: cwa architecture, 1000 Wilshire Boulevard, Suite 2870, Los Angeles, California 90017, ph: 714.305.0220
ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: GENERAL NOTES, LEGEND AND DRAWING LIST

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
PERMIT :

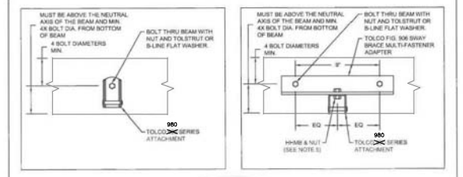
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PLAN CHECK

SEISMIC CONNECTIONS TO STRUCTURE — NTS — 6

THRU-BOLT STRUCTURAL ATTACHMENTS PERPENDICULAR TO WOOD BEAM



BOLT DIAMETER	MAX. HORIZONTAL SEISMIC LOAD W/ BRACE @ 45° FROM VERTICAL (Lbs.)	
	1 BOLT	2 BOLT
1/2"	300	600
5/8"	360	720
3/4"	400	800

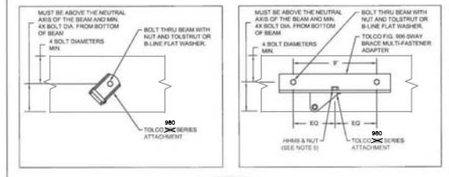
BOLT DIAMETER	MAX. VERTICAL SEISMIC LOAD W/ BRACE @ 0° FROM VERTICAL (Lbs.)	
	1 BOLT	2 BOLT
1/2"	300	600
5/8"	360	720
3/4"	400	800

NOTES:
1.) BOLT HOLES SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
2.) LOADS FOR THRU-BOLT ATTACHMENTS ARE DERIVED FROM CBC 2013 AND NDS 2012 FOR DOUGLAS FIR-LARCH (G = 0.50, CALIFORNIA REDWOOD (CLOSE GRAIN) (S.G. = 0.34) AND SOUTHERN PINE (S.G. = 0.55).
3.) MINIMUM SEAM SIZE = 4x
4.) STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED ALLOWABLE LOADS, INCLUDING BUT NOT LIMITED TO ANY BLOCKING REQUIREMENTS.
5.) FASTENINGS SHALL BE A307 BOLTS OR BETTER.
6.) DESIGN LOAD INFORMATION LISTED IN TABLE BECOMES INVALID WHEN THE BRACE ANGLE IS GREATER THAN 45° FROM THE VERTICAL. SUCH USE IS NOT INCLUDED IN THE SCOPE OF THIS PRE-APPROVAL AND IS TO BE SUBMITTED FOR REVIEW AND APPROVAL ON A PROJECT SPECIFIC BASIS BY OSHPD, EXCEPT WHEN BRACE IS AT 0° FROM VERTICAL.

B-Line by EATON — EATON'S B-LINE BUSINESS, 509 West Monroe Street | Highland, IL 62249, P: (866) 661-7415 | F: (866) 356-1408
Structural Engineer: Zubair Sheikh, California SE No. 54039
Page No: 3-12 Date: February 14, 2014

05/06/2014 OPM-0052-13: Reviewed for Code Compliance by William Staehlin Page 40 of 62

THRU-BOLT STRUCTURAL ATTACHMENTS PARALLEL TO WOOD BEAM



BOLT DIAMETER	MAX. HORIZONTAL SEISMIC LOAD W/ BRACE @ 45° FROM VERTICAL (Lbs.)	
	1 BOLT	2 BOLT
1/2"	260	440
5/8"	320	540
3/4"	380	600

BOLT DIAMETER	MAX. VERTICAL SEISMIC LOAD W/ BRACE @ 0° FROM VERTICAL (Lbs.)	
	1 BOLT	2 BOLT
1/2"	260	440
5/8"	320	540
3/4"	380	600

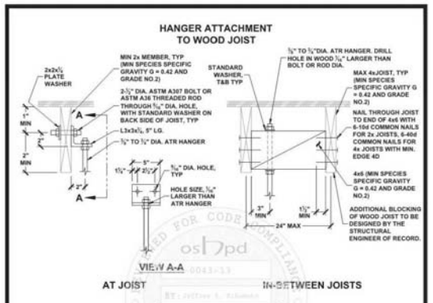
NOTES:
1.) BOLT HOLES SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
2.) LOADS FOR THRU-BOLT ATTACHMENTS ARE DERIVED FROM CBC 2013 AND NDS 2012 FOR DOUGLAS FIR-LARCH (Sg = 0.50, LARCH, CALIFORNIA REDWOOD (CLOSE GRAIN) (S.G. = 0.34) AND SOUTHERN PINE (S.G. = 0.55).
3.) MINIMUM SEAM SIZE = 4x
4.) STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED ALLOWABLE LOADS, INCLUDING BUT NOT LIMITED TO ANY BLOCKING REQUIREMENTS.
5.) FASTENERS SHALL BE A307 BOLTS OR BETTER.
6.) DESIGN LOAD INFORMATION LISTED IN TABLE BECOMES INVALID WHEN THE BRACE ANGLE IS GREATER THAN 45° FROM THE VERTICAL. SUCH USE IS NOT INCLUDED IN THE SCOPE OF THIS PRE-APPROVAL AND IS TO BE SUBMITTED FOR REVIEW AND APPROVAL ON A PROJECT SPECIFIC BASIS BY OSHPD, EXCEPT WHEN BRACE IS AT 0° FROM VERTICAL.

B-Line by EATON — EATON'S B-LINE BUSINESS, 509 West Monroe Street | Highland, IL 62249, P: (866) 661-7415 | F: (866) 356-1408
Structural Engineer: Zubair Sheikh, California SE No. 54039
Page No: 3-13 Date: February 14, 2014

05/06/2014 OPM-0052-13: Reviewed for Code Compliance by William Staehlin Page 41 of 62

HANGER ATTACHMENT TO WOOD JOIST — NTS — 3

HANGER ATTACHMENT TO WOOD JOIST



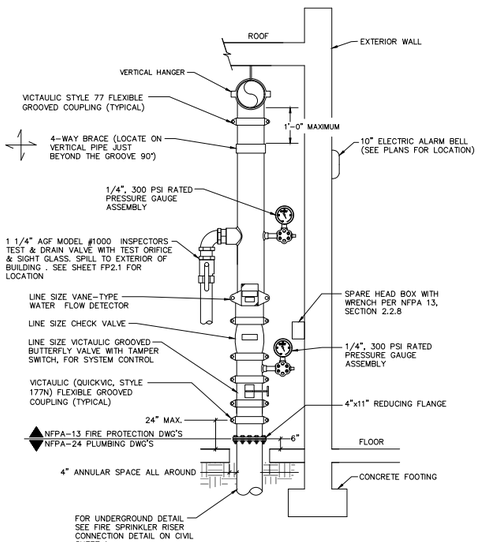
HANGER (ATR/SHWPBT TYP)	ALLOWABLE VERTICAL LOAD Lbs	ATR HANGER DIA. t=CH
18A TO 39F	490	½
60A TO 74E	420	½
63A TO 63G	420	⅝
71A TO 75D	420	⅝

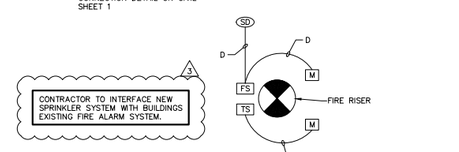
SEE DETAIL M4.00 FOR SECTION NOTES

MASON WEST, INC. 1601 E. Miraloma Ave, Placentia, CA 92870 TEL (714) 630 - 0701, www.masonwest.com
Jeffu "Jeff" Zhang, SE California SE No. 55270
PAGE M4.10

06/23/2016 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 483 of 669

FIRE RISER — NTS — 1



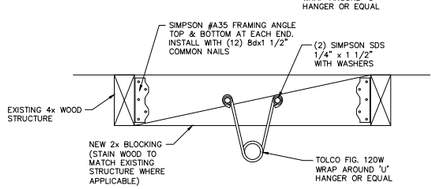


ELECTRICAL CONNECTION

NOTE:
PROVIDE BELL, TAMPER SWITCH & FLOW SWITCH BY POTTER ELECTRIC AND MONITOR MODULES FOR EACH. MONITOR MODULE MANUFACTURER SHALL MATCH EXISTING FIRE ALARM MANUFACTURER AND BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. REPROGRAM FIRE ALARM CONTROL PANEL AS NEEDED. EXTEND DATA CIRCUIT FROM NEAREST INITIATION DEVICE TO NEW MONITOR MODULES & BELL.

NOT USED — NTS — 10

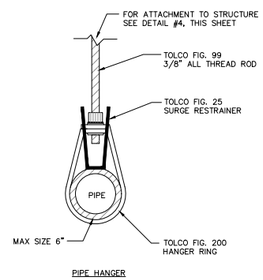
END OF LINE & BRANCH LINE RESTRAINT — NTS — 7



SHOWN AS ✕ ON THE FLOOR PLANS

NOTE:
WHEN USED AS BRANCH LINE RESTRAINT, WRAP AROUND U HANGER SHALL BE INSTALLED A MAXIMUM 24" FROM A STANDARD PIPE HANGER. SHOWN AS ✕ / ON FLOOR PLANS.

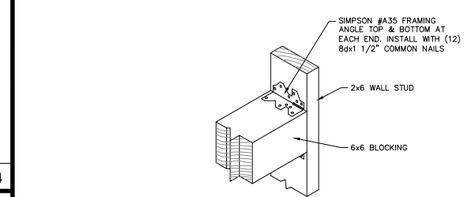
HANGER INSTALLATION — NTS — 4



PIPE HANGER

SHOWN AS / ON THE FLOOR PLANS

4-WAY SEISMIC BRACING ON WALL — NTS — 2



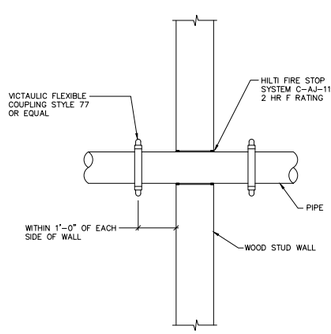
SHOWN AS ✛ ON THE FLOOR PLANS

ANGLE OF BRACE PIPE FROM LATERAL TO BE 45 DEG. MIN. FROM RISER - TYPICAL

NOT USED — NTS — 11

NOT USED — NTS — 8

FIRE WALL PENETRATION UNINSULATED PIPE THRU WALL — NTS — 5



REVISIONS	NO.	DATE
ADDENDUM 1	4	09/08/17
PLAN CHECK	3	01/24/17
DESIGN DEVELOPMENT	2	11/22/16
	1	12/08/16

DESIGNED: BW
DRAWN: RS
CHECKED:
DATE: AS SHOWN
SCALE:

CONSULTANT ENGINEER: TTG
• STRUCTURAL • MECHANICAL • ELECTRICAL • CIVIL
901 Via Piemonte, Suite 400, Ontario, CA 91764
Phone: 909.477.7500 Fax: 909.477.6916
www.ttgeng.com Project No: 0216.5723.00

PLANS PREPARED BY:
ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: DETAILS

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
PERMIT :

SHEET: FP0.2 OF

\\AD.K-WW.COM\K-WW\K-WW\OFFICES\ONTARIO\MEP\CAD\TTG_PROJECTS\2016\0216572300.0202.00\MEP\FP0-2.DWG 9/5/2017 3:56 PM

PLAN CHECK

USGS Design Maps Summary Report

User-Specified Input

Report Title Deerfield
Wed September 14, 2016 17:07:46 UTC

Building Code Reference Document ASCE 41-13 Retrofit Standard, BSE-2N
(which utilizes USGS hazard data available in 2008)

Site Coordinates 33.69087°N, 117.79388°W

Site Soil Classification Site Class D - "Stiff Soil"

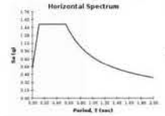


USGS-Provided Output

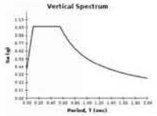
$S_{S(MCE)}$ = 1.506 g $S_{MS(MCE)}$ = 1.506 g

$S_{1(MCE)}$ = 0.557 g $S_{M1(MCE)}$ = 0.835 g

Horizontal Spectrum



Vertical Spectrum



Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

http://earthquake.usgs.gov/designmaps/us/summary.php?template=minimal&latitude=33.... 12/21/2016

Tol-Brace Seismic Calculations

Project Address: Deerfield Community Park
55 Deerwood W.
Irvine, CA
Job # 0216.5723.00

TTG
901 Via Piemonte
Ontario, CA, 91764

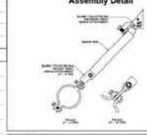
B-Line by EATON

Calculations based on 2012 NFPA Pamphlet #13

Brace Information		Tolco Brace Components	
Maximum Spacing	19' 8" (5.79 m)	Tolco Component Fig. Number	Adjusted Load
Maximum Brace Length	7' 0" (2.13 m)	Fig. 6-A Clamp	550 lbs (308 kg)
Bracing Material	1" Sch.40	Fig.960 Universal Swivel	1320 lbs (599 kg)
Angle from Vertical	30° Min.		
Least Rad. of Gyration	0.42" (11 mm)		
L/R Value	200		
Max Horizontal Load	926 lbs (420 kg)		
Force Factor (Cd)	0.7		
Other Requirements - FM Approved Loads			

*Calculation Based on CONCENTRIC Loading
**Please Note: These calculations are for Tolco components only. Use of any other components voids these calculations and the listing of the assembly.

Assembly Detail



Fastener Information	
Fastener Orientation	NFPA Type O
Maximum Load	510 lbs (231 kg)
Diameter	1/2"
Length	5"
Type	THRU BOLT

Brace Identification on Plans	LAT 1
Orientation of Brace	Lateral

Braced Pipe: 2.5" Sch.40 Steel Pipe

Load Information

Size and Type of Pipe	Total Length	Total Calculated Load
2.5" Sch.40 Steel Pipe (63.5 mm)	19ft (5.8 m)	102 lbs (46 kg)
1.25" Sch.40 Steel Pipe (31.75 mm)	14ft (4.3 m)	29 lbs (13 kg)
1" Sch.40 Steel Pipe (25.4 mm)	53ft (16.2 m)	76 lbs (34 kg)
Percentage added for Fittings and Sprinklers	15%	31 lbs (14.06 kg)
Total Adjusted Load of all pipe within Zone of Influence		241 lbs (109 kg)

(Tol-Brace Version 8)

Tol-Brace Seismic Calculations

Project Address: Deerfield Community Park
55 Deerwood W.
Irvine, CA
Job # 0216.5723.00

TTG
901 Via Piemonte
Ontario, CA, 91764

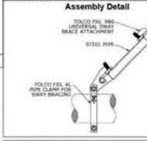
B-Line by EATON

Calculations based on 2012 NFPA Pamphlet #13

Brace Information		Tolco Brace Components	
Maximum Spacing	25' 6" (7.77 m)	Tolco Component Fig. Number	Adjusted Load
Maximum Brace Length	7' 0" (2.13 m)	Fig. 6L Clamp	1030 lbs (467 kg)
Bracing Material	1" Sch.40	Fig.960 Universal Swivel	1320 lbs (599 kg)
Angle from Vertical	30° Min.		
Least Rad. of Gyration	0.42" (11 mm)		
L/R Value	200		
Max Horizontal Load	926 lbs (420 kg)		
Force Factor (Cd)	0.7		
Other Requirements - FM Approved Loads			

*Calculation Based on CONCENTRIC Loading
**Please Note: These calculations are for Tolco components only. Use of any other components voids these calculations and the listing of the assembly.

Assembly Detail



Fastener Information	
Fastener Orientation	NFPA Type O
Maximum Load	510 lbs (231 kg)
Diameter	1/2"
Length	5"
Type	THRU BOLT

Brace Identification on Plans	LON 1
Orientation of Brace	Longitudinal

Braced Pipe: 2.5" Sch.40 Steel Pipe

Load Information

Size and Type of Pipe	Total Length	Total Calculated Load
2.5" Sch.40 Steel Pipe (63.5 mm)	25.5ft (7.8 m)	141 lbs (64 kg)
Percentage added for Fittings and Sprinklers	15%	21 lbs (9.53 kg)
Total Adjusted Load of all pipe within Zone of Influence		162 lbs (73 kg)

(Tol-Brace Version 8)

NO.	DATE	REVISIONS
7		
6		
5		
4	06/08/17	ADDENDUM 1
3	06/24/17	PLAN CHECK
2	10/09/16	DESIGN DEVELOPMENT
1	11/22/16	
SCALE:	AS SHOWN	

DESIGNED:
DRAWN: BW
CHECKED: RS
DATE: 11/22/16

CONSULTANT ENGINEER:
TTG
• STRUCTURAL
• MECHANICAL
• ELECTRICAL
• CIVIL
901 Via Piemonte, Suite 400
Ontario, California 91764
Phone: 909.477.6915
Fax: 909.477.6916
www.ttgeng.com Project No: 0216.5723.00

PLANS PREPARED BY:
cah architecture
2020 Main St., Suite 200 Irvine, CA 92614
Phone: 949.553.2020 Fax: 714.966.0220

ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: SEISMIC DETAILS

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

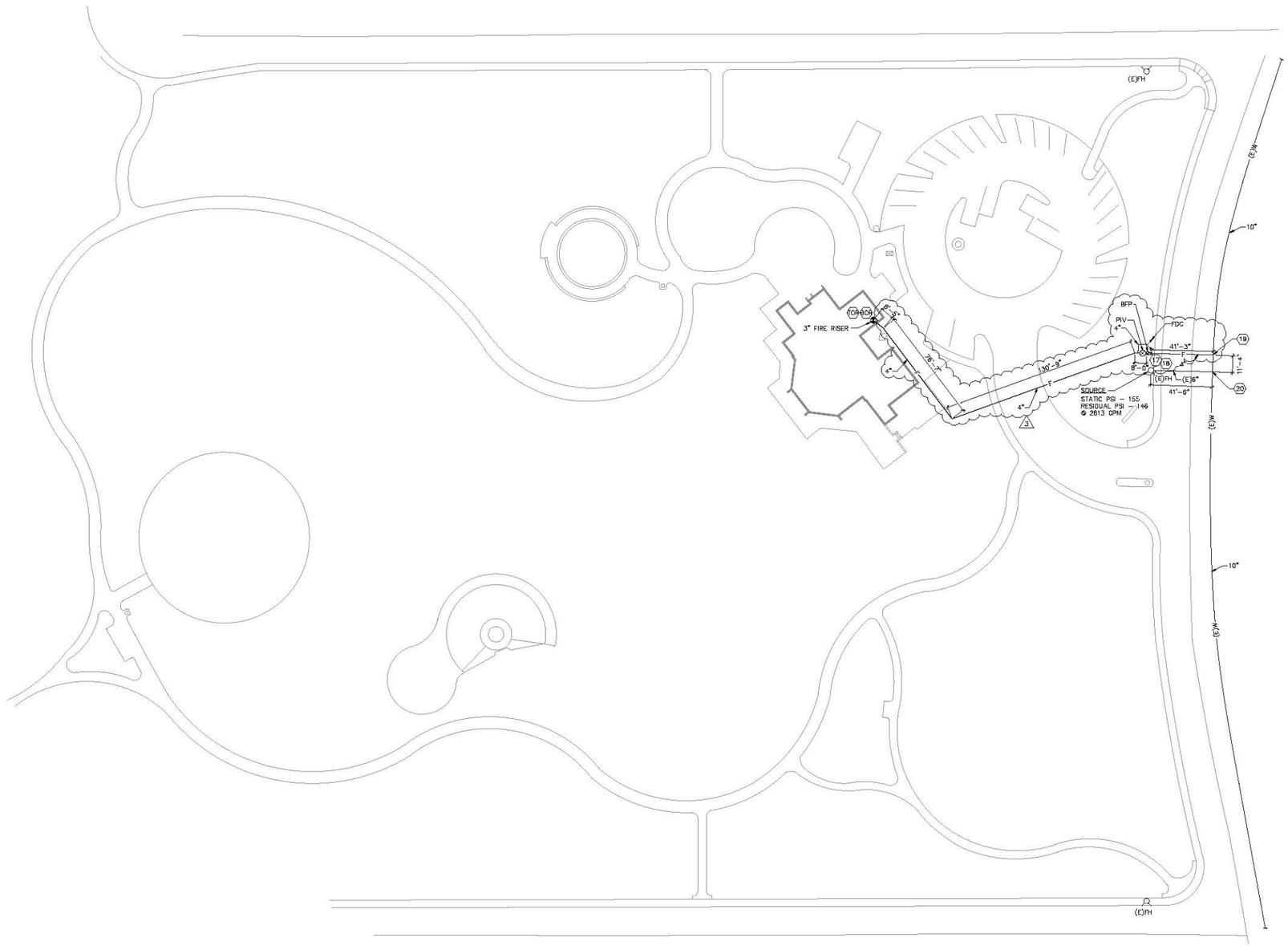
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GENERAL NOTES

1. HYDRAULIC CALCULATION NODES (⊖) ARE FOR CALCULATION REFERENCE ONLY.



FIRE PROTECTION SITE PLAN (FOR REFERENCE ONLY)

1"=30'-0" | 1

CONSULTANT ENGINEER:
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• ELECTRICAL
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901 Via Piemonte, Suite 400
Ontario, California 91764
Phone: 909.477.7915
Fax: 909.477.6916
www.ttgeng.com Project No: 0216.5723.00

DESIGNED:
DRAWN: BW
CHECKED: RS
DATE: 11/22/16
SCALE: AS SHOWN

NO.	DATE	REVISIONS
7		
6		
5		
4		
3	09/08/17	ADDENDUM 1
2	01/24/17	PLAN CHECK
1	12/08/16	DESIGN DEVELOPMENT

PLANS PREPARED BY:
cap architecture
ROY MAYOR, AIA, CSI, CDT, LEED AP
3100 Inland Empire Blvd., Suite 200, Ontario, California 91764
ph: 714.505.0333
ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: FIRE PROTECTION SITE PLAN (FOR REFERENCE ONLY)

CITY OF IRVINE

COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
PERMIT :

FP1.1

SHEET: OF

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KEY NOTES

(1) NO SPACE IN MECHANICAL ROOM TO PLACE A SPRINKLER.

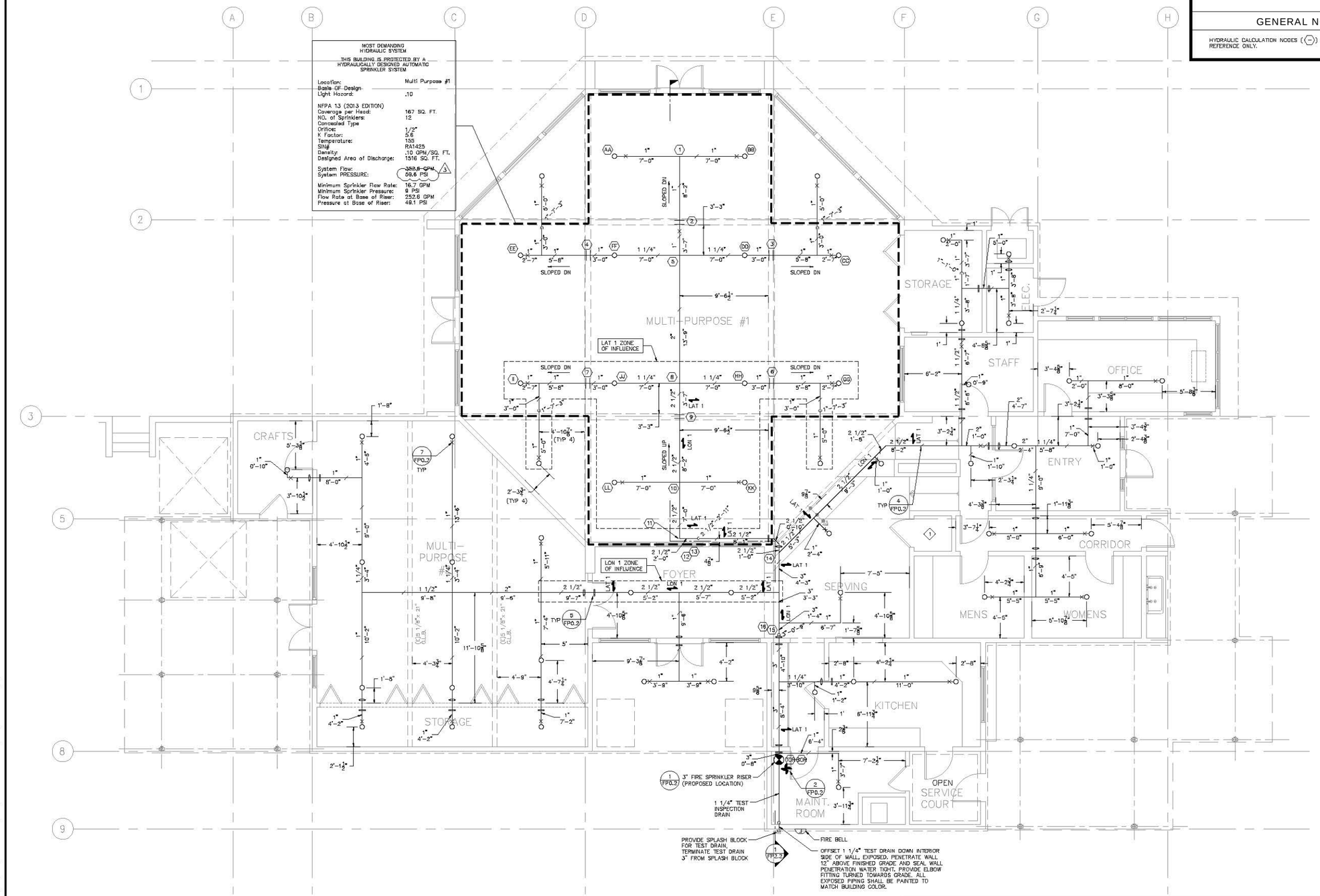
GENERAL NOTES

HYDRAULIC CALCULATION NODES (⊖) ARE FOR CALCULATION REFERENCE ONLY.

MOST DEMANDING HYDRAULIC SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

Location:	Multi Purpose #1
Basis Of Design:	
Light Hazard:	.10
NFPA 13 (2013 EDITION)	
Coverage per Head:	167 SQ. FT.
NO. of Sprinklers:	12
Concealed Type	
Orifice:	1/2"
K Factor:	5.6
Temperature:	155
SIN#	RA1425
Density:	.10 GPM/SQ. FT.
Designed Area of Discharge:	1516 SQ. FT.
System Flow:	~~352.6~~ GPM
System PRESSURE:	59.6 PSI (3)
Minimum Sprinkler Flow Rate:	16.7 GPM
Minimum Sprinkler Pressure:	9 PSI
Flow Rate at Base of Riser:	252.6 GPM
Pressure at Base of Riser:	49.1 PSI



SPRINKLER SCHEDULE AND LEGEND

SYMBOL	MANUFACTURER	MODEL	SIN#	POSITION	ESCUTCHEON	ORIFICE	'K' FACTOR	TEMPERATURE	RESPONSE	FINISH	BLDG. QUANTITY
○	RELIABLE	F1FR56	RA1425	SSU	UPRIGHT	1/2"	5.6	155°	QUICK RESPONSE	BRONZE	53

FIRE PROTECTION PLAN

1/4"=1'-0" | 1

NO.	DATE	REVISIONS
4	09/08/17	ADDENDUM 1
3	01/24/17	PLAN CHECK
2	12/08/16	DESIGN DEVELOPMENT
1	11/22/16	

DESIGNED: | DRAWN: BW | CHECKED: RS | DATE: | SCALE: AS SHOWN

CONSULTANT ENGINEER: TTG • STRUCTURAL • MECHANICAL • ELECTRICAL • CIVIL
901 Via Piemonte, Suite 400, Ontario, CA 91764
Phone: 909.477.6915 Fax: 909.477.6916 www.ttgsfa.com Project No: 0216.5723.00

PLANS PREPARED BY: cap architecture, 600 Newport Center Drive, Suite 200, Newport Beach, CA 92660, ph: 714.556.0220

ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: FIRE PROTECTION FLOOR PLAN

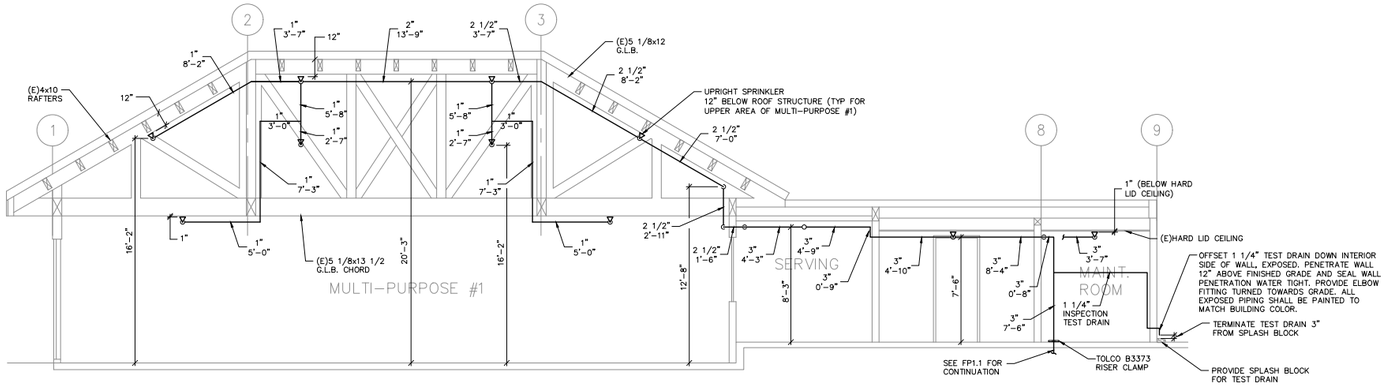
CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
PERMIT :

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SHEET: OF

PLAN CHECK

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FIRE PROTECTION CUT SECTION | 1/4"=1'-0" | 1

NOT USED | 1/4"=1'-0" | 2

NO.	DATE	REVISIONS
7		
6		
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4		
3	09/08/17	ADDENDUM 1
2	01/24/17	PLAN CHECK
1	12/08/16	DESIGN DEVELOPMENT

DESIGNED:
DRAWN: BW
CHECKED: RS
DATE: 11/22/16
SCALE: AS SHOWN

CONSULTANT ENGINEER:
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901 Via Piemonte, Suite 400
Ontario, California 91764
Phone: 909.477.6915
Fax: 909.477.6916
www.ttgsfla.com Project No: 0216.5723.00

CHRIS E. KASTNER — PROFESSIONAL ENGINEER — No. 62491 — REGISTERED CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
cwa architecture
2020 Main St., Suite 200, Irvine, CA 92614
Phone: 949.553.2000 Fax: 714.966.2222

ARCHITECT: LICENSE NO. EXP. DATE

SHEET TITLE: CUT SECTION

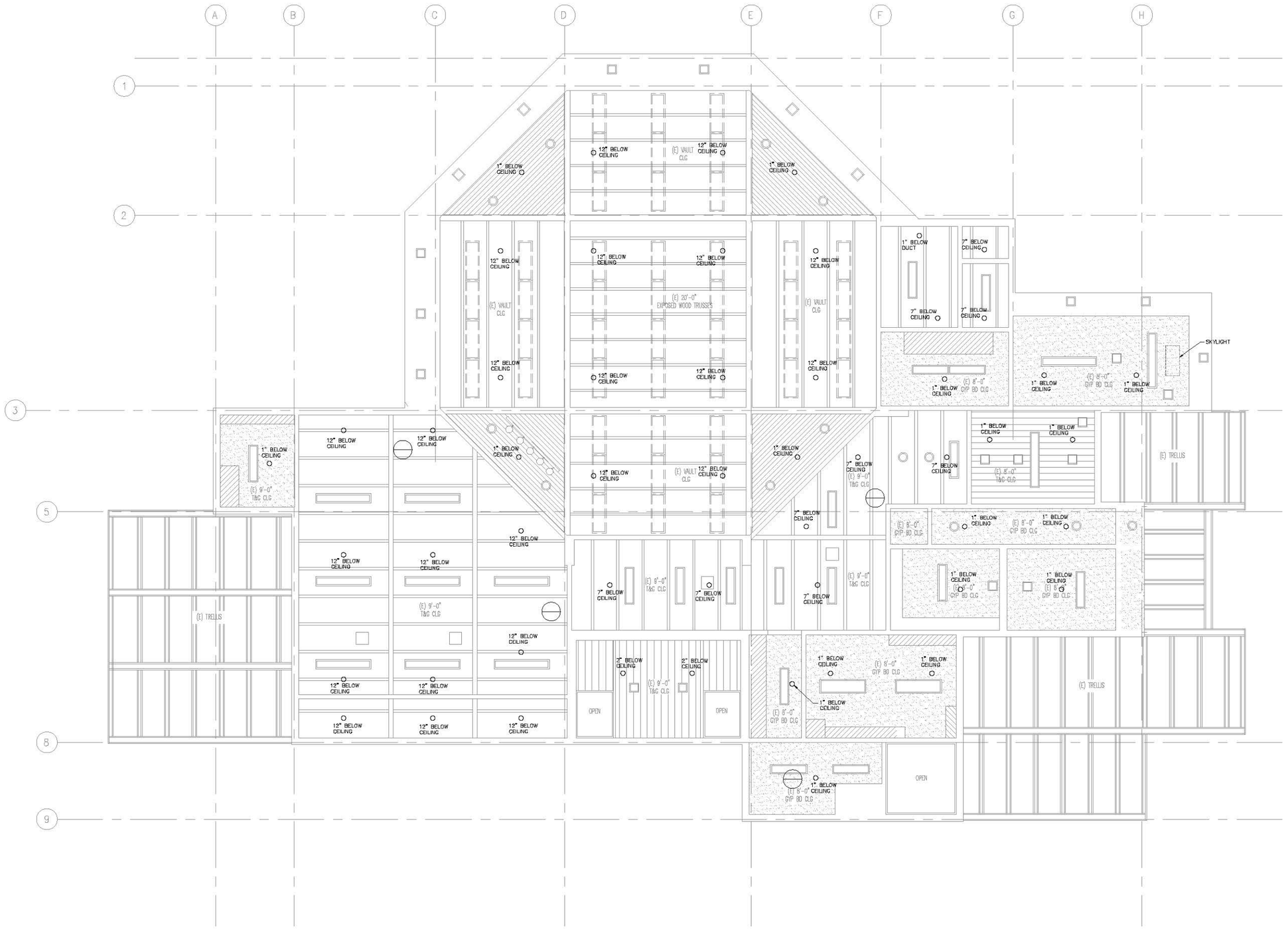
CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
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PLAN CHECK



FIRE PROTECTION RCP

1/4"=1'-0" | 1

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CONSULTANT ENGINEER:
TTG
• STRUCTURAL
• MECHANICAL
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• CIVIL
901 Via Piemonte, Suite 400
Ontario, California 91764
Phone: 909.477.6915
Fax: 909.477.6916
www.ttgstla.com Project No: 0216.572300

NO.	DATE	REVISIONS
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3	09/08/17	ADDENDUM 1
2	01/24/17	PLAN CHECK
1	12/08/16	DESIGN DEVELOPMENT

DESIGNED:
DRAWN: BW
CHECKED: RS
DATE: 11/22/16
SCALE: AS SHOWN

PROFESSIONAL ENGINEER — CHRISTOPHER E. RASTYKE — No. 62491 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
cpb architecture
ARCHITECT:
LICENSE NO. EXP. DATE

SHEET TITLE: FIRE PROTECTION RCP

CITY OF IRVINE
COMMUNITY DEVELOPMENT DEPARTMENT
Deerfield Community Park

PLAN CHECK :
PERMIT :

FP3.1
SHEET: OF

PLAN CHECK

3.9

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: NOTICE OF REVIEW FOR A TRACT MAP IN PORTOLA SPRINGS

Director of Public Works

City Manager

RECOMMENDED ACTION

Receive and file.

EXECUTIVE SUMMARY

The subject notice to the City Council is provided in accordance with City of Irvine Ordinance No. 07-12, notifying the City Council of one final tract map under review by staff. Ordinance No. 07-12 delegates authority to the City Engineer for approval of final tract maps and requires notice to the City Council following receipt of such maps for review and again prior to approval/disapproval by the City Engineer. The subject notice satisfies this requirement. This is a ministerial matter and there is no discretionary action to be taken by the City Council with regard to this matter. The tract map covering property referenced in this staff report is located in Portola Springs and is available for public review in the Public Works department.

Tract Map No. 17838 (Portola Springs) is located near the intersection of Irvine Boulevard and Modjeska, as shown in Attachment 2. The map for this property contains the subdivision of 12 acres into 20 lots. The property is proposed for development of 90 condominiums. The Portola Springs development project is consistent with the Northern Sphere Area Final Environmental Impact Report, approved by City Council in June 2002, which considered area-wide impacts associated with the ultimate build-out for residential units, open space, parks and schools within the corresponding planning area.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Prior to City Engineer approval of a final tract map, the Planning Commission reviews and approves the corresponding tentative tract map based on consistency with the City's General Plan, Subdivision Ordinance and Zoning Code. The underlying tentative map referenced in this staff report was approved by the Planning Commission as follows:

On August 3, 2017, the Planning Commission approved the underlying tentative map for Tract Map No. 17838 (Portola Springs) by a vote of 4-0-1 (Commissioners Bartlett, Kuo, Nirschl and Smith voting in favor; Commissioner Duong absent).

ANALYSIS

The approval of tract maps is a multi-step process that assures development is reflective and compliant with the City's General Plan and with respective provisions of the City's development standards. City of Irvine Ordinance No. 07-12 authorizes the City Engineer to approve final tract maps if they substantially conform to the approved underlying tentative map and all applicable conditions of approval have been satisfied. The ordinance further requires staff to notify the City Council upon receipt of such maps for review and prior to approval/disapproval of a final tract map by the City Engineer. In addition, the State Subdivision Map Act requires the approval of final maps if the City Engineer has found that the final map substantially conforms to the underlying tentative map.

The final tract map listed below has been received and is under review for consistency with the applicable City standards and corresponding Planning Commission tentative tract map conditions of approval. Notice will be provided to the City Council prior to final approval by the City Engineer. Following approval and a 15-day appeal period, the map will be released for recordation. Recordation of the map is required prior to the issuance of building permits.

Submitted by	Tract Map No.	No. of Lots	Location	Status
Irvine Community Development Company, LLC	17838	20-lot map	Irvine Boulevard and Modjeska *(Portola Springs)*	Under Review

ALTERNATIVES CONSIDERED

An alternative to this notification was not considered. Pursuant to the State Subdivision Map Act and City of Irvine Ordinance 07-12, when approval authority of tract maps is delegated to the City Engineer, notification to the City Council of receipt and approval of such maps is required.

FINANCIAL IMPACT

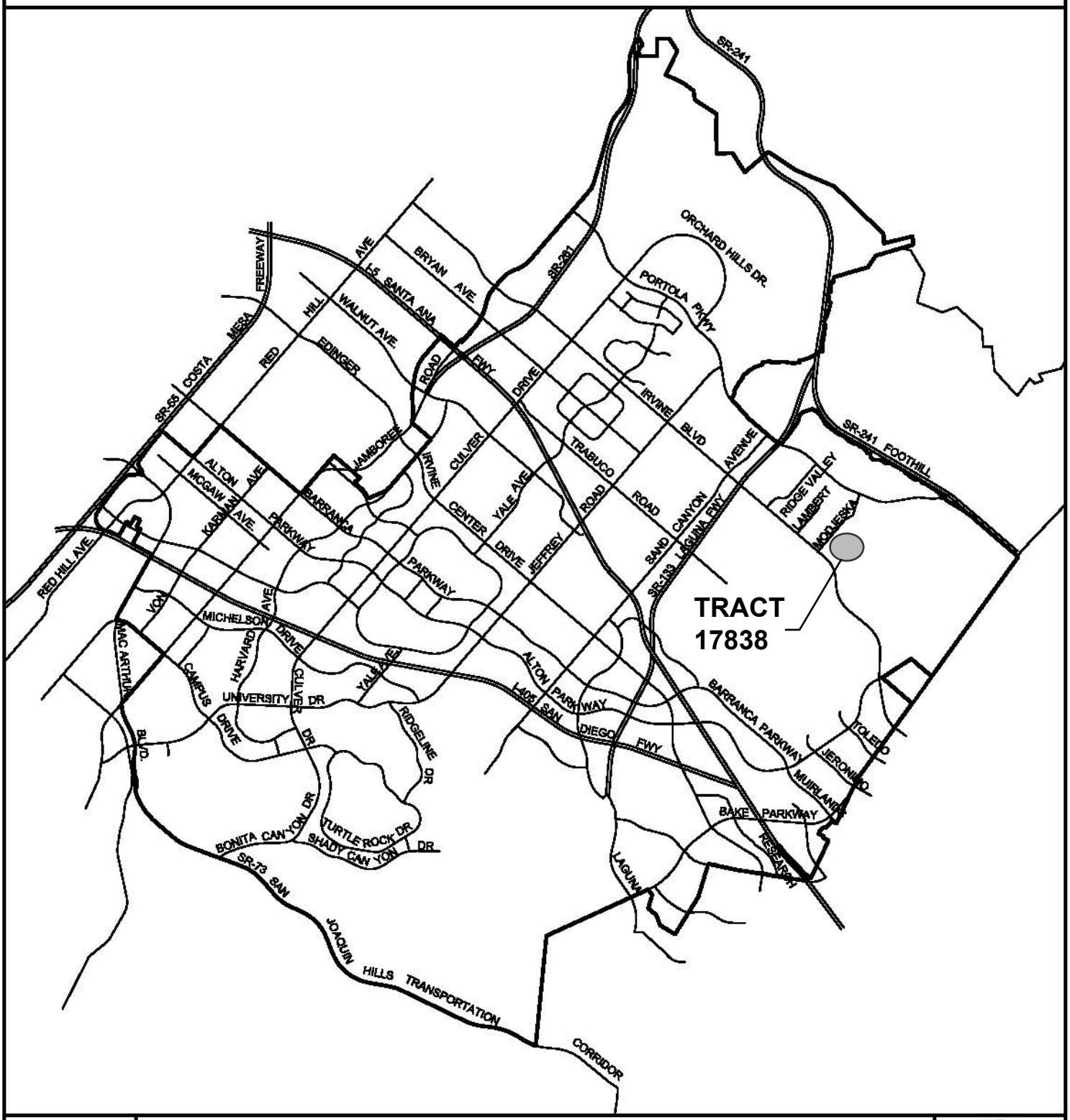
The administrative cost to the City for processing the maps is offset by developer fees paid by the applicant submitting the maps.

REPORT PREPARED BY Stacy DeLong, Associate Engineer

ATTACHMENTS

1. Vicinity Map
2. Site Map – Tract 17838 (Portola Springs)

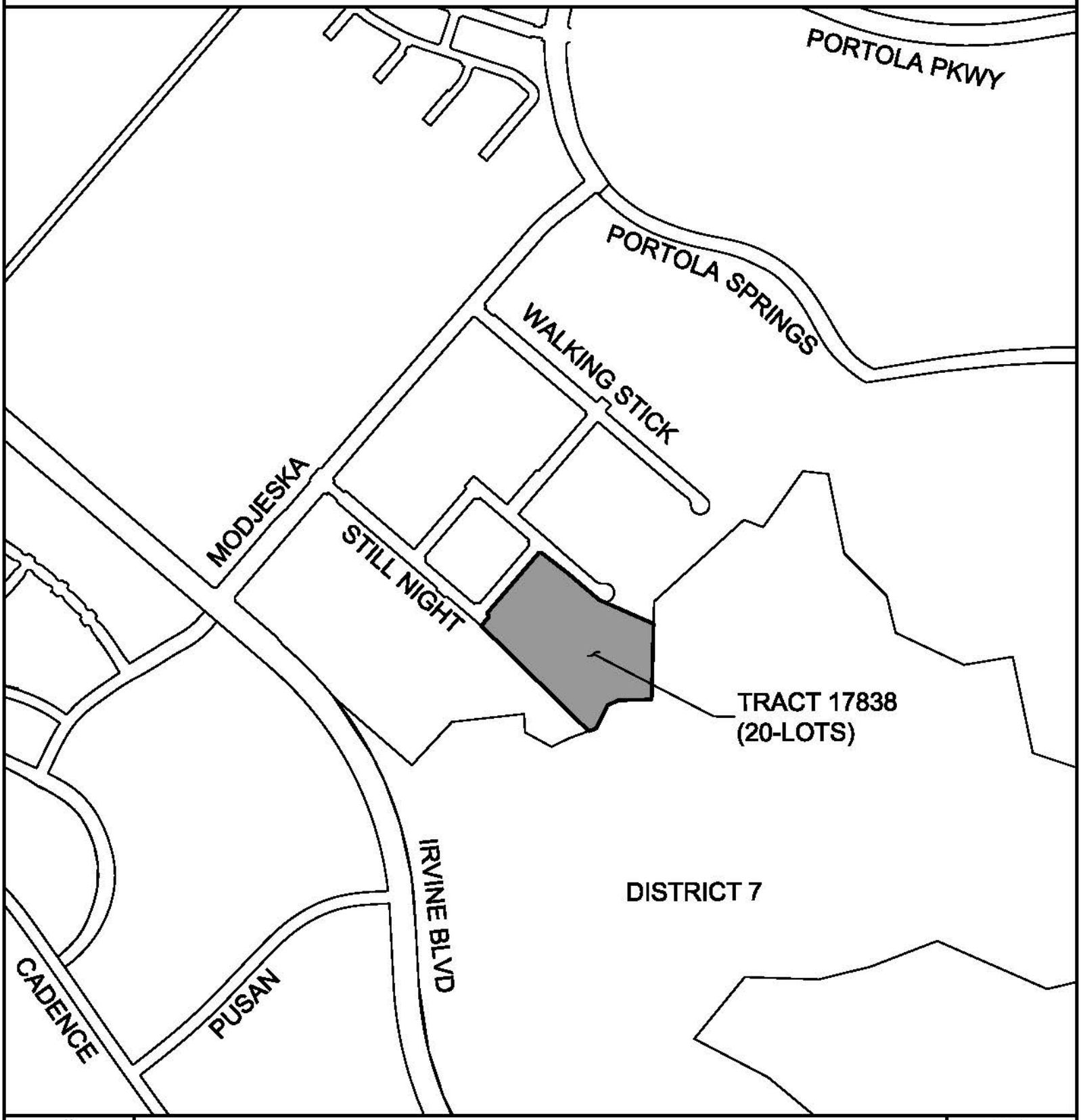
FINAL TRACT MAP No. 17838



VICINITY MAP

ATTACHMENT 1

FINAL TRACT MAP No. 17838
PORTOLA SPRINGS



N
W E
S
NTS

SITE MAP

CITY OF IRVINE 1971

ATTACHMENT 2

3.10

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: WEEKDAY COMMUTER iSHUTTLE ROUTE EXPANSION AGREEMENTS

Director of Transportation

City Manager

RECOMMENDED ACTIONS

1. Authorize the City Manager or his designee to execute the Cooperative Agreements between Orange County Transportation Authority and City of Irvine for Project V Community-Based Transit/Circulators for expansion of weekday commuter iShuttle routes and execute future amendments to the agreement, if necessary, for the continued operation of the routes.

2. Authorize the City Manager or his designee to execute the funding agreements and execute future amendments to the agreement, if necessary, for the continued operation of the routes with the Irvine Company and Spectrumotion in support of Project V Route E.

EXECUTIVE SUMMARY

In February 2016, to support the City Council interest to address traffic congestion, the City Council approved the submittal of Measure M Project V grant applications to the Orange County Transportation Authority (OCTA) to fund the expansion of the City's iShuttle commuter transit system. In June 2016, the OCTA Board approved grant funding for two proposed route extensions as recommended in the Citywide Traffic Management Study. The grant will provide approximately $5.4 million to operate two new routes for a period of six years. Approximately $958,000 in matching funds must be allocated by the City to access the grant funds. The estimated total cost, provided by OCTA, to initiate and operate the two new routes is $6.4 million for the six year operating term, which includes $1.5 million for capital acquisition and $4.9 million for ongoing operations and maintenance. In total, this equals approximately $531,000 per route annually.

Consistent with City Council direction, the proposed new routes will be operated by OCTA on behalf of the City. The proposed routes will require the purchase of six new Compressed Natural Gas vehicles by OCTA, increasing the existing iShuttle fleet from 17 to 23 vehicles. OCTA indicates the new vehicles will be available in June 2018 with service start up scheduled for fall 2018.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

On August 1, 2017, staff presented to the Transportation Commission the proposed iShuttle routes and the draft funding agreements. The Commission voted 4-0-1 (with Commissioner O'Malley absent) to approve the two new iShuttle routes. The Commission also voted 4-0-1 to approve the recommended funding agreements.

ANALYSIS

As part of a series of City Council actions to address traffic congestion, the City Council directed staff to explore opportunities for improved and expanded iShuttle services. As part of the 2016 Citywide Traffic Management Study, a transit expansion strategy was developed that proposed the addition of the two new iShuttle Routes to provide peak hour commuter options in unserved areas of the Irvine Business Complex (IBC) and the Irvine Spectrum. Following the recommendations of the transit expansion strategy, City staff, in collaboration with Spectrumotion and the Irvine Company, further developed two new iShuttle routes depicted in Attachment 1. These weekday commuter routes provide transit options to previously unserved areas of the IBC (Route W), and business and residential locations in the Irvine Spectrum (Route E). The proposed routes supplement the four existing iShuttle routes, providing the City with a total of six weekday commuter iShuttle routes serving the IBC and Irvine Spectrum areas as shown in Attachment 2.

In June 2016, the OCTA Board approved Measure M Project V funding for the City's proposed new weekday commuter iShuttle routes as follows:

Route	Areas Served	Project Total	Project V Funding	Matching Funds
iShuttle Route E	Irvine Station to employment and residential sites east and south of the Irvine station	$3,184,389	$2,705,984	$478,405
iShuttle Route W	Tustin Station to western portions of IBC	$3,191,440	$2,712,259	$479,181
TOTAL		**$6,375,829**	**$5,418,243**	**$957,586**

The City's matching fund share for Route E in the Irvine Spectrum area is proposed to be subsidized by $164,326, through corporate partnerships with Spectrumotion and the Irvine Company. The proposed funding agreements (Attachments 3 and 4) were developed in coordination with representatives from the respective companies and outline the guidelines for participation by the funding partners.

The grant policies require that the City enter into separate cooperative agreements with OCTA for each grant funded route. The agreements are presented in Attachments 5 and 6.

The proposed iShuttle routes provide direct and efficient service between the Tustin Metrolink Station and the IBC, and between the Irvine Station and Spectrum area. Staff will continue to evaluate other areas in the City and additional funding sources for future transit opportunities. Staff is also monitoring on-demand transit service being provided in other cities as a consideration for future transit service in the City.

ALTERNATIVES CONSIDERED

City Council can elect to not approve the agreements with OCTA, the Irvine Company, or Spectrumotion. Additionally, it could direct staff to evaluate alternative routes. These alternatives are not recommended because the City could jeopardize $5,418,242 in Measure M Project V funding and $164,326 partner funding for the proposed expanded transit service.

FINANCIAL IMPACT

Funding to support the proposed commuter routes is available from the Measure M Project V grant program in an amount up to $5,418,242. Subject to City Council approval, matching funds in the amount of $957,586 are identified as follows:

- Route E Matching Funds:

Proposition 116 Replacement Funds	$314,079
Irvine Company partner funds	$87,892
Spectrumotion partner funds	$76,434
Total Route E Matching Funds	$478,405

- Route W Matching Funds:

IBC Transportation Management Systems Fund	$479,181

According to Cooperative Agreement No. C-0-1892 between OCTA and the City, $121.3 million in Proposition 116 Replacement funds are provided by OCTA to the City over a 30-year period to cover 90 percent of approved transit operations and bus maintenance, bus purchases or leases, and support costs for the transit program. The current fund balance is $108,973,572 in 116 Funds (Attachment 7).

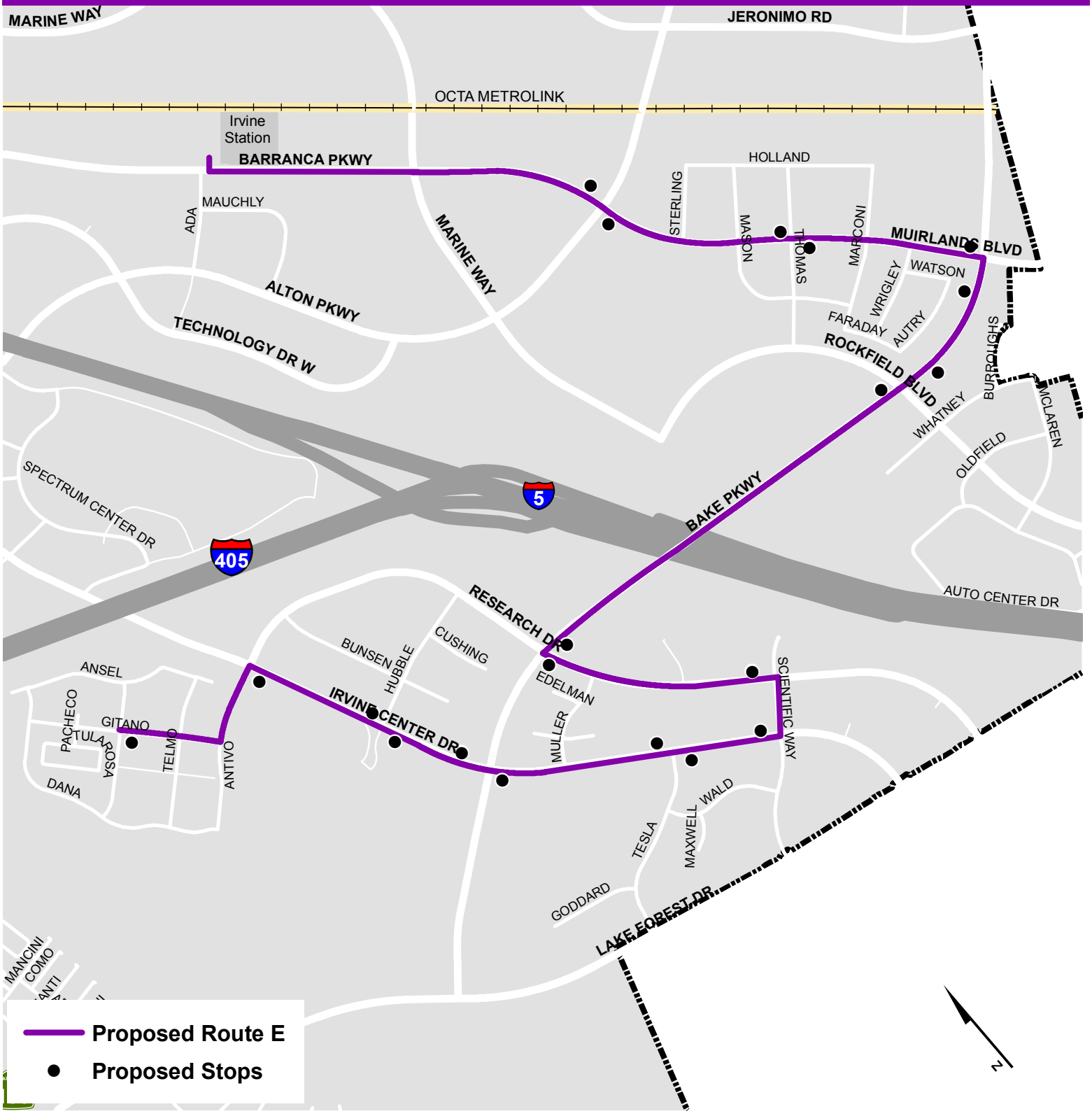
IBC Vision Plan Transportation Management Systems funds are IBC developer fees dedicated to traffic mitigation. These funds are presently used to provide the matching funds for the existing iShuttle routes in the IBC (Routes A & B). It is proposed that these funds be used to provide the Route W match as well.

REPORT PREPARED BY Mike Davis, Transit Program Administrator

ATTACHMENTS

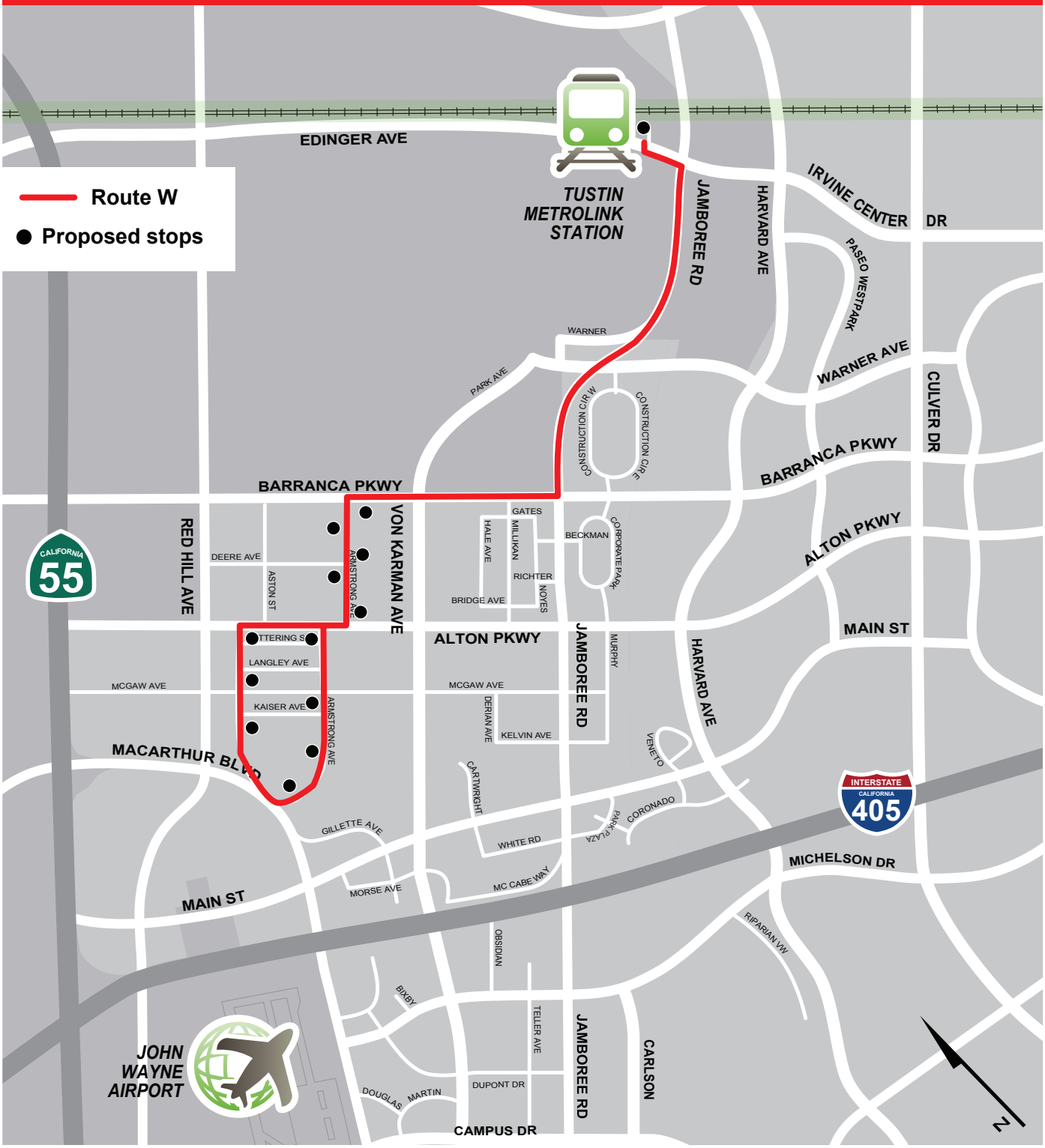
1. Proposed Transit Expansion Routes: iShuttle Route E and W
2. Potential City of Irvine iShuttle Routes
3. Route E - Spectrumotion Route E Funding Agreement
4. Route E - Irvine Company Route E Funding Agreement
5. Route E - Cooperative Agreement Between OCTA and the City of Irvine for Project V Community-Based Transit/Circulator Route E
6. Route W - Cooperative Agreement Between OCTA and the City of Irvine for Project V Community-Based Transit/Circulator Route W
7. Proposition 116 Replacement Fund Funding Schedule

Transit Expansion Routes:
iShuttle Route E



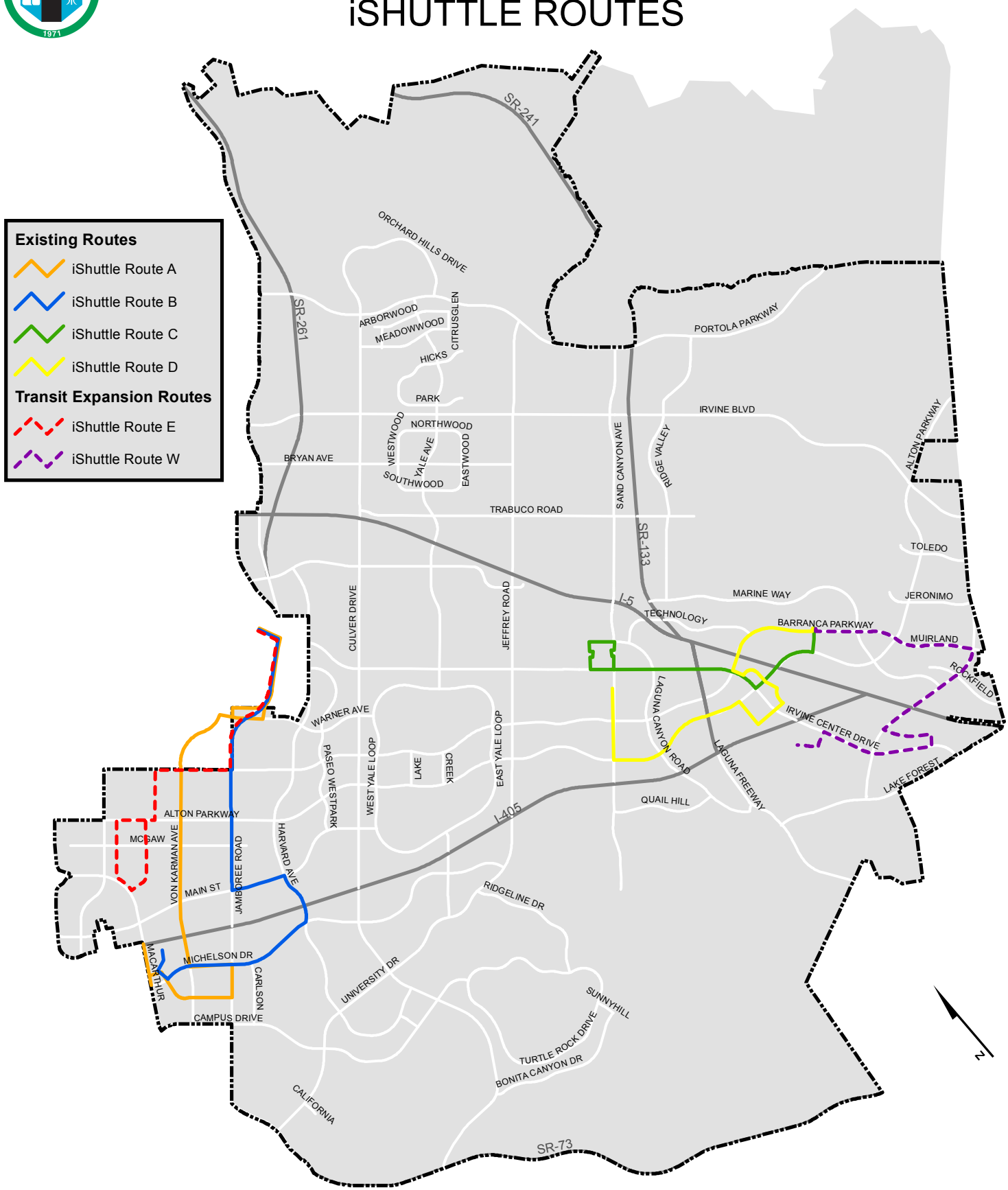
ATTACHMENT 1

Transit Expansion Routes:
iShuttle Route W



CITY OF IRVINE

iSHUTTLE ROUTES



ATTACHMENT 2

FUNDING AGREEMENT FOR Project V iShuttle Spectrum Route E

This Funding Agreement (the "Agreement") is made and entered into as of _____ 2017, by and between the CITY OF IRVINE, a municipal corporation ("City"), and THE IRVINE SPECTRUM TRANSPORTATION MANAGEMENT ASSOCIATION, a private non-profit ("Association").

RECITALS

A. The City currently offers iShuttle Spectrum Routes C and D from Irvine Station to serve the Irvine Spectrum Area.

B. The City desires to expand the City's iShuttle service to the Irvine Spectrum Area with the addition of Spectrum Route E ("Route E") as shown on ***Exhibit A.***

C. The City has developed the proposed routing and schedule of Route E to serve area employees and residents by connecting them via shuttle services to Irvine Station.

D. The Association was established as a private, non-profit Transportation Management Association to reduce traffic congestion in the Irvine Spectrum area.

E. The Association promotes, markets, and subsidizes alternatives to solo-commuting and assists the business community in complying with trip reduction related requirements. Association Membership is mandatory to property owners with deed restrictions and membership dues provide the Association funding for its programs, which offer a variety of employer and commuter services focused on reducing vehicular trip generation to decrease traffic congestion in Irvine Spectrum.

F. The City has been approved to receive funding for Route E as part of the Measure M2 Project V Community Based Transit/Circulators Program. The Orange County Transportation Authority ("OCTA") will complete the capital purchase of vehicles and operate the service under Project V according to that certain Cooperative Agreement No. C-6-1486 between OCTA and City.

G. The Measure M2 Project V Transit Grant Program will provide up to 89% of capital and operational costs for Route E. The City is responsible for the remaining match amount.

H. The City and Association are interested in the City providing the Route E service as part of the City's transit programs.

I. The City and Association mutually desire to become funding partners for the required Project V match towards the operation and maintenance, and support costs of Route E service based on the six year operating plan for the route as shown on ***Exhibit B***.

.

AGREEMENT

NOW, THEREFORE, in consideration of the above recitals and mutual covenants set forth below, the City and Association agree as follows:

ATTACHMENT 3

1. Service Parameters & Terms.

a. City's Service Intention: The City intends to commence Route E service beginning Fall 2018, and intends to continue to operate same for a period of six years.

b. Route and Schedule: Route E service will be provided generally consistent with the proposed route/stops on ***Exhibit A*** to provide the connecting service to Metrolink and AMTRAK trains arriving and departing from the Irvine Station during peak commute hours.

c. Schedule and Route Changes: Every six months, the City will meet with The Irvine Company Apartment Communities, Inc., ("Company") and Association representatives to discuss performance and any potential route or schedule changes. Association acknowledges that the City will update schedules as needed to correspond with adjustments to Metrolink and AMTRAK train schedules. With the prior reasonable approval of the Association, the City may also adjust the service routing and timing to improve efficiencies and commuter demand to best fit Spectrum employees and residents.

d. Service Termination: If the City is unable to obtain all the necessary funding to operate Route E from the Measure M2 Project V Transit Grant Program and other funding partners, the City may then choose to terminate the service on 45-days prior written notice to the Association. In the event of any such termination, this Agreement shall terminate and any unused funds shall be dispersed as provided in Section 2(c) below.

e. Reporting: The City will provide Association an annual account of total operation and maintenance costs, annual revenue and calculation of the need for Association matching funds as set forth in Section 2 below. The annual accounting report will be submitted to the Association within 90 days following the end of each year of operation. In addition, a semi-annual performance report for Route E service for each year of operation will be submitted to the Association within 90 days following each semi-annual period of operation. At a minimum, the semi-annual performance report shall include monthly boardings, comparisons to previous monthly boardings, on-time service reliability assessment, monthly cost/boardings and fare revenue.

2. Costs and Payment.

a. Costs: The Association shall pay the City the portion of matching funds equaling the portion of the route in the Association service area (59.4%) for operations/maintenance only for the first 3 years of operation with a not to exceed amount of $76,434.

b. Payment: The Association will fund its installments for operation of Route E as follows:

(i) For the first year of operation, Association commits up to $25,762 in support. $12,881 shall be within 90 days of the start of service; and an additional $12,881 shall be payable within 180 days of the start of service.

(ii) For the second year of operation, Association commits up to $24,934 in support. $12,467 shall be payable on the first day of the calendar month that is one (1) year after the start of service and $12,467 shall be payable six months after that date.

(iii) For the third year of operation, Association commits up to $25,738 in support. $12,869 shall be payable on the first day of the calendar month that is two (2) years after the start of service and an additional $12,869 shall be payable six months after that date.

c. Unused Funds: In the event there are cost savings or unused funds after each year of operation during the Term of this Agreement, the carryover funds will be clearly identified in the annual revenue and expenditure accounting as defined in section 1.e., and carried over for use in the next year of operation. Following the expiration or earlier termination of this Agreement, any surplus funds remaining will be returned to the Association.

d. Documentation: If City is unable to substantiate with reasonable documentation that all Association funds provided to City under this Agreement were expended solely on Route E, then Association may terminate this Agreement on written notice to City. In the event of any such termination, any unused funds shall be dispersed as provided in Section 2(c).

3. Public Outreach: The City will work with Association, Company and OCTA in developing outreach materials to educate and inform Spectrum area employees and residents of Route E service.

4. Permit(s): Prior to the commencement of service, the City will work with OCTA to obtain all relevant permits to implement the Route E service.

5. Term of Agreement: The Term of this Agreement (the "Term") shall remain in full force and effect until the first to occur of the following events: (a) three years from the starting date of Route E operation or (b) the effective date of termination of this Agreement by either party as herein provided.

6. Implementation and Amendment: Upon execution of this Agreement, the City Manager or his/her designee and Association Executive Director or his/her designee is authorized to implement this Agreement on behalf of the City and Association. This Agreement may be amended in writing at any time by the mutual consent of both parties. No amendment shall have any force or effect unless executed in writing by both parties. The City Manager or his/her designee and Association Executive Director or his/her designee is authorized to negotiate and approve future amendments(s) to this Agreement.

7. Disputes: Either party shall have the right to terminate this Agreement, for cause, with written notice to the other party; provided, however, that in the event of any dispute arising under this Agreement, the injured party shall first notify the injuring party in writing of the injured party's contentions by submitting a claim to the other party be written notice sent in accordance with Section 11 below. The injured party shall continue performing its

obligations hereunder so long as the injuring party commences to cure such default within 30 days of service notice and thereafter diligently prosecutes such cure to completion. Compliance with the provisions of this Section shall be a condition precedent to (a) terminate Agreement for cause and (b) any legal action; provided, however, that such compliance shall not be a waiver of either party's right to take legal action in the event the dispute is not cured.

8. Legal Action and Remedies: The sole and exclusive remedies available to either party under this Agreement are limited to: (a) termination for cause, subject to the right to cure or correct any default by the other party as provided in this Agreement; (b) compel specific performance of this Agreement; or (c) obtain declaratory or injunctive relief. Consistent with the foregoing, and except for such party's rights to damages pursuant to Sections 9 or 16 below, each party covenants to the other party, on behalf of itself and its successors and assigns, not to sue the other party, or its successor and assigns, for damages or monetary relief for any breach of this Agreement or arising out of or connected with any dispute, controversy or issue regarding the application, interpretation or effect of this Agreement.

9. Attorney Fees: In any judicial proceeding between the City and Association seeking enforcement of any terms and provisions of this Agreement (an "Action"), the prevailing party in such Action shall recover all of its actual and reasonable costs and expenses (whether or not the same would be recoverable pursuant to Code of Civil Procedure Section 1033.5 or Civil Code Section 1717 in the absence of this Agreement), including expert witness fees and attorneys' fees. However, such recovery shall not exceed the dollar amount of the actual costs and expenses of the party from whom recovery is sought for such same Action ("Non-Prevailing Party's Expenses") and such prevailing party shall not recover any costs and expenses in excess of the Non-Prevailing Party's Expenses. The right to recover such costs and expenses shall accrue upon commencement of the Action, regardless whether the action is prosecuted to final judgment or decision.

10. Notices: Any notice, demand, request, consent, approval or communication under this Agreement shall be in writing and either served personally or sent by prepaid, first-class mail to the address set forth below. Either party may change its address by notifying the other party of the address change in writing. Notice shall be deemed given (a) upon personal delivery or (b) upon receipt as evidenced by the return receipt, if deposited in the United States mail, certified, return receipt requested, postage prepaid.

To City:	To Association:
City of Irvine	Irvine Spectrum TMA
P.O. Box 19575	12515 Barranca Parkway, Suite 200
Irvine, CA 92623-9575	Irvine, CA 92618
Attn: Director of Transportation	Attn: Executive Director

11. Successor in Interest: This Agreement shall not be assigned or otherwise transferred by either party without the prior written consent of the other party hereto. Subject to the foregoing, this Agreement and the provisions contained herein shall be binding upon and inure to the benefit of City, Association and their respective successors and assigns.

12. Governing Law and Venue: This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of California. Any action at law or inequity arising under this Agreement or brought by any party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the Superior Court of the County of Orange, State of California, and the parties hereto waive all provisions of law providing for the removal or change of venue to any other court.

13. Interpretation: The paragraph headings of this Agreement are for reference and convenience only, are not part of this Agreement and shall have no effect upon the construction or interpretation of any part hereof. The provisions of this Agreement shall be construed in a reasonable manner to implement the purposes of the parties and of this Agreement. This Agreement shall be construed as if drafted jointly by City and Association.

14. Entire Agreement: This Agreement, together with Exhibit A, represents the entire understanding of City and Association as to matters contained herein and no prior oral or written understanding shall be of any force or effect with respect to the matters covered in the Agreement.

15. Party Authority: The persons executing this Agreement on behalf of the parties hereto warrant they are duly authorized to execute this Agreement on behalf of said parties and by so executing this Agreement the parties hereto are formally bound to the provision of the Agreement.

16. Indemnification: Except to the extent caused by the negligence or willful misconduct of Association, its officers, directors, agents or employees, City agrees to indemnify, hold harmless and, at Association's option, defend the Association, its officer, directors, employees and agents, from and against all claims, damages, losses, and expenses including reasonable attorneys' fees and costs of defense arising out of or alleged to arise out of or resulting from (1) any act or omission of City, any subcontractor, anyone employed by or acting on behalf of any of them, or anyone for whose acts any of them may be liable, including but not limited to those related to the performance of the Route E service or any such acts or omissions that are not within the scope of this Agreement, or (2) any claim made by any employee, agent or subcontractor of the City. City's indemnification obligations shall survive the expiration or early termination, in whole or in part, of this Agreement.

.

This Agreement shall be made effective upon execution by both parties.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement as of the date first set forth above.

CITY OF IRVINE

By: _____
Sean Joyce
Its: City Manager

By: _____
Mark Linsenmayer
Its: Director of Transportation

Attest:

By: _____
Molly McLaughlin
City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

_____
Jeffrey Melching

IRVINE SPECTRUM TRANSPORTATION MANAGEMENT ASSOCIATION

By: _____
Stephen H. McCaughey
Its: Executive Director

By: _____
Its: _____

Association Information
Address for Notices and Payments:

Irvine Spectrum TMA
15215 Barranca Parkway, Suite 200
Irvine, CA 92618

Attn: Executive Director
Telephone: 949-727-4273

Transit Expansion Routes:
iShuttle Route E

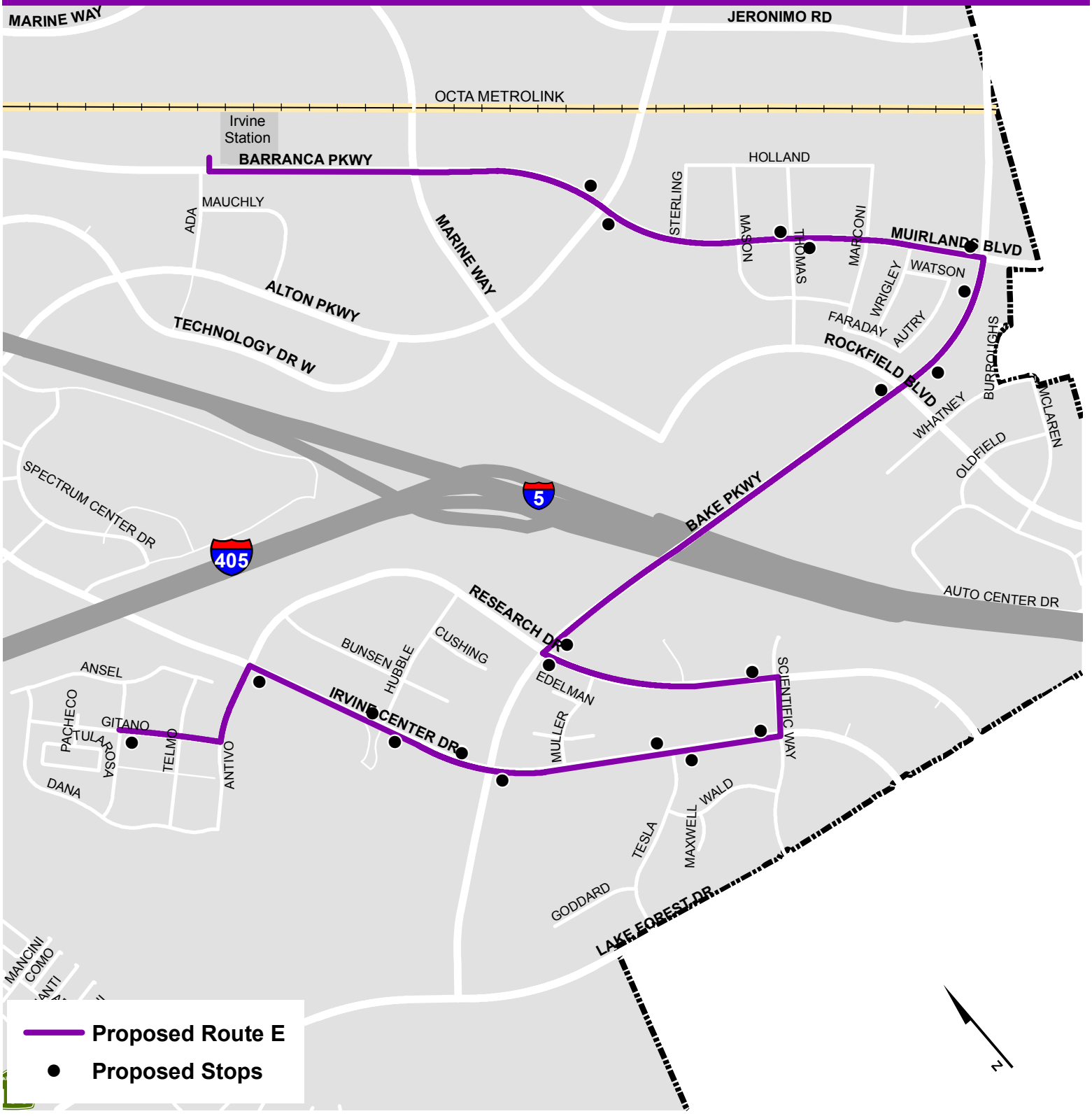


EXHIBIT A

SPECTRUM ROUTE E 7-YEAR COST SHEET -

Capital Costs	YEAR 1 - June 2018	YEAR 2 - Fall 2018	YEAR 3 - Fall 2019	YEAR 4 - Fall 2020	YEAR 5 - Fall 2021	YEAR 6 - Fall 2022	YEAR 7 - Fall 2023	Total
Initial Capital (3 Buses - $251,486 each)	$ 754,458	$ -	$ -	$ -	$ -	$ -	$ -	**$ 754,458**
Bus Stop Improvements	$ -	$7,950.00	$ -	$ -	$ -	$ -	$ -	**$ 7,950**
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Total	**$ 754,458**	**$ 7,950**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 762,408**

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$308,049	$ 318,300	$328,900	$ 339,900	$ 351,200	$ 362,900	**$ 2,009,249**
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	**$ 329,400**
Total	**$ -**	**$ 358,549**	**$ 370,500**	**$ 382,800**	**$ 395,600**	**$ 408,800**	**$ 422,400**	**$ 2,338,649**

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
City Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	**$ 83,332**
Supplies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Administration (5% of project)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Total	**$ -**	**$ 27,777**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 83,332**

Total Expenses	**$ 754,458**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,511**	**$ 3,184,389**

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V Funds (OCTA)	$ 543,345	$350,906	$ 339,634	$350,581	$ 361,973	$ 373,721	$ 385,825	**$ 2,705,984**
Match Funds	$ 211,113	$ 43,370	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,687	**$ 478,405**
Match Fund Sources:								
City Match - 116 Replacement Funds	*$ 211,113*	*$ 3,151*	*$ 3,051*	*$ 3,149*	*$ 29,738*	*$ 31,190*	*$ 32,687*	***$ 314,079***
The Irvine Company	*$ -*	*$ 14,457*	*$ 13,992*	*$ 14,443*	*$ 15,000*	*$ 15,000*	*$ 15,000*	***$ 87,892***
Spectrumotion	*$ -*	*$ 25,762*	*$ 24,934*	*$ 25,738*	*$ -*	*$ -*	*$ -*	***$ 76,434***
Total Revenues	**$ 754,458**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,512**	**$ 3,184,389**

EXHIBIT B

FUNDING AGREEMENT FOR Project V iShuttle Spectrum Route E

This Funding Agreement (the "Agreement") is made and entered into as of _____ 2017, by and between the CITY OF IRVINE, a municipal corporation ("City"), and THE IRVINE COMPANY APARTMENT COMMUNITIES, INC., a Delaware corporation ("Company").

RECITALS

A. The City currently offers iShuttle Spectrum Routes C and D from Irvine Station to serve the Irvine Spectrum Area.

B. The City desires to expand the City's iShuttle service with the addition of Spectrum Route E ("Route E") as shown on ***Exhibit A.***

C. The City has developed the proposed routing and schedule of Route E to serve area employees and residents by connecting them via shuttle services to Irvine Station.

D. The Company desires to see shuttle service available to residents of the Los Olivos apartment community.

E. The City has been approved to receive funding for Route E as part of the Measure M2 Project V Community Based Transit/Circulators Program. The Orange County Transportation Authority ("OCTA") will complete the capital purchase of vehicles and operate the service under Project V according to that certain Cooperative Agreement No. C-6-1486 between OCTA and City.

F. The Measure M2 Project V Transit Grant Program will provide up to 89% of capital and operational costs for Route E. The City is responsible for the remaining match amount.

G. The City and Company are interested in the City providing the Route E service as part of the City's transit programs.

H. The City and Company mutually desire to become funding partners for the required Project V match towards the operation and maintenance, and support costs of Route E service based on the six year operating plan for the route as shown on ***Exhibit B***.

AGREEMENT

NOW, THEREFORE, in consideration of the above recitals and mutual covenants set forth below, the City and Company agree as follows:

1. Service Parameters & Terms.

   a. City's Service Intention: The City intends to commence Route E service beginning Fall 2018, and intends to continue to operate same for a period of six years.

   b. Route and Schedule: Route E service will be provided generally consistent with the proposed route/stops on ***Exhibit A*** to provide the connecting service to Metrolink and

AMTRAK trains arriving and departing from the Irvine Station during peak commute hours.

c. Schedule and Route Changes: Every six months, the City will meet with Irvine Spectrum Transportation Management Association ("Association") and Company representatives to discuss performance and any potential route or schedule changes. Company acknowledges that the City will update schedules as needed to correspond with adjustments to Metrolink and AMTRAK train schedules. With the prior reasonable approval of the Company, the City may also adjust the service routing and timing to improve efficiencies and commuter demand to best fit area employees and residents.

d. Service Termination: If the City is unable to obtain all the necessary funding to operate Route E from the Measure M2 Project V Transit Grant Program and other funding partners, the City may then choose to terminate the service on 45-days prior written notice to the Company. In the event of any such termination, this Agreement shall terminate and any unused funds shall be dispersed as provided in Section 2(c) below.

e. Reporting: The City will provide Company an annual account of total operation and maintenance costs, annual revenue and calculation of the need for Company matching funds as set forth in Section 2 below. The annual accounting report will be submitted to the Company within 90 days following the end of each year of operation. In addition, a semi-annual performance report for Route E service for each year of operation will be submitted to the Company within 90 days following each semi-annual period of operation. At a minimum, the semi-annual performance report shall include monthly boardings, comparisons to previous monthly boardings, on-time service reliability assessment, monthly cost/boardings and fare revenue.

2. Costs and Payment.

a. Costs: The Company shall pay the City one-third (1/3) of the matching funds needed for operations/maintenance only for the six years of planned operation with a not to exceed amount of $15,000/year.

b. Payment: The Company will fund its installments for each of the six years of operation as follows:

(i) For the first year of operation, $14,457 shall be payable within 90 days of the start of service.

(ii) For the second year of operation, $13,992 shall be payable on the first day of the calendar month that is one (1) year after the start of service.

(iii) Fort the third year of operation, $14,443 shall be payable on the first day of the calendar month that is two (2) years after the start of service.

(iv) For the following three years of operation, $15,000 shall be payable on the first day of the calendar month of the start of service of each year thereafter.

c. Unused Funds: In the event there are cost savings or unused funds after each year of operation during the Term of this Agreement, the carryover funds will be clearly identified in the annual revenue and expenditure accounting as defined in section 1.e., and carried over for use in the next year of operation. Following the expiration or earlier termination of this Agreement, any surplus funds remaining will be returned to the Company.

d. Documentation: If City is unable to substantiate with reasonable documentation that all Company funds provided to City under this Agreement were expended solely on Route E, then Company may terminate this Agreement on written notice to City. In the event of any such termination, any unused funds shall be dispersed as provided in Section 2(c).

3. Public Outreach: The City and Company will work with OCTA in developing outreach materials to educate and inform Los Olivos Apartment residents of Route E service. The City will also work with Company, Association and OCTA in developing outreach materials to educate and inform Spectrum area employees and residents of Route E service.

4. Permit(s): Prior to the commencement of service, the City will work with OCTA to obtain all relevant permits to implement the Route E service.

5. Term of Agreement: The Term of this Agreement (the "Term") shall remain in full force and effect until the first to occur of the following events: (a) six years from the starting date of Route E operation or (b) the effective date of termination of this Agreement by either party as herein provided.

6. Implementation and Amendment: Upon execution of this Agreement, the City Manager or his/her designee and Company President or his/her designee is authorized to implement this Agreement on behalf of the City and Company. This Agreement may be amended in writing at any time by the mutual consent of both parties. No amendment shall have any force or effect unless executed in writing by both parties. The City Manager or his/her designee and Company President or his/her designee is authorized to negotiate and approve future amendments(s) to this Agreement.

7. Disputes: Either party shall have the right to terminate this Agreement, for cause, with written notice to the other party; provided, however, that in the event of any dispute arising under this Agreement, the injured party shall first notify the injuring party in writing of the injured party's contentions by submitting a claim to the other party be written notice sent in accordance with Section 11 below. The injured party shall continue performing its obligations hereunder so long as the injuring party commences to cure such default within 30 days of service notice and thereafter diligently prosecutes such cure to completion. Compliance with the provisions of this Section shall be a condition precedent to (a) terminate Agreement for cause and (b) any legal action; provided, however, that such compliance shall not be a waiver of either party's right to take legal action in the event the dispute is not cured.

8. Legal Action and Remedies: The sole and exclusive remedies available to either party under this Agreement are limited to: (a) termination for cause, subject to the right to cure or correct any default by the other party as provided in this Agreement; (b) compel specific performance of this Agreement; or (c) obtain declaratory or injunctive relief. Consistent with the foregoing, and except for such party's rights to damages pursuant to Sections 9 or 16 below, each party covenants to the other party, on behalf of itself and its successors and assigns, not to sue the other party, or its successors and assigns, for damages or monetary relief for any breach of this Agreement or arising out of or connected with any dispute, controversy or issue regarding the application, interpretation or effect of this Agreement.

9. Attorney Fees: In any judicial proceeding between the City and Company seeking enforcement of any terms and provisions of this Agreement (an "Action"), the prevailing party in such Action shall recover all of its actual and reasonable costs and expenses (whether or not the same would be recoverable pursuant to Code of Civil Procedure Section 1033.5 or Civil Code Section 1717 in the absence of this Agreement), including expert witness fees and attorneys' fees. However, such recovery shall not exceed the dollar amount of the actual costs and expenses of the party from whom recovery is sought for such same Action ("Non-Prevailing Party's Expenses") and such prevailing party shall not recover any costs and expenses in excess of the Non-Prevailing Party's Expenses. The right to recover such costs and expenses shall accrue upon commencement of the Action, regardless whether the action is prosecuted to final judgment or decision.

10. Notices: Any notice, demand, request, consent, approval or communication under this Agreement shall be in writing and either served personally or sent by prepaid, first-class mail to the address set forth below. Either party may change its address by notifying the other party of the address change in writing. Notice shall be deemed given (a) upon personal delivery or (b) upon receipt as evidenced by the return receipt, if deposited in the United States mail, certified, return receipt requested, postage prepaid.

To City:	To Company:
City of Irvine	Irvine Company Apartment Communities
P.O. Box 19575	131 Theory
Irvine, CA 92623-9575	Irvine, CA 92617-3040
Attn: Director of Transportation	Attn: Legal Department

11. Successor in Interest: This Agreement shall not be assigned or otherwise transferred by either party without the prior written consent of the other party hereto, except that Company may assign this Agreement to any affiliate of Company without such prior written consent of City. Subject to the foregoing, this Agreement and the provisions contained herein shall be binding upon and inure to the benefit of City, Company and their respective successors and assigns.

12. Governing Law and Venue: This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of California. Any action at law or inequity arising under this Agreement or brought by any party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the Superior Court of the County of Orange, State of California, and the parties hereto waive all provisions of law providing for the removal or change of venue to any other court.

13. Interpretation: The paragraph headings of this Agreement are for reference and convenience only, are not part of this Agreement and shall have no effect upon the construction or interpretation of any part hereof. The provisions of this Agreement shall be construed in a reasonable manner to implement the purposes of the parties and of this Agreement. This Agreement shall be construed as if drafted jointly by City and Company.

14. Entire Agreement: This Agreement, together with Exhibit A, represents the entire understanding of City and Company as to matters contained herein and no prior oral or written understanding shall be of any force or effect with respect to the matters covered in the Agreement.

15. Party Authority: The persons executing this Agreement on behalf of the parties hereto warrant they are duly authorized to execute this Agreement on behalf of said parties and by so executing this Agreement the parties hereto are formally bound to the provision of the Agreement.

16. Indemnification: Except to the extent caused by the negligence or willful misconduct of Company and all persons and entities controlling, controlled by or under common control with such entity, together with their respective owners, shareholders, partners, members, divisions, officers, directors, employees, representatives and agents, and all of their respective successors and assigns, City agrees to indemnify, hold harmless and, at the Company's option, defend the Company and all persons and entities controlling, controlled by or under common control with such entity, together with their respective owners, shareholders, partners, members, divisions, officers, directors, employees, representatives and agents, and all of their respective successors and assigns, from and against all claims, damages, losses, and expenses including reasonable attorneys' fees and costs of defense arising out of or alleged to arise out of or resulting from (1) any act or omission of City, any subcontractor, anyone employed by or acting on behalf of any of them, or anyone for whose acts any of them may be liable, including but not limited to those related to the performance of the Route E service or any such acts or omissions that are not within the scope of this Agreement, or (2) any claim made by any employee, agent or subcontractor of the City. City's indemnification obligations shall survive the expiration or early termination, in whole or in part, of this Agreement.

This Agreement shall be made effective upon execution by both parties.

[signatures on following page]

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement as of the date first set forth above.

CITY OF IRVINE

By: _____
Sean Joyce
Its: City Manager

By: _____
Mark Linsenmayer
Its: Director of Transportation

Attest:

By: _____
Molly McLaughlin
City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

_____
Jeffrey Melching

THE IRVINE COMPANY APARTMENT COMMUNITIES, INC.

By: _____
Charles E. Mueller Jr.
Its: President, Apartment Operations

By: _____
Kimberly Ciabattoni
Its: Vice President and Assistant General Counsel

Company Information
Address for Notices and Payments:

Irvine Company Apartment
Communities
131 Theory
Irvine, CA 92617-3040

Attn: Legal Department
Telephone: 949-720-5600
Email:

Transit Expansion Routes:
iShuttle Route E

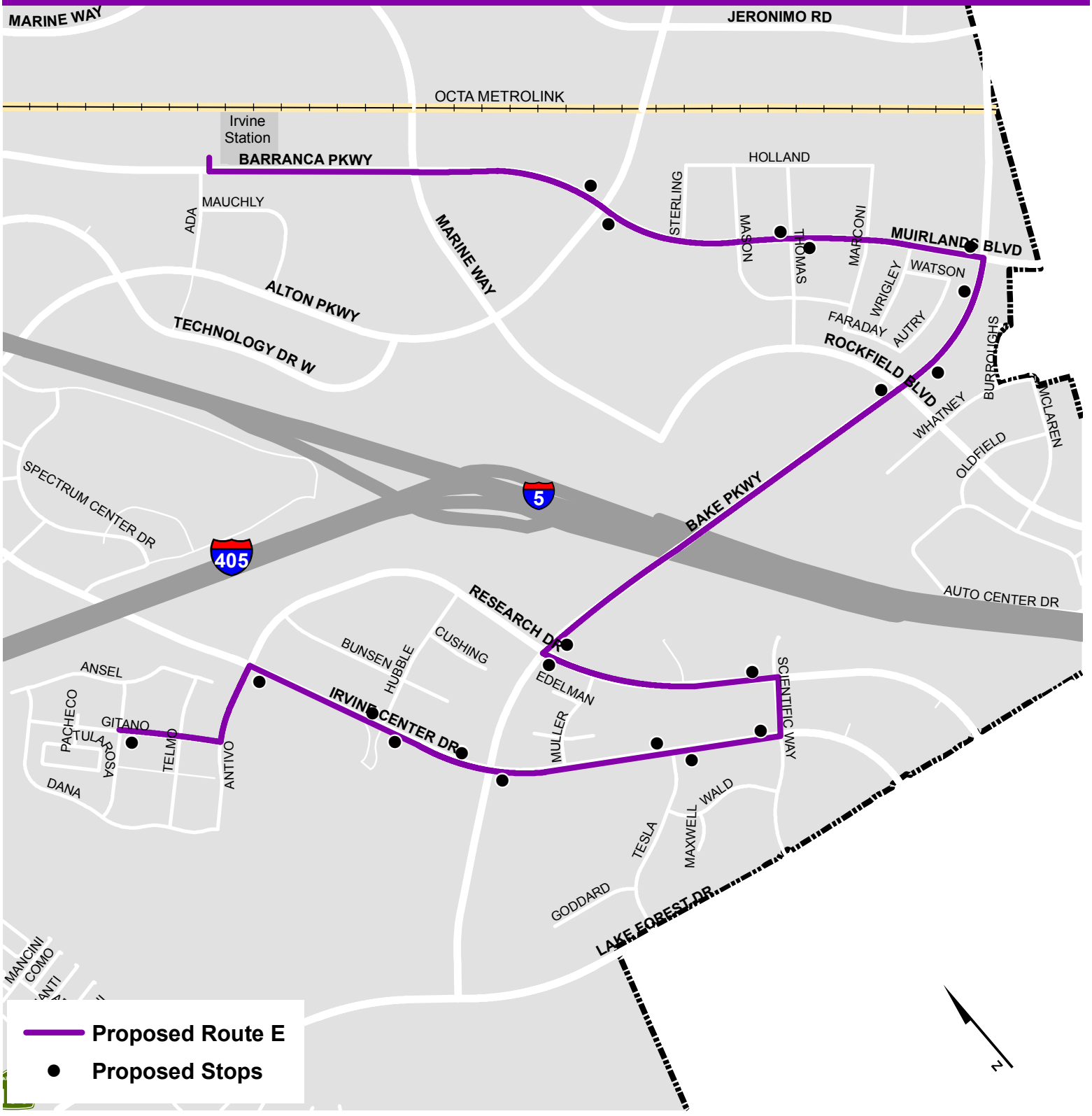


EXHIBIT A

SPECTRUM ROUTE E 7-YEAR COST SHEET -

Capital Costs	YEAR 1 - June 2018	YEAR 2 - Fall 2018	YEAR 3 - Fall 2019	YEAR 4 - Fall 2020	YEAR 5 - Fall 2021	YEAR 6 - Fall 2022	YEAR 7 - Fall 2023	Total
Initial Capital (3 Buses - $251,486 each)	$ 754,458	$ -	$ -	$ -	$ -	$ -	$ -	**$ 754,458**
Bus Stop Improvements	$ -	$7,950.00	$ -	$ -	$ -	$ -	$ -	**$ 7,950**
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Total	**$ 754,458**	**$ 7,950**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 762,408**

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$308,049	$ 318,300	$328,900	$ 339,900	$ 351,200	$ 362,900	**$ 2,009,249**
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	**$ 329,400**
Total	**$ -**	**$ 358,549**	**$ 370,500**	**$ 382,800**	**$ 395,600**	**$ 408,800**	**$ 422,400**	**$ 2,338,649**

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
City Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	**$ 83,332**
Supplies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Administration (5% of project)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Total	**$ -**	**$ 27,777**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 11,111**	**$ 83,332**

Total Expenses	**$ 754,458**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,511**	**$ 3,184,389**

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V Funds (OCTA)	$ 543,345	$350,906	$ 339,634	$350,581	$ 361,973	$ 373,721	$ 385,825	**$ 2,705,984**
Match Funds	$ 211,113	$ 43,370	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,687	**$ 478,405**
Match Fund Sources:								
City Match - 116 Replacement Funds	*$ 211,113*	*$ 3,151*	*$ 3,051*	*$ 3,149*	*$ 29,738*	*$ 31,190*	*$ 32,687*	***$ 314,079***
The Irvine Company	*$ -*	*$ 14,457*	*$ 13,992*	*$ 14,443*	*$ 15,000*	*$ 15,000*	*$ 15,000*	***$ 87,892***
Spectrumotion	*$ -*	*$ 25,762*	*$ 24,934*	*$ 25,738*	*$ -*	*$ -*	*$ -*	***$ 76,434***
Total Revenues	**$ 754,458**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,512**	**$ 3,184,389**

EXHIBIT B

COOPERATIVE AGREEMENT NO. C-6-1486

BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

CITY OF IRVINE

FOR

PROJECT V COMMUNITY-BASED TRANSIT/CIRCULATORS

THIS Cooperative Agreement, is effective this _____day of _____, 2017, by and between the Orange County Transportation Authority, 600 South Main Street, Orange, California 92863-1584, a public corporation of the State of California (hereinafter referred to as "AUTHORITY"), and the City of Irvine, 1 Civic Center Plaza, Irvine, California 92606, a municipal corporation duly organized and existing under the constitution and laws of the State of California (hereinafter referred to as "CITY"), each individually known as "PARTY" and collectively known as the "PARTIES".

RECITALS:

WHEREAS, AUTHORITY and CITY desire to enter into a Cooperative Agreement to define the roles and responsibilities related to funding between AUTHORITY and CITY for three buses, bus stop amenities, marketing and operation of a community circulator (hereinafter referred to as "PROJECT"), further defined in the project description section of the application received for **Measure M2, Project V Call for Projects**, by AUTHORITY on February 29, 2016; and

WHEREAS, AUTHORITY's Board of Directors ("BOARD") approved the Renewed Measure M (M2) Eligibility Guidelines - Local Agency Preparation Manual on January 25, 2010 and subsequent amendments, most recently on April 11, 2016; and

WHEREAS, the BOARD approved the Comprehensive Transportation Funding Programs (CTFP) Guidelines on March 22, 2010; and

WHEREAS, the BOARD approved the revised Project V - Community based Transit Circulator Program Guidelines on November 23, 2015; and

WHEREAS, AUTHORITY will periodically update the M2 Eligibility Guidelines - Local Agency Preparation Manual and the CTFP Guidelines whereby the most recent update is incorporated herein by reference; and

WHEREAS, AUTHORITY and CITY agree that M2 funding is subject to CITY fulfilling M2 eligibility requirements; and

WHEREAS, AUTHORITY and CITY agree that PROJECT must adhere to the CTFP Guidelines precepts except where specific more detailed instruction is provided through Project V Guidelines or within this Cooperative Agreement; and

WHEREAS, CITY and AUTHORITY agree that AUTHORITY shall provide three buses, operate service on CITY's behalf, and act as lead to perform all marketing for the PROJECT; and

WHEREAS, AUTHORITY will provide federally required complementary paratransit service; and

WHEREAS, CITY shall develop and adopt the paratransit service plan; and

WHEREAS, CITY shall purchase bus stop amenities (including bus shelters, bus benches, trash cans, sidewalks, curb and gutter and ramps) and provide all signage and maintenance for the bus stop amenities including adherence to AUTHORITY safety requirements for bus stops; and

WHEREAS, PROJECT bus service/operations is fixed-route, open to the public, and fully accessible for persons with disabilities in compliance with the Americans with Disabilities Act; and

WHEREAS, AUTHORITY's Board has approved Project V funding for PROJECT for up to seven (7) years in the total amount not-to-exceed Two Million, Seven Hundred Five Thousand, Nine Hundred Eighty-Four Dollars ($2,705,984) and AUTHORITY and CITY agree that the capital amount to be provided by AUTHORITY is not-to-exceed Five Hundred Forty-Three Thousand, Three Hundred Forty Five Dollars ($543,345) and the annual operating subsidy will be provided consistent with operating statistics as defined in the Project V Guidelines in an uninflated amount of, Two Million, one Hundred Sixty Two Thousand, Six Hundred Thirty-Nine Dollars ($2,162,639). Per the CTFP Guidelines, any additional expenses incurred are the responsibility of CITY; and

WHEREAS, CITY has agreed to provide a minimum of Eleven Percent (11%) local match for

a minimum capital purchases of Sixty Seven Thousand, One Fifty-Five Dollars ($67,155) and additional local match for operations and maintenance costs to meet operating expenses not covered by AUTHORITY; and

WHEREAS, this Cooperative Agreement defines the specific terms, conditions, roles and funding responsibilities between AUTHORITY and CITY for PROJECT; and

WHEREAS, the AUTHORITY's BOARD approved this PROJECT on June 13, 2016; and

WHEREAS, CITY's Council approved this Cooperative Agreement on this _____day of _____ 2017;

NOW, THEREFORE, it is mutually understood and agreed by AUTHORITY and CITY as follows:

ARTICLE 1. COMPLETE AGREEMENT

A. This Cooperative Agreement, including any attachments incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of this Cooperative Agreement between PARTIES and it supersedes all prior representations, understandings, and communications. The invalidity in whole or in part of any term(s) or condition(s) of this Cooperative Agreement shall not affect the validity of other term(s) or condition(s) of this Cooperative Agreement. The above referenced Recitals are true and correct and are incorporated by reference herein.

B. AUTHORITY's failure to insist on any instance(s) of CITY's performance of any term(s) or condition(s) of this Cooperative Agreement shall not be construed as a waiver or relinquishment of AUTHORITY's right to such performance or to future performance of such term(s) or condition(s), and CITY's obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Cooperative Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY by way of a written amendment to this Cooperative Agreement and issued in accordance with the provisions of this Cooperative Agreement.

C. CITY's failure to insist on any instance(s) of AUTHORITY's performance of any term(s)

or condition(s) of this Cooperative Agreement shall not be construed as a waiver or relinquishment of CITY's right to such performance or to future performance of such term(s) or condition(s), and AUTHORITY's obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Cooperative Agreement shall not be binding upon CITY except when specifically confirmed in writing by an authorized representative of CITY by way of a written amendment to this Cooperative Agreement and issued in accordance with the provisions of this Cooperative Agreement.

ARTICLE 2. SCOPE OF AGREEMENT

This Cooperative Agreement specifies the terms and conditions, roles and responsibilities of the PARTIES as they pertain to the subjects and projects addressed herein. Both AUTHORITY and CITY agree that each will cooperate and coordinate with the other in all activities covered by this Cooperative Agreement and any other supplemental agreements, including Letter Agreements, which may be required to facilitate purposes thereof.

ARTICLE 3. RESPONSIBILITIES OF AUTHORITY

AUTHORITY agrees to the following responsibilities for PROJECT:

A. To provide three new shuttle buses, to be delivered approximately in June 2018 unless there are circumstances beyond the AUTHORITY's control, to operate service and outfit with technology necessary for communications and fare collection.

B. To provide a spare/backup vehicle and outfit with technology necessary for communications and fare collection, at no additional capital cost to CITY.

C. To assist in the scheduling of the service and include information as appropriate in AUTHORITY's Bus Book and Just Click Trip Planner.

D. To operate service on behalf of CITY, including procurement of vehicles and marketing. For purposes of this Cooperative Agreement, the phrase "operate service" is defined to mean (i) the cost of the fixed-route contractor to operate the service, (ii) costs of consumables including fuel and tires, (iii) costs for maintaining the busses inclusive of retrofitting busses to AUTHORITY specifications, and (iv) management/operational costs. The anticipated start date of service is October

2018 unless there are circumstances beyond the AUTHORITY's control.

E. To act as lead to perform all marketing for the PROJECT.

F. To provide federally required complementary paratransit service.

G. To act as the lead agency responsible for activities.

H. To provide PROJECT funding for capital purchases in the amount not-to-exceed Five Hundred Forty Three Thousand, Three Hundred Forty-Five Dollars ($543,345) for bus stop amenities provided by CITY and for the shuttles buses and marketing provided by AUTHORITY.

I. To provide annual operating subsidy for PROJECT for up to seven (7) years in the amount of no more than Nine Dollars ($9.00) per boarding OR Eighty Nine Percent (89%) of net operations and maintenance costs at an estimated amount in accordance with Project V Guidelines, whichever is lower, consistent with Exhibit A, Irvine Route East Project V Estimated Funding Schedule.

J. To adjust Nine Dollars ($9.00) per boarding OCTA subsidy based on Consumer Price Index (CPI) published by Department of Industrial Relations (DIR) for the Los Angeles, Riverside and Orange County area and to account for other cost increases to provide bus service.

K. To provide ridership data to CITY at least quarterly, but no more frequently than monthly.

L. To calculate operations and maintenance cost per boarding and boardings per revenue vehicle hour on a monthly basis.

M. Upon notification from CITY, include any non-AUTHORITY revenues received for PROJECT in calculation of the matching amount.

N. To submit a quarterly invoice to CITY, Project V - Capital and Operations & Maintenance Invoice, for matching amount for three shuttles, quarterly operating subsidy, and share of marketing efforts in accordance with Project V Guidelines, consistent with Exhibit A, Irvine Route East Project V Estimated Funding Schedule.

O. To reimburse CITY for bus stop amenities procured directly by CITY, as outlined in CITY's project application, within sixty (60) days of receipt of an acceptable invoice according to

ARTICLE 5.

P. To compile all operational data necessary for National Transit Database reporting and file with the Federal Transit Administration.

Q. To provide all services in accordance with the Board-approved Project V Guidelines.

R. In the event that the minimum performance standards in accordance with Project V guidelines are not met after first and second year of service and not maintained at least annually based on an annual average thereafter, to provide sixty (60) days' notice to CITY that service will be discontinued and work with CITY to notify the public and to discontinue the service.

S. In the event service is discontinued, AUTHORITY will retain ownership of the shuttles. AUTHORITY will reimburse CITY depreciated net value of the vehicles based upon the proportional share of CITY's matching funds.

T. To provide and install decals on the shuttles.

U. To provide customer service for all operational issues including Lost and Found inquiries.

V. To provide branding of service.

ARTICLE 4. RESPONSIBILITIES OF CITY

CITY agrees to the following responsibilities for PROJECT:

A. Act as lead to purchase bus stop amenities and provide and install all signage and maintenance for the bus stops including adherence to AUTHORITY's safety requirements for bus stops, in accordance with CITY's project application.

B. To assist AUTHORITY Transit Police Services as necessary.

C. To provide eligible local matching amounts for capital purchases at a minimum amount of Eleven Percent (11%) required local match in an amount currently estimated to be Sixty Seven Thousand, One Hundred Fifty-Five Dollars ($67,155).

D. To provide eligible local matching amounts of Eleven Percent (11%) of net operations and maintenance costs, OR balance of net operations and maintenance costs after AUTHORITY has paid Nine Dollars ($9.00) per boarding, whichever is greater, in accordance with Project V Guidelines.

E. To adopt AUTHORITY regular adult fare and note in any CITY publications of fares that CITY is subsidizing the AUTHORITY adult fare, consistent with AUTHORITY's fare structure.

F. To pay matching amounts for all work performed on PROJECT as invoiced by AUTHORITY in accordance with Project V Guidelines within sixty (60) days of receipt of the invoice, consistent with Exhibit A.

G. To notify AUTHORITY of any non-AUTHORITY revenues received for PROJECT.

H. To include and identify any non-AUTHORITY or grant revenues received along with any requirements associated with external fund sources for PROJECT in payment to AUTHORITY for local match.

I. To submit invoices to AUTHORITY consistent with ARTICLE 5 for bus stop amenities in PROJECT.

ARTICLE 5. CITY REQUEST FOR REIMBURSEMENT

A. CITY shall contribute at least Eleven Percent (11%) of matching funds, as is specified within this Cooperative Agreement in ARTICLE 4, Paragraph C, toward the actual costs of buses, marketing and bus stop amenities included in PROJECT.

B. CITY shall prepare and submit to AUTHORITY invoices in accordance with the reimbursement procedures identified in the CTFP Guidelines. CITY's invoice shall include allowable PROJECT costs incurred and paid for by CITY consistent with the PROJECT's Scope of Work. The invoice submitted by CITY shall be signed by an authorized agent who can duly certify the accuracy of the included information. Advance payments by AUTHORITY are not allowed.

C. The invoice must be submitted on CITY's letterhead.

D. The invoice shall be submitted by CITY and in duplicate to AUTHORITY's Accounts Payable Office. Each invoice shall include the following information:

a. Agreement Number C-6-1486;

b. The total of PROJECT expenditures shall specify the percent and amount to be reimbursed which shall not exceed Eighty Nine Percent (89%) of the total eligible capital expenditures

in accordance with Exhibit A, Irvine Route East Project V Estimated Funding Schedule, and the CITY's project application. In addition, to include any non-AUTHORITY revenues received in calculation of local match.

c. Support documentation for all expenses invoiced.

d. Adequate detail describing all work completed.

e. Documentation providing evidence that CITY's contractor has been paid by the CITY or evidence of payment for force account work.

f. Certification signed by the CITY or his/her designated alternate that a) The invoice is a true, complete and correct statement of reimbursable costs and progress; b) The backup information included with the invoice is true, complete and correct in all material respects; c) All payments due and owing to subcontractors and suppliers have been made; d) Timely payments will be made to subcontractors and suppliers from the proceeds of the payments covered by the certification and; e) The invoice does not include any amount which CITY intends to withhold or retain from a subcontractor or supplier unless so identified on the invoice.

g. Such other information as requested by AUTHORITY.

E. Total payments by AUTHORITY shall not exceed the funding amount for bus stop amenities specified in ARTICLE 3, paragraph G above.

F. CITY shall submit final invoice no later than ninety (90) days after final acceptance of bus stop amenities.

ARTICLE 6. DELEGATED AUTHORITY

The actions required to be taken by CITY in the implementation of this Agreement are delegated to its City Manager, or his/her designee, and the actions required to be taken by AUTHORITY in the implementation of this Agreement are delegated to AUTHORITY's Chief Executive Officer, or designee.

ARTICLE 7. AUDIT AND INSPECTION

AUTHORITY and CITY shall maintain a complete set of records in accordance with generally

accepted accounting principles. Upon reasonable notice, CITY shall permit the authorized representatives of AUTHORITY to inspect and audit all work, materials, payroll, books, accounts, and other data and records of CITY for a period of five (5) years after final payment, or completion of audit by AUTHORITY, or after final payment of debt service, whichever is longer. For purposes of audit, the date of completion of this Cooperative Agreement shall be the date of AUTHORITY's payment of CITY's final billing under this Cooperative Agreement. AUTHORITY shall have the right to reproduce any such books, records, and accounts. The above provision with respect to audits shall extend to and/or be included in contracts with CITY's contractor(s).

ARTICLE 8. INDEMNIFICATION

A. To the fullest extent permitted by law, CITY shall defend, indemnify, protect, and hold harmless AUTHORITY, its officers, directors, employees, and agents (collectively the "Indemnified Parties"), from and against any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, penalties, and expenses including legal costs and attorney fees (collectively "Claims"), including but not limited to Claims arising from injuries to or death of persons (CITY's employees included), for damage to property, including property owned by AUTHORITY, or from any violation of any federal, state, or local law or ordinance, alleged to be caused by the negligent acts, omissions or willful misconduct of CITY, its officers, directors, employees or agents in connection with or arising out of the performance of this Cooperative Agreement.

B. To the fullest extent permitted by law, AUTHORITY shall defend, indemnify, protect, and hold harmless CITY, its officers, directors, employees, and agents (collectively the "Indemnified Parties"), from and against any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, penalties, and expenses including legal costs and attorney fees (collectively "Claims"), including but not limited to Claims arising from injuries to or death of persons (AUTHORITY's employees included), for damage to property, including property owned by CITY, or from any violation of any federal, state, or local law or ordinance,

alleged to be caused by the negligent acts, omissions or willful misconduct of AUTHORITY, its officers, directors, employees or agents in connection with or arising out of the performance of this Cooperative Agreement.

C. Any contractor hired by AUTHORITY to perform business related to this Agreement shall be required to list CITY as an additional insured under the insurance policies related to the Cooperative Agreement as appropriate. In the event CITY hires a contractor to perform business related to this Cooperative Agreement, contractor shall be required to list AUTHORITY as an additional insured under the insurance policies related to the Cooperative Agreement as appropriate.

D. The indemnification and defense obligations of this Cooperative Agreement shall survive its expiration or termination.

ARTICLE 9. ADDITIONAL PROVISIONS

PARTIES agree to the following mutual responsibilities:

A. Term of Agreement: This Cooperative Agreement shall continue in full force and effect on an annual basis subject to meeting minimum performance standards of ridership or December 31, 2024, whichever is earlier. This Cooperative Agreement may only be extended upon mutual agreement by both PARTIES.

B. Termination: AUTHORITY may terminate this Cooperative Agreement at any time for any reason following sixty (60) days' written notice to CITY.

C. Amendments: This Cooperative Agreement may be amended in writing at any time by the mutual consent of all PARTIES. No amendment shall have any force or effect unless executed in writing by all PARTIES.

D. PARTIES shall comply with all applicable federal, state, and local laws, statues, ordinances and regulations of any governmental authority having jurisdiction over the PROJECT.

E. Legal Authority: PARTIES hereto consent that they are authorized to execute this Cooperative Agreement on behalf of said PARTIES and that; by so executing this agreement, all PARTIES hereto are formally bound to the provisions of this Cooperative Agreement.

F. Severability: If any term, provision, covenant or condition of this Cooperative Agreement is held to be invalid, void or otherwise unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Cooperative Agreement shall not be affected thereby, and each term, provision, covenant or condition of this Cooperative Agreement shall be valid and enforceable to the fullest extent permitted by law.

G. Counterparts of Agreement: This Cooperative Agreement may be executed and delivered in any number of counterparts, each of which, when executed and delivered shall be deemed an original and all of which together shall constitute the same agreement. Facsimile signatures will be permitted.

H. Force Majeure: Each of the PARTIES shall be excused from performing its obligations under this Cooperative Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to; any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other PARTY; when satisfactory evidence of such cause is presented to the other PARTY, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the PARTY not performing.

I. Assignment: Neither this Cooperative Agreement, nor any of the PARTIES' rights, obligations, duties, or authority hereunder may be assigned in whole or in part by any PARTY without the prior written consent of the other PARTIES in their sole and absolute discretion. Any such attempt of assignment shall be deemed void and of no force and effect. Consent to one assignment shall not be deemed consent to any subsequent assignment, nor the waiver of any right to consent to such subsequent assignment.

J. Governing Law: The laws of the State of California and applicable local and federal laws, regulations and guidelines shall govern this Cooperative Agreement.

K. Litigation fees: Should litigation arise out of this Cooperative Agreement for the

performance thereof, the court shall award costs and expenses, including attorney's fees, to the prevailing PARTY.

L. Notices: Any notices, requests, or demands made between the PARTIES pursuant to this Cooperative Agreement are to be directed as follows:

To CITY:	**To AUTHORITY:**
City of Irvine	Orange County Transportation Authority
1 Civic Center Plaza Irvine, CA 92606	600 South Main Street Orange, CA 92863-1584
Attention: Jaimee Bourgeois City Traffic Engineer Tel: 949-724-6369 E-mail: jbourgeois@cityofirvine.org	Attention: Donald Herrera Contract Administrator Tel: 714-560-5644 E-mail: dherrera@octa.net

N. Successors and Assigns: The provisions of this Agreement shall bind and inure to the benefit of each of the PARTIES hereto, and all successors or assigns of the PARTIES hereto.

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This Cooperative Agreement shall be made effective upon execution by both PARTIES.

IN WITNESS WHEREOF, the PARTIES hereto have caused this Agreement No. C-6-1486 to be executed on the date first above written.

CITY OF IRVINE

By: _____
Donald P. Wagner
Mayor

ATTEST:

By: _____
Molly McLaughlin
City Clerk

APPROVED AS TO FORM:

By: _____
Jeffrey Melching
City Attorney

Dated: _____

ORANGE COUNTY TRANSPORTATION AUTHORITY

By: _____
Darrell Johnson
Chief Executive Officer

APPROVED AS TO FORM

By: _____
James Donich
General Counsel

APPROVAL RECOMMENDED:

By: _____
Kia Mortazavi
Executive Director, Planning

Dated: _____

Attachment:

Exhibit A: Irvine Route East Funding Schedule

Exhibit B: City's Measure M2, Project V Call for Projects Application

Exhibit A - UPDATED								
Funding Table Irvine Route E Service								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	
Capital								
OCTA Capital	$543,345							$543,345
Local Match	$211,113							$211,113
Total Capital	$754,458							**$754,458**
Operations								
OCTA Operations		$350,906	$339,634	$350,581	$361,973	$373,721	$385,824	$2,162,639
Local Match		$43,370	$41,977	$43,330	$44,738	$46,190	$47,687	$267,292
Total Operations		$394,276	$381,611	$393,911	$406,711	$419,911	$433,511	**$2,429,931**
Total OCTA Share								$2,705,984
Total Local Share								$478,405
Total Project Cost								$3,184,389
Total OCTA Percentage								85%
Total City Match Percentage								15%

EXHIBIT A

Public Works Department
cityofirvine.org
City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575
(949) 724-6000

February 29, 2016

Sam Kaur
Section Manager, Local Programs
Orange County Transportation Authority
P.O. Box 14184
Orange, CA 92863-1584

Dear Ms. Kaur:

The City of Irvine is pleased to submit for your review and consideration the enclosed two applications for the Community Based Transit Circulators Program – Project V call for projects. In preparing our submittal, we have selected projects that are vital providing a local bus transit services that complement regional rail services and bus routes.

We appreciate the opportunity to participate in this process and look forward to continued success in this call for projects. If you have any questions or require additional information from the City, please feel free to contact Lisa Thai, Senior Transportation Analyst, at 949-724-7384 or lthai@ci.irvine.ca.us.

Sincerely,

Shohreh Dupuis
Deputy Director of Public Works

Enclosures

COMMUTER BASED TRANSIT CIRCULATORS PROGRAM
PROJECT V

iSHUTTLE ROUTE E (IRVINE STATION – EAST)



CITY OF IRVINE
FEBRUARY 29, 2016

Orange County Transportation Authority
OCTA

PROJECT 'V'

Community-Based Transit/Circulators Project Application Form

I. APPLICANT INFORMATION	
Agency:	City of Irvine
Primary Contact Name:	Lisa Thai
Title / Department:	Senior Transportation Analyst/Public Works
Phone:	(949) 724-7384
Email:	lthai@cityofirvine.org

II. FUNDING SUMMARY	
Total Project Cost:	$ 3,040,431.00
Capital Funding:	$ 618,450.00
Operating Reserve:	$ 2,421,981.00
Applicant Match Rate:	11%
Describe Source of Agency Funds:	
City and Spectrumotion fees	
Level of Commitment:	Binding Agreement
Name of non applicants:	

III. PROJECT DESCRIPTION
iShutte Route E (Irvine Station -East) - See attached Project Description.

IV. MINIMUM ELIGIBILITY		YES/NO
A.	Applicant eligible to receive M2 funding?	☑ Y ☐ N
B.	Meet any one of the following: Proposed project in Go Local Planning and/or 2011 Transit Study, or Supports Goals of Sustainable Communities Strategy?	☑ Y ☐ N
C.	Supplement rather than supplant existing transit services?	☑ Y ☐ N
D.	Projects meet ADA requirements?	☑ Y ☐ N
E.	Financial plan for ongoing operations & maintenance?	☑ Y ☐ N
F.	Project approved by City Council and partner jurisdictions?	☑ Y ☐ N
G.	Local funding meets minimum 10% match requirement?	☑ Y ☐ N
I.	Applicant agrees to adhere to applicable FTA requirements?	☑ Y ☐ N

APPLICATION CHECKLIST (guidelines)

- ☑ **Complete Application**
- ☑ **Operating Incentive** (4.0)
  - ☑ Commitment to 10 b/rvh
  - ☑ Agree to collect O & M data quarterly
- ☑ **Meets Minimum Eligibility** (6.0)
- ☑ **Funding Plan** (8.0)
  - ☑ O&M/Capital Financials
    - ☑ Funding Needs
    - ☑ Match Funding Availability
    - ☑ Funding Assurances
    - ☑ Partnership Arrangements
  - ☑ Project Development Schedule
  - ☑ O&M Facility Management
  - ☑ Service Coordination Plan
- ☑ **Financials** (9.1)
- ☑ **Council Resolution** (9.3.1)
- ☑ **Lease/Cost Agreements** (9.3.2)
- ☑ **Project Documentation** (9.3.3)
- ☑ **Operations Plan** (9.3.4)
  - ☑ Route Map w/ existing transit service
  - ☑ Draft Time Table
  - ☑ Headways
  - ☑ Stop Location Listing
  - ☑ Summary of Vehicle Types
  - ☑ Speed Profile
  - ☑ Fleet Size

V. COST EFFECTIVENESS		
Operating Cost per Boarding Opening Year:	$	8.99
Annualized Operating & Capital Cost per Passenger:	$	10.90

VI. PROJECT READINESS			
Opening Year:	By 2017	Phase Ready:	Planning and Environmental Complete

VII. COMMUNITY CONNECTIONS	
Activity Centers Served:	Connections to Existing Service
	Major Employmnet Center(s)
	Retail Center(s)
	Special Event Venue(s)

PROJECT 'V'

Community-Based Transit/Circulators Project Application Form

AGENCY
City of Irvine

VIII. FIXED-ROUTE BUS/RAIL CONNECTIONS	
Number of fixed-route connections (w/in 1/4 mile):	11 (3 train, 8 bus lines)

VIV. TRANSIT USAGE	
Projected Average Daily Boardings 1st Year: (total annual boardings/annual operating days)	156

X. LOCAL REGIONAL BENEFITS (OPENING YEAR)	
Planned Employment Densities per Sq. Mile:	14,723
Planned Population Densities per Sq. Mile:	1,202
Projected Annual Visitors Served by Seasonal Route:	1,122,176

XI. SPECIAL EVENT TRANSIT	
Description(s)	
Date(s)	
Time(s)	
Location(s)	

XII. AGENCY EXPERIENCE	
Previously Operated Service (list all applicable w/description):	Shuttles or Trolleys

The City of Irvine Transit Division has overseen the iShuttle service for the past 8 years. Two routes (A& B) provide services between Tustin Station and the Irvine Business Complex and two routes (C & D) provide services between Irvine Station and the Spectrum area. The iShuttle offers 140 daily trips Monday through Friday. In Fiscal Year 2014/15, it had over 255,000 boardings. On time performance was 95.85% with 1 vehicle accident (not fault of operator), no passenger incidents and 100% on-time preventative maintenance. While the City has extensive experience in transit planning and operation, our application recommends that OCTA be the operator of this new route.

XIII. ADDITIONAL COMMENTS

The new service would require OCTA to acquire 3 new shuttles. This proposed route connects Irvine Station to employment, retail, and residential areas to the east and south of the Station. The route is anticipated to operate 255 days a year and 7 hours a day.

I herby certify that the information provided herein this form is accurate and consistent with accompanying documentation. I further certify that the above information has been approved by Council resolution and that awarded funds will not be used outside of their intended purpose.

Shiva Dupin — 2/29/16

Signature **Date**

PROJECT DESCRIPTION

INTRODUCTION

The goal of developing the iShuttle Route E (Irvine Station – East) is to provide weekday direct commuter service between Irvine Station and employment, retail, residential centers, and special event venues to the east and south of the Station. This proposed route complements the existing iShuttle services and OCTA bus and commuter rail services. The existing C and D iShuttle routes are weekday peak-period only commuter routes connecting the Irvine Station with the Spectrum and employment centers to the west of the Irvine Station. Along with routes C and D, this route provides an alternative to driving solo for weekday commuters and helps reduce congestion and parking demand for the City of Irvine.

Albert Grover & Associates, as part of its Citywide Traffic Management Study, prepared the Transit Expansion Study. The study identified the underserved areas in the City and recommended Route E to provide a direct route between Irvine Station and employment and residential centers to the east and south of the Irvine Station.

ROUTE DESCRIPTION

The proposed iShuttle Route E is designed to provide access and mobility for commuters utilizing the Irvine Station. The proposed route will have direct service from Irvine Station to areas east and south with stops along Muirlands, Bake, Research, Irvine Center Drive, and in Los Olivos. The route provides access to employment centers and residential areas during morning peak hours of 6:15 am – 9:40 am and during the afternoon peak hours of 3:15 pm to 7:20 pm; Monday through Friday.

The stops that would be served by Route E are:

- Irvine Station
- EB Barranca/Alton
- EB Muirlands/Thomas
- SB Bake/Muirlands
- SB Bake/Rockfield
- WB Research/Bake
- WB Research/Hubble
- EB Gitano/Pintado
- NB Research/ICD
- NB Research/Hubble
- NB Bake/Research
- NB Bake/Rockfield
- WB Muirlands/Bake
- WB Muirlands/Thomas
- WB Barranca/Alton

OPERATING INCENTIVE

The City of Irvine commits to meet the minimum standard of 6 boardings per revenue vehicle hour (RVH) within the first 12 months of operations and 10 boardings per revenue vehicle hour (RVH) within the first 24 months of operations and every year thereafter. Per the ridership projections provided in the Funding Plan, all routes are expected to meet this minimum standard.

The City hereby agrees to request that OCTA as the route operator to collect operations and maintenance performance data by September 30 of each year for the prior fiscal year.

ELIGIBILITY

- The City of Irvine has consistently maintained eligibility to receive Measure M and Renewed Measure M funds since the inception of Measure M. The City will continue to maintain eligibility.
- The proposed project supports the goals of the Sustainable Community Strategy.
- The proposed project supplements, rather than supplants, existing transit services and emphasizes service to areas not currently served by transit.
- The proposed project provides an 11% local match for seven years – one year for capital purchase and six years of operations and maintenance funding.
- The proposed project provides an 11% local match for capital costs.
- The cost of the proposed bus stop improvements is reasonable.
- A 7 year financial plan outlining a funding strategy for ongoing operations and maintenance is included in this proposal.
- The City proposes OCTA to be the service provider for this project.
- The City will enter into a cooperative funding agreement with OCTA upon approval of grant funds.
- The proposed project includes costs necessary to meet ADA requirements.
- A City Council resolution is included in this application package.
- The City agrees to request that OCTA as the operator follow applicable FTA requirements including FTA procurement policies.
- The City has included an 11% local match after deducting fare revenue.
- The City agrees to request that OCTA as the operator submit the annual National Transit Database reporting.

FUNDING PLAN
Financials/Funding Needs

Project V Expenses Total

ROUTE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle Route E	$ 610,500	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,040,431
Total Expenses	**$ 610,500**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,511**	**$ 3,040,431**
89% Grant	$ 543,345	$ 350,906	$ 339,634	$ 350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,705,984

Project V Revenue Sources

ROUTE	OCTA (89%)	City Match	Total
iShuttle Route E	$ 2,705,984	$ 334,447	$ 3,040,431
Total Revenue	**$ 2,705,984**	**$ 334,447**	**$ 3,040,431**

FUNDING PLAN - UPDATED
Financials/Funding Needs

Project V Expenses Total

ROUTE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle Route E	$ 754,458	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,184,389
Total Expenses	**$ 754,458**	**$ 394,276**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,511**	**$ 3,184,389**
Grant	$ 543,345	$ 350,906	$ 339,634	$ 350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,705,984

Project V Revenue Sources

ROUTE	OCTA	City Match	Total
iShuttle Route E	$ 2,705,984	$ 478,405	$ 3,184,389
Total Revenue	**$ 2,705,984**	**$ 478,405**	**$ 3,184,389**

FUNDING PLAN
MATCH FUNDING, CONTINGENCY PLANS

MATCH FUNDING AVAILABILITY

iShuttle Route E

An 11% match for all costs will be provided by the City/Spectrumotion fees. City has a partnership agreement with Spectrumotion and will seek Spectrumotion support for Route E.

CONTINGENCY PLANNING

We do not anticipate experiencing any revenue shortfalls. The City of is committed to the service and is financially sound.

FUNDING PLAN
PARTNERSHIP ARRANGEMENTS/FUNDING ASSURANCES

The proposed iShuttle Route E will be funded with City/Spectrumotion fees. The City has a partnership agreement with Spectrumotion that provide funding for iShuttle routes in Spectrum area and will seek Spectrumotion support for Route E.

FUNDING PLAN
PROJECT DEVELOPMENT SCHEDULE

PLANNING
A Transit Expansion Strategy has been prepared by Albert Grover & Associates (City's consultant) as part of the Citywide Traffic Management Study. This expansion strategy is depicted on the attachment and is proposed to improve traffic flow and reduce congestion in the City. No planning costs are included as part of this application.

DESIGN
Design of the routes depicted on the Transit Expansion Strategy has prepared by Albert Grover & Associates with collaboration from the Irvine Company and City staff. No design costs are included as part of this application.

RIGHT OF WAY
No Right of Way issues are posed by the routes in this application and no right of way costs are included as part of this application.

ROUTE IMPLEMENTATION
The routing was determined as part of the planning and design process. If Irvine is the recipient of Project V funding, the OCTA capital purchase would occur in Fiscal Year 2016/17 and OCTA could begin the service in Fiscal Year 2017/18 after the purchase of buses.

CAPITAL PURCHASE
Three vehicles would be procured for the service by OCTA. The capital purchase would occur in year one of the grant with operation of service in the remaining six years of the grant.

OPERATION & MAINTENANCE
Orange County Transportation Authority would operate and maintain the vehicles for the route. Costs are detailed on the Funding Plan.

BUS STOP IMPROVEMENTS
Bus stop locations have been selected for the routes. Upon award of the grant, signs will be installed at the designated stops, a number of stops will have a bench and trash receptacle added, and the route has existing bus shelters at the beginning and terminus of the route.

SUPPORT COSTS
To ensure the project's success, the grant requests marketing funds to supplement OCTA's marketing efforts. City staff will work with OCTA staff to market the service.

PROJECT OVERSIGHT
The project budget will be managed by the Transit Services division of the Public Works Department at the City of Irvine. Project will be operated by OCTA.

FUNDING PLAN
O&M FACILITY

The City is asking Orange County Transportation Authority to operate the service. The Route would utilize OCTA's Operations and Maintenance facility.

FUNDING PLAN
SERVICE COORDINATION PLAN

The City of Irvine Project V iShuttle Route E application was developed in collaboration with the following partners:

City of Irvine –
- Public Works Department

The Irvine Company –
- Transportation

Spectrumotion –
- Irvine Spectrum Transportation Management Association

Orange County Transportation Authority –
- Transit Planning

As the project enters the implementation phase, the City will continue to coordinate with these stakeholders and OCTA in order to ensure that service needs are being adequately addressed.

Route E

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$308,049	$ 318,300	$328,900	$ 339,900	$ 351,200	$ 362,900	$ 2,009,249
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	$ 329,400
Total	$ -	$ 358,549	$ 370,500	$ 382,800	$ 395,600	$ 408,800	$ 422,400	$ 2,338,649

Capital Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Initial Capital (Bus Purchase)	$ 610,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 610,500
Bus Stop Improvements	$ -	$7,950.00	$ -	$ -	$ -	$ -	$ -	$ 7,950
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 610,500	$ 7,950	$ -	$ -	$ -	$ -	$ -	$ 618,450

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332
Supplies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administation (5% of project)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332

Total Expenses	$ 610,500	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,040,431

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V OCTA (89%) - Up to $550,000	$ 543,345	$350,906	$ 339,634	$350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,705,984
Match (11%)	$ 67,155	$ 43,370	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,686	$ 334,447
Total Revenues	$ 610,500.0	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,040,431

REVENUES (w/ Farebox)

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Farebox ($.5/ride [Metrolink])	$ -	$ 19,932	$ 19,932	$ 19,932	$ 19,932	$ 19,932	$ 19,932	$ 119,591
Project V OCTA (89%)	$ 543,345	$333,167	$ 321,894	$332,841	$ 344,233	$ 355,981	$ 368,085	$ 2,599,548
Match (11%)	$ 67,155	$ 41,178	$ 39,785	$ 41,138	$ 42,546	$ 43,998	$ 45,494	$ 321,292
Total Revenues	$ 610,500	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,040,431

SPECTRUM ROUTE E 7-YEAR COST SHEET - UPDATED

Capital Costs	YEAR 1 - June 2018	YEAR 2 - Fall 2018	YEAR 3 - Fall 2019	YEAR 4 - Fall 2020	YEAR 5 - Fall 2021	YEAR 6 - Fall 2022	YEAR 7 - Fall 2023	Total
Initial Capital (3 Buses - $251,486 each)	$ 754,458	$ -	$ -	$ -	$ -	$ -	$ -	$ 754,458
Bus Stop Improvements	$ -	$7,950.00	$ -	$ -	$ -	$ -	$ -	$ 7,950
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 754,458	$ 7,950	$ -	$ -	$ -	$ -	$ -	$ 762,408

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$308,049	$ 318,300	$328,900	$ 339,900	$ 351,200	$ 362,900	$ 2,009,249
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	$ 329,400
Total	$ -	$ 358,549	$ 370,500	$ 382,800	$ 395,600	$ 408,800	$ 422,400	$ 2,338,649

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
City Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332
Supplies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administration (5% of project)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332

Total Expenses	$ 754,458	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,184,389

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V Funds (OCTA)	$ 543,345	$350,906	$ 339,634	$350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,705,984
Match Funds	$ 211,113	$ 43,370	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,687	$ 478,405
Match Fund Sources:								
City Match - 116 Replacement Funds	*$ 211,113*	*$ 3,151*	*$ 3,051*	*$ 3,149*	*$ 29,738*	*$ 31,190*	*$ 32,687*	*$ 314,079*
The Irvine Company	$ -	*$ 14,457*	*$ 13,992*	*$ 14,443*	*$ 15,000*	*$ 15,000*	*$ 15,000*	*$ 87,892*
Spectrumotion	$ -	*$ 25,762*	*$ 24,934*	*$ 25,738*	$ -	$ -	$ -	*$ 76,434*
Total Revenues	$ 754,458	$ 394,276	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,512	$ 3,184,389

FINANCIALS
PROJECT READINESS, PROJECT SCHEDULE

PROJECT READINESS

Planning & Environmental
The City of Irvine has completed the planning and environmental phases for the proposed routes. The Transit Expansion Strategy and a CEQA Notice of Exemption are included in the Project Documentation section of this grant application.

Right of Way
No right of way is needed in order to implement the proposed project.

Maintenance Facilities
The proposed project will utilize Orange County Transportation Authority (OCTA) existing maintenance facilities.

PROJECT SCHEDULE

Planning & Design – complete

Right of Way – n/a

Procurement of Vehicles – 2016

Construction of Bus Stop Improvements – 2017

Route Implementation – 2017

CITY COUNCIL RESOLUTION NO. 16-19

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, APPROVING THE SUBMITTAL OF GRANT APPLICATIONS TO THE ORANGE COUNTY TRANSPORTATION AUTHORITY UNDER THE MEASURE M2 PROJECT V - COMMUNITY BASED TRANSIT/CIRCULATORS PROGRAM

THE CITY COUNCIL OF THE CITY OF IRVINE HEREBY RESOLVES, DETERMINES, AND ORDERS AS FOLLOWS THAT:

WHEREAS, the City of Irvine desires to implement the transportation improvements listed below; and

WHEREAS, the City of Irvine has been declared by the Orange County Transportation Authority to meet the eligibility requirements to receive Measure M2 Fairshare funds; and

WHEREAS, the City's Circulation Element is consistent with the County of Orange Master Plan of Arterial Highways; and

WHEREAS, the City of Irvine and its project partners will provide matching funds for each project as required by the Orange County Project V Community based Transit/Circulators and Program Guidelines; and

WHEREAS, the Orange County Transportation Authority intends to allocate funds for transit circulator projects within the incorporated cities and the County; and

WHEREAS, the City of Irvine will not use Measure M2 funds to supplant Developer Fees or other commitments; and

WHEREAS, the City Council of the City of Irvine delegates signature authority to the Director of Public Works or his designee to enter into cooperative funding agreement with OCTA to facilitate the delivery of the projects.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY RESOLVE that the Orange County Transportation Authority allocate funds in the amounts ɔ(1 in tl City ɔplications from Project V. Said funds sl l be matched sɣecifieɔ from ie ɜ City's aɾvine as required and shall be used as supplnalental funding to aid the City in the improvement of the following projects:

- iShuttle Route W
- iShuttle Route E

PASSED and ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 23rd day of February 2016.

MAYOR OF THE CITY OF IRVINE

ATTEST:

CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a meeting of the City Council of the City of Irvine, held on the 23rd day of February 2016.

AYES:	5	COUNCILMEMBERS:	Krom, Lalloway, Schott, Shea and Choi
NOES:	0	COUNCILMEMBERS:	None
ABSENT:	0	COUNCILMEMBERS:	None
ABSTAIN:	0	COUNCILMEMBERS:	None

CITY CLERK OF THE CITY OF IRVINE

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 212
Sacramento, CA 95812-3044

County Clerk
County of Orange
12 Civic Center Plaza Rm 106
Santa Ana, CA 92701

From: (Public Agency) City of Irvine
One Civic Center Plaza
Irvine, CA 92623
(Address)

Project Title: iShuttle Route E (Irvine Station - East)

Project Applicant: City of Irvine

Project Location - Specific:

Irvine Station, Barranca at Marine, Alton at Muirlands, Jeronimo at 9600 Liebert, Bake at Jeronimo, Bake/Muirlands, Bake at Research, Irvine Center at Bake, Irvine Center at Hubble, Irvine Center at Hubble, Irvine Center at Research, Research at Hubble, Marine at Bake and Marine at Alton.

Project Location – City: Irvine Project Location – County: Orange

Description of Nature, Purpose and Beneficiaries of Project:

A compressed natural gas fueled rubber tire shuttle system that will provide services outlined in the attached route maps. Beneficiaries include residents, employees, and visitors within Irvine.

Name of Public Agency Approving Project: Public Agency: City of Irvine

Name of Person or Agency Carrying Out Project: Public Agency: City of Irvine

Exempt Status: **(check one)**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: New Construction or Conversion of Small Structures, 15303
- ☒ Statutory Exemptions. State code number: Public Resource Code 21080(b)(10)

Reasons why project is exempt:

The approval of the Irvine Spectrum Shuttle Expansion Plan is CEQA exempt because (1) the program involves the statutorily exempt institution or increase of passenger or commuter services on highway rights-of-way already in use (Pub. Resources Code, § 21080(b)(10)); (2) the structural components of the program, such as bus stop signage or amenities, are categorically exempt small structures (14 Cal. Code Regs., § 15303); and (3) under the CEQA "catch-all" exemption, CEQA does not apply to a program, such as the The i Shuttle Revised Service Plan, that does not have the potential to cause a significant effect on the environment. (14 Cal. Code Regs., § 15061(b)(3).) NOTE: While the The i Shuttle Revised Service Plan may not meet the CEQA definition of a "project", this NOE is nevertheless being filed (1) in the event the The i Shuttle Revised Service Plan is construed as a CEQA Project, and (2) in order to advance the public disclosure objectives inherent in the optional NOE procedures set forth in the CEQA Guidelines.

Lead Agency Contact Person: Lisa Thai Area Code/Telephone/Extension: (949) 724-7384

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☒ No

Signature: _____ Date: 2/25/16 Title: Senior Transportation Analyst

☒ Signed by Lead Agency
☐ Signed by Applicant

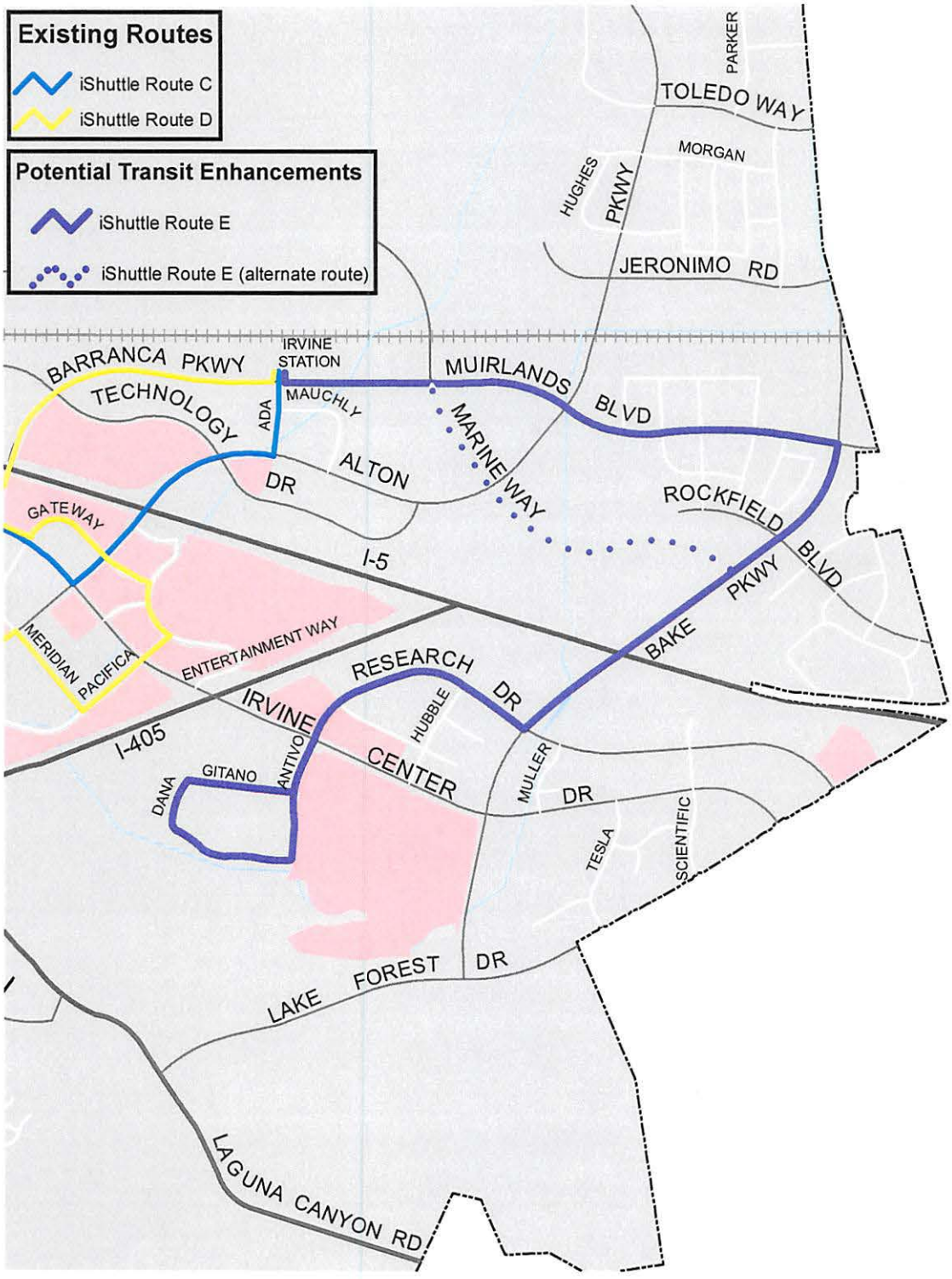
Date received for filing at OPR: _____

Revised 2011

CITY OF IRVINE

POTENTIAL TRANSIT ENHANCEMENTS

iShuttle Route E



ALBERT GROVER & ASSOCIATES

Note: GIS base mapping provided by City of Irvine.

Date: 2/17/2016

Path: C:\Users\AGA\Desktop\GIS IRVINE DATA BACKUP\Irvine\EG\iShuttle_RouteE.mxd

OPERATIONS PLAN (First Year)

Route Operating Characteristics									Daily Per-Shuttle Metrics			Performance Indicators						
Description	Route	Service Span	Headway (min)	Service Days per Year	Projected Daily Boardings	Shuttles in Service	Trip Distance (Miles)	Bus Stops	Round-Trip Runtime w/ Recovery (min)	Vehicle Revenue Hours	Vehicle Revenue Miles	Daily Vehicle Service Hours	Boardings per Revenue Hour	Daily Vehicle Revenue Miles	Boardings per Revenue Mile	Annual boardings	Annual Vehicle Revenue Hours	Annual Vehicle Revenue Miles
Irvine Station, EB Barranca/Alton, EB Muirlands/Thomas, SB Bake/Muirlands, SB Bake/Rockfield, WB Research/Bake, WB Research/Hubble, EB Gitano/Pintado, NB Research/ICD, NB Research/Hubble, NB Bake/Research, NB Bake/Rockfield, WB Muirlands/Bake, WB Muirlands/Thomas, WB Barranca/Alton	**iShuttle Route E - Irvine Station - East**	6: 15 - 9:40 am 3:15 - 7:20 pm (Mon-Fri)	10	255	156	3	8.5	15	30	7	112.0	21	7	336	0.5	39,863	5,355	257,040

OPERATIONS PLAN
FLEET

Vehicles will be procured by OCTA for use with iShuttle Route E. It is suggested that three 27- to 32-foot compressed natural gas vehicles seating 20-30 passengers (or equivalent) be purchased.

It is estimated that the cost of these vehicles will be approximately $203,500 per bus.

OPERATIONS PLAN
STOP LOCATIONS

Project E – Irvine Station East

- Irvine Station
- EB Barranca/Alton
- EB Muirlands/Thomas
- SB Bake/Muirlands
- SB Bake/Rockfield
- WB Research/Bake
- WB Research/Hubble
- EB Gitano/Pintado
- NB Research/ICD
- NB Research/Hubble
- NB Bake/Research
- NB Bake/Rockfield
- WB Muirlands/Bake
- WB Muirlands/Thomas
- WB Barranca/Alton

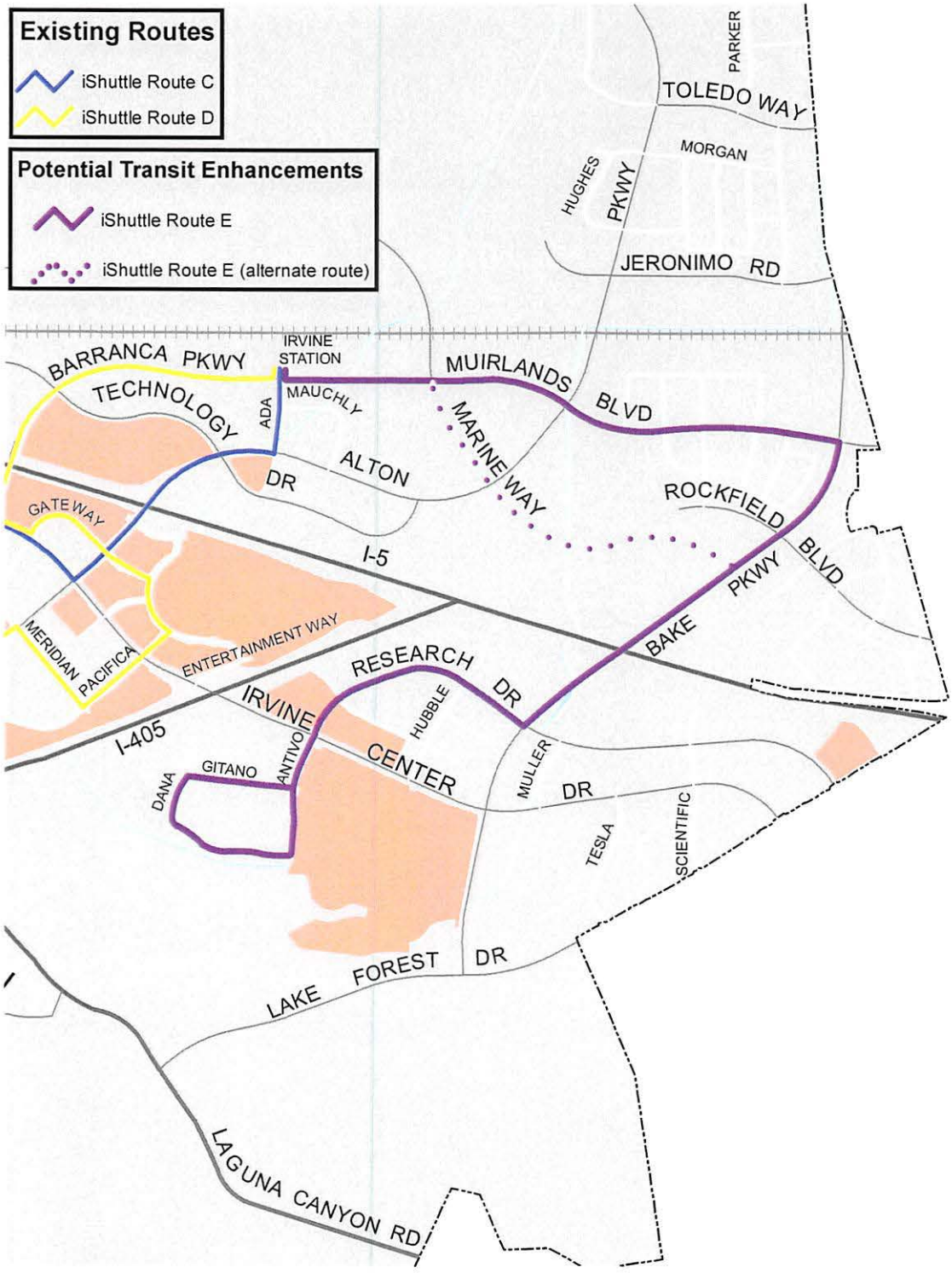
OPERATIONS PLAN
ROUTE MAP

Attached is the proposed route map for the iShuttle Route E (Irvine Station – East).

CITY OF IRVINE

POTENTIAL TRANSIT ENHANCEMENTS

iShuttle Route E



ALBERT GROVER & ASSOCIATES

Note: GIS base mapping provided by City of Irvine.

Date: 2/17/2016

Path: C:\Users\AGA\Desktop\GIS IRVINE DATA BACKUP\Irvine\EG\iShuttle_RouteE.mxd

Updated Route E Map



OPERATIONS PLAN
DRAFT TIME TABLE

WEEKDAY														
Irvine Station	EB Barranca @ Alton	EB Muirlands/Thomas	SB Bake/Muirlands	SB Bake/Rockfield	WB Research/Bake	NB Research/Hubble	EB Gitano/Pintado	NB Research/ICD	NB Research/Hubble	NB Bake/Research	NB Bake/Rockfield	WB Muirlands/Bake	WB Muirlands/Thomas	WB Barranca/Alton
AM SERVICE														
6:15 AM	6:19	6:20	6:22	6:23	6:24	6:25	6:28	6:31	6:32	6:35	6:36	6:38	6:39	6:40
6:25 AM	6:29	6:30	6:32	6:33	6:34	6:35	6:38	6:41	6:42	6:45	6:46	6:48	6:49	6:50
6:35 AM	6:39	6:40	6:42	6:43	6:44	6:45	6:48	6:51	6:52	6:55	6:56	6:58	6:59	7:00
6:45 AM	6:49	6:50	6:52	6:53	6:54	6:55	6:58	7:01	7:02	7:05	7:06	7:08	7:09	7:10
6:55 AM	6:59	7:00	7:02	7:03	7:04	7:05	7:08	7:11	7:12	7:15	7:16	7:18	7:19	7:20
7:05 AM	7:09	7:10	7:12	7:13	7:14	7:15	7:18	7:21	7:22	7:25	7:26	7:28	7:29	7:30
7:15 AM	7:19	7:20	7:22	7:23	7:24	7:25	7:28	7:31	7:32	7:35	7:36	7:38	7:39	7:40
7:25 AM	7:29	7:30	7:32	7:33	7:34	7:35	7:38	7:41	7:42	7:45	7:46	7:48	7:49	7:50
7:35 AM	7:39	7:40	7:42	7:43	7:44	7:45	7:48	7:51	7:52	7:55	7:56	7:58	7:49	8:00
7:45 AM	7:49	7:50	7:52	7:53	7:54	7:55	7:58	8:01	8:02	8:05	8:06	8:08	8:09	8:10
7:55 AM	7:59	8:00	8:02	8:03	8:04	8:05	8:08	8:11	8:12	8:15	8:16	8:18	8:19	8:20
8:05 AM	8:09	8:10	8:12	8:13	8:14	8:15	8:18	8:21	8:22	8:25	8:26	8:28	8:29	8:30
8:15 AM	8:19	8:20	8:22	8:23	8:24	8:25	8:28	8:31	8:32	8:35	8:36	8:38	8:39	8:40
8:25 AM	8:29	8:30	8:32	8:33	8:34	8:35	8:38	8:41	8:42	8:45	8:46	8:48	8:49	8:50
8:35 AM	8:39	8:40	8:42	8:43	8:44	8:45	8:48	8:51	8:52	8:55	8:56	8:58	8:59	9:00
8:45 AM	8:49	8:50	8:52	8:53	8:54	8:55	8:58	9:01	9:02	9:05	9:06	9:08	9:09	9:10
8:55 AM	8:59	9:00	9:02	9:03	9:04	9:05	9:08	9:11	9:12	9:15	9:16	9:18	9:19	9:20
9:05 AM	9:09	9:10	9:12	9:13	9:14	9:15	9:18	9:21	9:22	9:25	9:26	9:28	9:29	9:30
9:15 AM	9:19	9:20	9:22	9:23	9:24	9:25	9:28	9:31	9:32	9:35	9:36	9:38	9:39	9:40
PM SERVICE														
3:15 PM	3:19	3:20	3:22	3:23	3:24	3:25	3:28	3:31	3:32	3:35	3:36	3:38	3:39	3:40
3:25 PM	3:29	3:30	3:32	3:33	3:34	3:35	3:38	3:41	3:42	3:45	3:46	3:48	3:49	3:50
3:35 PM	3:39	3:40	3:42	3:43	3:44	3:45	3:48	3:51	3:52	3:55	3:56	3:58	3:59	4:00
3:45 PM	3:49	3:50	3:52	3:53	3:54	3:55	3:58	4:01	4:02	4:05	4:06	4:08	4:09	4:10
3:55 PM	3:59	4:00	4:02	4:03	4:04	4:05	4:08	4:11	4:12	4:15	4:16	4:18	4:19	4:20
4:05 PM	4:09	4:10	4:12	4:13	4:14	4:15	4:18	4:21	4:22	4:25	4:26	4:28	4:29	4:30

4:15 PM	4:19	4:20	4:22	4:23	4:24	4:25	4:28	4:31	4:32	4:35	4:36	4:38	4:39	4:40
4:25 PM	4:29	4:30	4:32	4:33	4:34	4:35	4:38	4:41	4:42	4:45	4:46	4:48	4:49	4:50
4:35 PM	4:39	4:40	4:42	4:43	4:44	4:45	4:48	4:51	4:52	4:55	4:56	4:58	4:59	5:00
4:45 PM	4:49	4:50	4:52	4:53	4:54	4:55	4:58	5:01	5:02	5:05	5:06	5:08	5:09	5:10
4:55 PM	4:59	5:00	5:02	5:03	5:04	5:05	5:08	5:11	5:12	5:15	5:16	5:18	5:19	5:20
5:05 PM	5:09	5:10	5:12	5:13	5:14	5:15	5:18	5:21	5:22	5:25	5:26	5:28	5:29	5:30
5:15 PM	5:19	5:20	5:22	5:23	5:24	5:25	5:28	5:31	5:32	5:35	5:36	5:38	5:39	5:40
5:25 PM	5:29	5:30	5:32	5:33	5:34	5:35	5:38	5:41	5:42	5:45	5:46	5:48	5:49	5:50
5:35 PM	5:39	5:40	5:42	5:43	5:44	5:45	5:48	5:51	5:52	5:55	5:56	5:58	5:59	6:00
5:45 PM	5:49	5:50	5:52	5:53	5:54	5:55	5:58	6:01	6:02	6:05	6:06	6:08	6:09	6:10
5:55 PM	5:59	6:00	6:02	6:03	6:04	6:05	6:08	6:11	6:12	6:15	6:16	6:18	6:19	6:20
6:05 PM	6:09	6:10	6:12	6:13	6:14	6:15	6:18	6:21	6:22	6:25	6:26	6:28	6:29	6:30
6:15 PM	6:19	6:20	6:22	6:23	6:24	6:25	6:28	6:31	6:32	6:35	6:36	6:38	6:39	6:40
6:25 PM	6:29	6:30	6:32	6:33	6:34	6:35	6:38	6:41	6:42	6:45	6:46	6:48	6:49	6:50
6:35 PM	6:39	6:40	6:42	6:43	6:44	6:45	6:48	6:51	6:52	6:55	6:56	6:58	6:59	7:00
6:45 PM	6:49	6:50	6:52	6:53	6:54	6:55	6:58	7:01	7:02	7:05	7:06	7:08	7:09	7:10
6:55 PM	6:59	7:00	7:02	7:03	7:04	7:05	7:08	7:11	7:12	7:15	7:16	7:18	7:19	7:20

Cooperative Agreement NO. C-6-1487

BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

CITY OF IRVINE

FOR

PROJECT V COMMUNITY-BASED TRANSIT/CIRCULATORS

THIS Cooperative Agreement, is effective this _____day of _____, 2017, by and between the Orange County Transportation Authority, 600 South Main Street, Orange, California 92863-1584, a public corporation of the State of California (hereinafter referred to as "AUTHORITY"), and the City of Irvine, 1 Civic Center Plaza, Irvine, California 92606, a municipal corporation duly organized and existing under the constitution and laws of the State of California (hereinafter referred to as "CITY"), each individually known as "PARTY" and collectively known as the "PARTIES".

RECITALS:

WHEREAS, AUTHORITY and CITY desire to enter into a Cooperative Agreement to define the roles and responsibilities related to funding between AUTHORITY and CITY for three buses, bus stop amenities, marketing and operation of a community circulator (hereinafter referred to as "PROJECT"), further defined in the project description section of the application received for **Measure M2, Project V Call for Projects**, by AUTHORITY on February 29, 2016; and

WHEREAS, AUTHORITY's Board of Directors ("BOARD") approved the Renewed Measure M (M2) Eligibility Guidelines - Local Agency Preparation Manual on January 25, 2010 and subsequent amendments, most recently on April 11, 2016; and

WHEREAS, the BOARD approved the Comprehensive Transportation Funding Programs (CTFP) Guidelines on March 22, 2010; and

WHEREAS, the BOARD approved the revised Project V - Community based Transit Circulator Program Guidelines on November 23, 2015; and

WHEREAS, AUTHORITY will periodically update the M2 Eligibility Guidelines - Local Agency Preparation Manual and the CTFP Guidelines whereby the most recent update is incorporated herein by reference; and

WHEREAS, AUTHORITY and CITY agree that M2 funding is subject to CITY fulfilling M2 eligibility requirements; and

WHEREAS, AUTHORITY and CITY agree that PROJECT must adhere to the CTFP Guidelines precepts except where specific more detailed instruction is provided through Project V guidelines or within this Cooperative Agreement; and

WHEREAS, CITY and AUTHORITY agree that AUTHORITY shall provide three buses, operate service on CITY's behalf, and act as lead to perform all marketing for the PROJECT; and

WHEREAS, AUTHORITY will provide federally required complementary paratransit service; and

WHEREAS, CITY shall develop and adopt the paratransit service plan; and

WHEREAS, CITY shall purchase bus stop amenities (including bus shelters, bus benches, trash cans, sidewalks, curb and gutter and ramps) and provide all signage and maintenance for the bus stop amenities including adherence to AUTHORITY safety requirements for bus stops; and

WHEREAS, PROJECT bus service/operations is fixed-route, open to the public, and fully accessible for persons with disabilities in compliance with the Americans with Disabilities Act; and

WHEREAS, AUTHORITY's Board has approved Project V funding for PROJECT for up to seven (7) years in the total amount not-to-exceed Two Million, Seven Hundred Twelve Thousand, Two Hundred Fifty-Eight Dollars ($2,712,258), and AUTHORITY and CITY agree that the capital amount to be provided by AUTHORITY is not-to-exceed Five Hundred Forty Three Thousand, Three Hundred Forty-Five Dollars ($543,345) and the annual operating subsidy will be provided consistent with operating statistics as defined in the Project V Guidelines in an uninflated amount of, Two Million, one Hundred Sixty Eight Thousand, Nine Hundred Thirteen Dollars ($2,618,913). Per the CTFP Guidelines, any additional expenses incurred are the responsibility of CITY; and

WHEREAS, CITY has agreed to provide a minimum of Eleven Percent (11%) local match for

a minimum capital purchases of Sixty Seven Thousand, One Fifty Five Dollars ($67,155) and additional local match for operations and maintenance costs to meet operating expenses not covered by AUTHORITY; and

WHEREAS, this Cooperative Agreement defines the specific terms, conditions, roles and funding responsibilities between AUTHORITY and CITY for PROJECT; and

WHEREAS, the AUTHORITY's BOARD approved this PROJECT on June 13, 2016; and

WHEREAS, CITY's Council approved this Cooperative Agreement on this _____day of _____ 2017;

NOW, THEREFORE, it is mutually understood and agreed by AUTHORITY and CITY as follows:

ARTICLE 1. COMPLETE Cooperative Agreement

A. This Cooperative Agreement, including any attachments incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the term(s) and condition(s) of this Cooperative Agreement between PARTIES and it supersedes all prior representations, understandings, and communications. The invalidity in whole or in part of any term(s) or condition(s) of this Cooperative Agreement shall not affect the validity of other term(s) or condition(s) of this Cooperative Agreement. The above referenced Recitals are true and correct and are incorporated by reference herein.

B. AUTHORITY's failure to insist on any instance(s) of CITY's performance of any term(s) or condition(s) of this Cooperative Agreement shall not be construed as a waiver or relinquishment of AUTHORITY's right to such performance or to future performance of such term(s) or condition(s), and CITY's obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Cooperative Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY by way of a written amendment to this Cooperative Agreement and issued in accordance with the provisions of this Cooperative Agreement.

C. CITY's failure to insist on any instance(s) of AUTHORITY's performance of any term(s)

or condition(s) of this Cooperative Agreement shall not be construed as a waiver or relinquishment of CITY's right to such performance or to future performance of such term(s) or condition(s), and AUTHORITY's obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Cooperative Agreement shall not be binding upon CITY except when specifically confirmed in writing by an authorized representative of CITY by way of a written amendment to this Cooperative Agreement and issued in accordance with the provisions of this Cooperative Agreement.

ARTICLE 2. SCOPE OF AGREEMENT

This Cooperative Agreement specifies the terms and conditions, roles and responsibilities of the PARTIES as they pertain to the subjects and projects addressed herein. Both AUTHORITY and CITY agree that each will cooperate and coordinate with the other in all activities covered by this Cooperative Agreement and any other supplemental agreements, including Letter Agreements, which may be required to facilitate purposes thereof.

ARTICLE 3. RESPONSIBILITIES OF AUTHORITY

AUTHORITY agrees to the following responsibilities for PROJECT:

A. To provide three new shuttle buses, to be delivered approximately in June 2018 unless there are circumstances beyond the AUTHORITY's control, to operate service and outfit with technology necessary for communications and fare collection.

B. To provide a spare/backup vehicle and outfit with technology necessary for communications and fare collection, at no additional capital cost to CITY.

C. To assist in the scheduling of the service and include information as appropriate in AUTHORITY's Bus Book and Just Click Trip Planner.

D. To operate service on behalf of CITY, including procurement of vehicles and marketing. For purposes of this Cooperative Agreement, the phrase "operate service" is defined to mean (i) the cost of the fixed-route contractor to operate the service, (ii) costs of consumables including fuel and tires, (iii) costs for maintaining the busses inclusive of retrofitting busses to AUTHORITY specifications, and (iv) management/operational costs. The anticipated start date of service is October

2018 unless there are circumstances beyond the AUTHORITY's control.

E. To act as lead to perform all marketing for the PROJECT.

F. To provide federally required complementary paratransit service.

G. To act as the lead agency responsible for activities

H. To provide PROJECT funding for capital purchases in the amount not-to-exceed Five Hundred Forty Three Thousand, Three Hundred Forty-Five Dollars ($543,345) for bus stop amenities provided by CITY and for the shuttles buses and marketing provided by AUTHORITY.

I. To provide annual operating subsidy for PROJECT for up to seven (7) years in the amount of no more than Nine Dollars ($9.00) per boarding OR Eighty Nine Percent (89%) of net operations and maintenance costs at an estimated amount in accordance with Project V Guidelines, whichever is lower, consistent with Exhibit A, Irvine Route East Project V Estimated Funding Schedule.

J. To adjust Nine Dollars ($9.00) per boarding OCTA subsidy based on Consumer Price Index (CPI) published by Department of Industrial Relations (DIR) for the Los Angeles, Riverside and Orange County area and to account for other cost increases to provide bus service.

K. To provide ridership data to CITY at least quarterly, but no more frequently than monthly.

L. To calculate operations and maintenance cost per boarding and boardings per revenue vehicle hour on a monthly basis.

M. Upon notification from CITY, include any non-AUTHORITY revenues received for PROJECT in calculation of the matching amount.

N. To submit a quarterly invoice to CITY, Project V - Capital and Operations & Maintenance Invoice, for matching amount for three shuttles, quarterly operating subsidy, and share of marketing efforts in accordance with Project V Guidelines, consistent with Exhibit A, Irvine Route West Project V Estimated Funding Schedule.

O. To reimburse CITY for bus stop amenities procured directly by CITY, as outlined in CITY's project application, within sixty (60) days of receipt of an acceptable invoice according to

ARTICLE 5.

P. To compile all operational data necessary for National Transit Database reporting and file with the Federal Transit Administration.

Q. To provide all services in accordance with the Board-approved Project V guidelines.

R. In the event that the minimum performance standards in accordance with Project V guidelines are not met after first and second year of service and not maintained at least annually based on an annual average thereafter, to provide sixty (60) days' notice to CITY that service will be discontinued and work with CITY to notify the public and to discontinue the service.

S. In the event service is discontinued, AUTHORITY will retain ownership of the shuttles. AUTHORITY will reimburse CITY depreciated net value of the vehicles based upon the proportional share of CITY's matching funds.

T. To provide and install decals on the shuttles.

U. To provide customer service for all operational issues including Lost and Found inquiries.

V. To provide branding of service.

ARTICLE 4. RESPONSIBILITIES OF CITY

CITY agrees to the following responsibilities for PROJECT:

A. Act as lead to purchase bus stop amenities and provide and install all signage and maintenance for the bus stops including adherence to AUTHORITY's safety requirements for bus stops, in accordance with CITY's project application.

B. To assist AUTHORITY Transit Police Services as necessary.

C. To provide eligible local matching amounts for capital purchases at a minimum amount of Eleven Percent (11%) required local match in an amount currently estimated to be Sixty Seven Thousand, One Hundred Fifty-Five Dollars ($67,155).

D. To provide eligible local matching amounts of Eleven Percent (11%) of net operations and maintenance costs, OR balance of net operations and maintenance costs after AUTHORITY has paid Nine Dollars ($9.00) per boarding, whichever is greater, in accordance with Project V Guidelines.

E. To adopt AUTHORITY regular adult fare and note in any CITY publications of fares that CITY is subsidizing the AUTHORITY adult fare, consistent with AUTHORITY's fare structure.

F. To pay matching amounts for all work performed on PROJECT as invoiced by AUTHORITY in accordance with Project V Guidelines within sixty (60) days of receipt of the invoice, consistent with Exhibit A.

G. To notify AUTHORITY of any non-AUTHORITY revenues received for PROJECT.

H. To include and identify any non-AUTHORITY or grant revenues received along with any requirements associated with external fund sources for PROJECT in payment to AUTHORITY for local match.

I. To submit invoices to AUTHORITY consistent with ARTICLE 5 for bus stop amenities in PROJECT.

ARTICLE 5. CITY REQUEST FOR REIMBURSEMENT

A. CITY shall contribute at least Eleven Percent (11%) of matching funds, as is specified within this Cooperative Agreement in ARTICLE 4, Paragraph C, toward the actual costs of buses, marketing and bus stop amenities included in PROJECT.

B. CITY shall prepare and submit to AUTHORITY invoices in accordance with the reimbursement procedures identified in the CTFP Guidelines. CITY's invoice shall include allowable PROJECT costs incurred and paid for by CITY consistent with the PROJECT's Scope of Work. The invoice submitted by CITY shall be signed by an authorized agent who can duly certify the accuracy of the included information. Advance payments by AUTHORITY are not allowed.

C. The invoice must be submitted on CITY's letterhead.

D. The invoice shall be submitted by CITY and in duplicate to AUTHORITY's Accounts Payable Office. Each invoice shall include the following information:

a. Agreement Number C-6-1487;

b. The total of PROJECT expenditures shall specify the percent and amount to be reimbursed which shall not exceed Eighty Nine Percent (89%) of the total eligible capital expenditures

in accordance with Exhibit A, Irvine Route West Project V Estimated Funding Schedule, and the CITY's project application. In addition, to include any non-AUTHORITY revenues received in calculation of local match.

c. Support documentation for all expenses invoiced.

d. Adequate detail describing all work completed.

e. Documentation providing evidence that CITY's contractor has been paid by the CITY or evidence of payment for force account work.

f. Certification signed by the CITY or his/her designated alternate that a) The invoice is a true, complete and correct statement of reimbursable costs and progress; b) The backup information included with the invoice is true, complete and correct in all material respects; c) All payments due and owing to subcontractors and suppliers have been made; d) Timely payments will be made to subcontractors and suppliers from the proceeds of the payments covered by the certification and; e) The invoice does not include any amount which CITY intends to withhold or retain from a subcontractor or supplier unless so identified on the invoice.

g. Such other information as requested by AUTHORITY.

E. Total payments by AUTHORITY shall not exceed the funding amount for bus stop amenities specified in ARTICLE 3, paragraph G above.

F. CITY shall submit final invoice no later than ninety (90) days after final acceptance of bus stop amenities.

ARTICLE 6. DELEGATED AUTHORITY

The actions required to be taken by CITY in the implementation of this Agreement are delegated to its City Manager, or his/her designee, and the actions required to be taken by AUTHORITY in the implementation of this Agreement are delegated to AUTHORITY's Chief Executive Officer, or designee.

ARTICLE 7. AUDIT AND INSPECTION

AUTHORITY and CITY shall maintain a complete set of records in accordance with generally

accepted accounting principles. Upon reasonable notice, CITY shall permit the authorized representatives of AUTHORITY to inspect and audit all work, materials, payroll, books, accounts, and other data and records of CITY for a period of five (5) years after final payment, or completion of audit by AUTHORITY, or after final payment of debt service, whichever is longer. For purposes of audit, the date of completion of this Cooperative Agreement shall be the date of AUTHORITY's payment of CITY's final billing under this Cooperative Agreement. AUTHORITY shall have the right to reproduce any such books, records, and accounts. The above provision with respect to audits shall extend to and/or be included in contracts with CITY's contractor(s).

ARTICLE 8. INDEMNIFICATION

A. To the fullest extent permitted by law, CITY shall defend, indemnify, protect, and hold harmless AUTHORITY, its officers, directors, employees, and agents (collectively the "Indemnified Parties"), from and against any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, penalties, and expenses including legal costs and attorney fees (collectively "Claims"), including but not limited to Claims arising from injuries to or death of persons (CITY's employees included), for damage to property, including property owned by AUTHORITY, or from any violation of any federal, state, or local law or ordinance, alleged to be caused by the negligent acts, omissions or willful misconduct of CITY, its officers, directors, employees or agents in connection with or arising out of the performance of this Cooperative Agreement.

B. To the fullest extent permitted by law, AUTHORITY shall defend, indemnify, protect, and hold harmless CITY, its officers, directors, employees, and agents (collectively the "Indemnified Parties"), from and against any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, penalties, and expenses including legal costs and attorney fees (collectively "Claims"), including but not limited to Claims arising from injuries to or death of persons (AUTHORITY's employees included), for damage to property, including property owned by CITY, or from any violation of any federal, state, or local law or ordinance,

alleged to be caused by the negligent acts, omissions or willful misconduct of AUTHORITY, its officers, directors, employees or agents in connection with or arising out of the performance of this Cooperative Agreement.

C. Any contractor hired by AUTHORITY to perform business related to this Cooperative Agreement shall be required to list CITY as an additional insured under the insurance policies related to the Cooperative Agreement as appropriate. In the event CITY hires a contractor to perform business related to this Cooperative Agreement, contractor shall be required to list AUTHORITY as an additional insured under the insurance policies related to the Cooperative Agreement as appropriate.

D. The indemnification and defense obligations of this Cooperative Agreement shall survive its expiration or termination.

ARTICLE 9. ADDITIONAL PROVISIONS

PARTIES agree to the following mutual responsibilities:

A. Term of Agreement: This Cooperative Agreement shall continue in full force and effect on an annual basis subject to meeting minimum performance standards of ridership or December 31, 2024, whichever is earlier. This Cooperative Agreement may only be extended upon mutual agreement by both PARTIES.

B. Termination: AUTHORITY may terminate this Cooperative Agreement at any time for any reason following sixty (60) days' written notice to CITY.

C. Amendments: This Cooperative Agreement may be amended in writing at any time by the mutual consent of all PARTIES. No amendment shall have any force or effect unless executed in writing by all PARTIES.

D. PARTIES shall comply with all applicable federal, state, and local laws, statues, ordinances and regulations of any governmental authority having jurisdiction over the PROJECT.

E. Legal Authority: PARTIES hereto consent that they are authorized to execute this Cooperative Agreement on behalf of said PARTIES and that; by so executing this Cooperative Agreement, all PARTIES hereto are formally bound to the provisions of this Cooperative Agreement.

F. Severability: If any term, provision, covenant or condition of this Cooperative Agreement is held to be invalid, void or otherwise unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Cooperative Agreement shall not be affected thereby, and each term, provision, covenant or condition of this Cooperative Agreement shall be valid and enforceable to the fullest extent permitted by law.

G. Counterparts of Agreement: This Cooperative Agreement may be executed and delivered in any number of counterparts, each of which, when executed and delivered shall be deemed an original and all of which together shall constitute the same agreement. Facsimile signatures will be permitted.

H. Force Majeure: Each of the PARTIES shall be excused from performing its obligations under this Cooperative Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to; any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other PARTY; when satisfactory evidence of such cause is presented to the other PARTY, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the PARTY not performing.

I. Assignment: Neither this Cooperative Agreement, nor any of the PARTIES' rights, obligations, duties, or authority hereunder may be assigned in whole or in part by any PARTY without the prior written consent of the other PARTIES in their sole and absolute discretion. Any such attempt of assignment shall be deemed void and of no force and effect. Consent to one assignment shall not be deemed consent to any subsequent assignment, nor the waiver of any right to consent to such subsequent assignment.

J. Governing Law: The laws of the State of California and applicable local and federal laws, regulations and guidelines shall govern this Cooperative Agreement.

K. Litigation fees: Should litigation arise out of this Cooperative Agreement for the

performance thereof, the court shall award costs and expenses, including attorney's fees, to the prevailing PARTY.

L. Notices: Any notices, requests, or demands made between the PARTIES pursuant to this Cooperative Agreement are to be directed as follows:

To CITY:	**To AUTHORITY:**
City of Irvine	Orange County Transportation Authority
1 Civic Center Plaza Irvine, CA 92606	600 South Main Street Orange, CA 92863-1584
Attention: Jaimee Bourgeois City Traffic Engineer Tel: 949-724-6369 E-mail: jbourgeois@cityofirvine.org	Attention: Donald Herrera Contract Administrator Tel: 714-560-5644 E-mail: dherrera@octa.net

N. Successors and Assigns: The provisions of this Cooperative Agreement shall bind and inure to the benefit of each of the PARTIES hereto, and all successors or assigns of the PARTIES hereto.

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This Cooperative Agreement shall be made effective upon execution by both PARTIES.

IN WITNESS WHEREOF, the PARTIES hereto have caused this Cooperative Agreement No. C-6-1487 to be executed on the date first above written.

CITY OF IRVINE

By: _____
Donald P. Wagner
Mayor

ATTEST:

By: _____
Molly McLaughlin
City Clerk

APPROVED AS TO FORM:

By: _____
Jeffrey Melching
City Attorney

Dated: _____

ORANGE COUNTY TRANSPORTATION AUTHORITY

By: _____
Darrell Johnson
Chief Executive Officer

APPROVED AS TO FORM

By: _____
James Donich
General Counsel

APPROVAL RECOMMENDED:

By: _____
Kia Mortazavi
Executive Director, Planning

Dated: _____

Attachment:

Exhibit A: Irvine Route West Funding Schedule

Exhibit B: City's Measure M2, Project V Call for Projects Application

Exhibit A - UPDATED

Funding Table Irvine Route W Service

	Year 1 FY 17/18	Year 2 FY 18/19	Year 3 FY 19/20	Year 4 FY 20/21	Year 5 FY 21/22	Year 6 FY 22/23	Year 7 FY 23/24	
Capital								
OCTA Capital	$543,345							$543,345
Local Match	$211,113							$211,113
Total Capital	$754,458							**$754,458**
Operations								
OCTA Operations		$357,180	$339,634	$350,581	$361,973	$373,721	$385,825	$2,168,914
Local Match		$44,146	$41,977	$43,330	$44,738	$46,190	$47,687	$268,068
Total Operations		$401,326	$381,611	$393,911	$406,711	$419,911	$433,512	**$2,436,982**

Total OCTA Share	$2,712,259
Total Local Share	$479,181
Total Project Cost	$3,191,440
Total OCTA Percentage	85%
Total City Match Percentage	15%

EXHIBIT A

Public Works Department
cityofirvine.org
City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575
(949) 724-6000

February 29, 2016

Sam Kaur
Section Manager, Local Programs
Orange County Transportation Authority
P.O. Box 14184
Orange, CA 92863-1584

Dear Ms. Kaur:

The City of Irvine is pleased to submit for your review and consideration the enclosed two applications for the Community Based Transit Circulators Program – Project V call for projects. In preparing our submittal, we have selected projects that are vital providing a local bus transit services that complement regional rail services and bus routes.

We appreciate the opportunity to participate in this process and look forward to continued success in this call for projects. If you have any questions or require additional information from the City, please feel free to contact Lisa Thai, Senior Transportation Analyst, at 949-724-7384 or lthai@ci.irvine.ca.us.

Sincerely,

Shohreh Dupuis
Deputy Director of Public Works

Enclosures

PRINTED ON RECYCLED PAPER

COMMUTER BASED TRANSIT CIRCULATORS PROGRAM
PROJECT V

iSHUTTLE ROUTE W (TUSTIN STATION – IBC WEST)



CITY OF IRVINE
FEBRUARY 29, 2016

Orange County Transportation Authority
OCTA

PROJECT 'V'

Community-Based Transit/Circulators Project Application Form

I. APPLICANT INFORMATION	
Agency:	City of Irvine
Primary Contact Name:	Lisa Thai
Title / Department:	Senior Transportation Analyst/Public Works
Phone:	(949) 724-7384
Email:	lthai@cityofirvine.org

II. FUNDING SUMMARY	
Total Project Cost:	$ 3,047,481.00
Capital Funding:	$ 610,500.00
Operating Reserve:	$ 2,436,981.00
Applicant Match Rate:	11%
Describe Source of Agency Funds:	
City Developer Fees	
Level of Commitment:	Binding Agreement
Name of non applicants:	

III. PROJECT DESCRIPTION
iShuttle Route W (Tustin Station - IBC West) - See attached project description

IV. MINIMUM ELIGIBILITY		YES/NO
A.	Applicant eligible to receive M2 funding?	☑ Y ☐ N
B.	Meet any one of the following: Proposed project in Go Local Planning and/or 2011 Transit Study, or Supports Goals of Sustainable Communities Strategy?	☑ Y ☐ N
C.	Supplement rather than supplant existing transit services?	☑ Y ☐ N
D.	Projects meet ADA requirements?	☑ Y ☐ N
E.	Financial plan for ongoing operations & maintenance?	☑ Y ☐ N
F.	Project approved by City Council and partner jurisdictions?	☑ Y ☐ N
G.	Local funding meets minimum 10% match requirement?	☑ Y ☐ N
I.	Applicant agrees to adhere to applicable FTA requirements?	☑ Y ☐ N

APPLICATION CHECKLIST (guidelines)

- ☑ **Complete Application**
- ☑ **Operating Incentive** (4.0)
  - ☑ Commitment to 10 b/rvh
  - ☑ Agree to collect O & M data quarterly
- ☑ **Meets Minimum Eligibility** (6.0)
- ☑ **Funding Plan** (8.0)
  - ☑ O&M/Capital Financials
    - ☑ Funding Needs
    - ☑ Match Funding Availability
    - ☑ Funding Assurances
    - ☑ Partnership Arrangements
  - ☑ Project Development Schedule
  - ☑ O&M Facility Management
  - ☑ Service Coordination Plan
- ☑ **Financials** (9.1)
- ☑ **Council Resolution** (9.3.1)
- ☑ **Lease/Cost Agreements** (9.3.2)
- ☑ **Project Documentation** (9.3.3)
- ☑ **Operations Plan** (9.3.4)
  - ☑ Route Map w/ existing transit service
  - ☑ Draft Time Table
  - ☑ Headways
  - ☑ Stop Location Listing
  - ☑ Summary of Vehicle Types
  - ☑ Speed Profile
  - ☑ Fleet Size

V. COST EFFECTIVENESS		
Operating Cost per Boarding Opening Year:	$	8.93
Annualized Operating & Capital Cost per Passenger:	$	10.84

VI. PROJECT READINESS			
Opening Year:	By 2017	Phase Ready:	Planning and Environmental Complete

VII. COMMUNITY CONNECTIONS	
Activity Centers Served:	Connections to Existing Service
	Major Employmnet Center(s)
	Retail Center(s)
	School(s)

PROJECT 'V'

Community-Based Transit/Circulators Project Application Form

AGENCY
City of Irvine

VIII. FIXED-ROUTE BUS/RAIL CONNECTIONS	
Number of fixed-route connections (w/in 1/4 mile):	9 (2 train, 7 bus lines)

VIV. TRANSIT USAGE	
Projected Average Daily Boardings 1st Year: (total annual boardings/annual operating days)	157

X. LOCAL REGIONAL BENEFITS (OPENING YEAR)	
Planned Employment Densities per Sq. Mile:	15,848
Planned Population Densities per Sq. Mile:	719
Projected Annual Visitors Served by Seasonal Route:	574,600

XI. SPECIAL EVENT TRANSIT	
Description(s)	
Date(s)	
Time(s)	
Location(s)	

XII. AGENCY EXPERIENCE	
Previously Operated Service (list all applicable w/description):	Shuttles or Trolleys

The City of Irvine Transit Division has overseen the iShuttle service for the past 8 years. Two routes (A& B) provide services between Tustin Station and the Irvine Business Complex and two routes (C & D) provide services between Irvine Station and the Spectrum area. The iShuttle offers 140 daily trips Monday through Friday. In Fiscal Year 2014/15, it had over 255,000 boardings. On time performance was 95.85% with 1 vehicle accident (not fault of operator), no passenger incidents and 100% on-time preventative maintenance. While the City has extensive experience in transit planning and operation, our application recommends that OCTA be the operator of new route.

XIII. ADDITIONAL COMMENTS

The new service would require OCTA to acquire 3 new shuttles. This proposed route connects Tustin Station to employment centers, retail centers, schools, and residential units in the western part of the Irvine Business Complex. The route is anticipated to operate 255 days a year and 7 hours a day.

I herby certify that the information provided herein this form is accurate and consistent with accompanying documentation. I further certify that the above information has been approved by Council resolution and that awarded funds will not be used outside of their intended purpose.

Signature _____ Date 2/29/16

PROJECT DESCRIPTION

INTRODUCTION

The goal of developing iShuttle Route W (Tustin Station – IBC West) is to provide weekday direct commuter service between Tustin Station and western portions of the Irvine Business Complex, a regional employment center and high density residential area. This proposed route complements the existing iShuttle services and OCTA bus and commuter rail services. The existing A and B iShuttle routes are weekday peak-period commuter routes connecting the Tustin Station with the central and eastern portions of Irvine Business Complex. Route W extends service to the western portion of Irvine Business Complex near Armstrong and Gillette Avenues. Along with routes A and B, this route provides an alternative to driving for weekday commuters and helps reduce congestion.

Albert Grover & Associates, as part of its Citywide Traffic Management Study, prepared the Transit Expansion Study. The study identified the underserved areas in the City and recommended Route W to provide a direct route between Tustin Station and the western portion of Irvine Business Complex.

ROUTE DESCRIPTION

The proposed iShuttle Route W is designed to provide access and mobility for commuters utilizing the Tustin Station. The proposed route will have direct service from Tustin Station to Armstrong and Gillette Avenues with stops along Barranca, Deere, Alton, McGaw, Reynolds and Gillette Avenue. The route provides access to employment centers, retail centers, schools, and residential units during morning peak hours of 6:15 am – 9:30 am and during the afternoon peak hours of 3:20 pm to 7:25 pm; Monday through Friday.

The stops that would be served by Route W are:

- Tustin Metrolink Station
- SB Armstrong/Barranca
- SB Armstrong/Deere
- WB Alton/Armstrong
- SB Armstrong/McGaw
- SB Armstrong/Reynolds
- SB Armstrong/Gillette
- NB Gillette/Reynolds
- NB Gillette/McGaw
- NB Gillette/Alton
- EB Alton/Armstrong
- NB Armstrong/Deere
- NB Armstrong/Barranca

OPERATING INCENTIVE

The City of Irvine commits to meet the minimum standard of 6 boardings per revenue vehicle hour (RVH) within the first 12 months of operations and 10 boardings per revenue vehicle hour (RVH) within the first 24 months of operations and every year thereafter. Per the ridership projections provided in the Funding Plan, all routes are expected to meet this minimum standard.

The City hereby agrees to request that OCTA as the route operator to collect operations and maintenance performance data by September 30 of each year for the prior fiscal year.

ELIGIBILITY

- The City of Irvine has consistently maintained eligibility to receive Measure M and Renewed Measure M funds since the inception of Measure M. The City will continue to maintain eligibility.
- The proposed project supports the goals of the Sustainable Community Strategy.
- The proposed project supplements, rather than supplants, existing transit services and emphasizes service to areas not currently served by transit.
- The proposed project provides an 11% local match for seven years – one year of capital purchase, six years of operations and maintenance funding.
- The proposed project provides an 11% local match for capital costs.
- The cost of the proposed bus stop improvements is reasonable.
- A 7 year financial plan outlining a funding strategy for ongoing operations and maintenance is included in this proposal.
- The City proposes OCTA to be the service provider for this project.
- The City will enter into a cooperative funding agreement with OCTA upon approval of grant funds.
- The proposed project includes costs necessary to meet ADA requirements.
- A City Council resolution is included in this application package.
- The City agrees request that OCTA as the operator to follow applicable FTA requirements including FTA procurement policies.
- The City has included an 11% local match after deducting fare revenue.
- The City agrees to request that OCTA as the operator to submit annual National Transit Database reporting.

FUNDING PLAN
Financials/Funding Needs

Project V Expenses Total

ROUTE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle Route W	$ 610,500	$ 401,326	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,047,481
Total Expenses	**$ 610,500**	**$ 401,326**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,511**	**$ 3,047,481**
89% Grant	$ 543,345	$ 357,180	$ 339,634	$ 350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,712,258

Project V Revenue Sources

ROUTE	OCTA (89%)	City Match	Total
iShuttle Route W	$ 2,712,258	$ 335,223	$ 3,047,481
Total Revenue	**$ 2,712,258**	**$ 335,223**	**$ 3,047,481**

FUNDING PLAN - UPDATED
Financials/Funding Needs

Project V Expenses Total

ROUTE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle Route E	$ 754,458	$ 401,326	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,512	$ 3,191,440
Total Expenses	**$ 754,458**	**$ 401,326**	**$ 381,611**	**$ 393,911**	**$ 406,711**	**$ 419,911**	**$ 433,512**	**$ 3,191,440**
Grant	$ 543,345	$ 357,180	$ 339,634	$ 350,581	$ 361,973	$ 373,721	$ 385,826	$ 2,712,259

Project V Revenue Sources

ROUTE	OCTA	City Match	Total
iShuttle Route E	$ 2,712,259	$ 479,181	$ 3,191,440
Total Revenue	**$ 2,712,259**	**$ 479,181**	**$ 3,191,440**

FUNDING PLAN
MATCH FUNDING, CONTINGENCY PLANS

MATCH FUNDING AVAILABILITY

iShuttle Route W

An 11% match for all costs will be provided by the City of Irvine developer fees for the iShuttle Route W.

CONTINGENCY PLANNING

We do not anticipate experiencing any revenue shortfalls. The City of is committed to the service and is financially sound.

FUNDING PLAN
PARTNERSHIP ARRANGEMENTS/FUNDING ASSURANCES

The proposed iShuttle Route W will be funded with City of Irvine developer fees collected in the Irvine Business Complex and will not require partnership arrangements.

FUNDING PLAN
PROJECT DEVELOPMENT SCHEDULE

PLANNING
A Transit Expansion Strategy has been prepared by Albert Grover & Associates (City's consultant) as part of the Citywide Traffic Management Study. This expansion strategy is depicted on the attachment and is proposed to improve traffic flow and reduce congestion in the City. No planning costs are included as part of this application.

DESIGN
Design of the routes depicted on the Transit Expansion Strategy has been prepared by Albert Grover & Associates with collaboration from the Irvine Company and City staff. No design costs are included as part of this application.

RIGHT OF WAY
No Right of Way issues are posed by the routes in this application and no right of way costs are included as part of this application.

ROUTE IMPLEMENTATION
The routing was determined as part of the planning and design process. If Irvine is the recipient of Project V funding, the OCTA capital purchase would occur in Fiscal Year 2016/17 and OCTA could begin the service in Fiscal Year 2017/18 after the purchase of buses.

CAPITAL PURCHASE
Three vehicles would be procured for the service by OCTA. The capital purchase would occur in year one of the grant with operation of service in the remaining six years of the grant.

OPERATION & MAINTENANCE
Orange County Transportation Authority would operate and maintain the vehicles for the route. Costs are detailed on the Funding Plan.

BUS STOP IMPROVEMENTS
Bus stop locations have been selected for the routes. Upon award of the grant, signs will be installed at the designated stops, a number of stops will have a bench and trash receptacle added, and the route has existing bus shelters at the beginning and terminus of the route.

SUPPORT COSTS
To ensure the project's success, the grant requests marketing funds to supplement OCTA's marketing efforts. City staff will work with OCTA staff to market the service.

PROJECT OVERSIGHT
The project budget will be managed by the Transit Services division of the Public Works Department at the City of Irvine. Project will be operated by OCTA.

FUNDING PLAN
O&M FACILITY

The City is asking Orange County Transportation Authority to operate the service. iShuttle Route W would utilize OCTA's Operations and Maintenance facility.

FUNDING PLAN
SERVICE COORDINATION PLAN

The City of Irvine Project V iShuttle Route W application was developed in collaboration with the following partners:

City of Irvine –
- Public Works Department

The Irvine Company –
- Transportation

Orange County Transportation Authority –
- Transit Planning

As the project enters the implementation phase, the City will continue to coordinate with these stakeholders and OCTA in order to ensure that service needs are being adequately addressed.

Route W

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$ 308,049	$ 318,300	$328,900	$ 339,900	$ 351,200	$ 362,900	$ 2,009,249
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	$ 329,400
Total	$ -	$ 358,549	$ 370,500	$ 382,800	$ 395,600	$ 408,800	$ 422,400	$ 2,338,649

Capital Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Initial Capital (Bus Purchase)	$ 610,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 610,500
Bus Stop Improvements	$ -	$15,000.00	$ -	$ -	$ -	$ -	$ -	$ 15,000
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 610,500	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ 625,500

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332
Supplies [Included]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administation [Included]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332

Total Expenses	$ 610,500	$ 401,326	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,047,481

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V OCTA (89%) - Up to $550,000	$ 543,345	$ 357,180	$ 339,634	$350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,712,258
Match (11%)	$ 67,155	$ 44,146	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,686	$ 335,223
Total Revenues	$ 610,500.0	$ 401,326	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,047,481

REVENUES (w/ Farebox)

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Farebox ($.5/ride [Metrolink])	$ -	$ 20,076	$ 20,076	$ 20,076	$ 20,076	$ 20,076	$ 20,076	$ 120,455
Project V OCTA (89%)	$ 543,345	$ 339,313	$ 321,766	$332,713	$ 344,105	$ 355,853	$ 367,957	$ 2,605,053
Match (11%)	$ 67,155	$ 41,938	$ 39,769	$ 41,122	$ 42,530	$ 43,982	$ 45,478	$ 321,973
Total Revenues	$ 610,500	$ 401,326	$ 381,611	$ 393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,047,481

IRVINE BUSINESS COMPLEX ROUTE W 7-YEAR COST SHEET - UPDATED

Capital Costs	YEAR 1 - June 2018	YEAR 2- Fall 2018	YEAR 3- Fall 2019	YEAR 4 - Fall 2020	YEAR 5 - Fall 2021	YEAR 6 - Fall 2022	YEAR 7 - Fall 2023	Total
Initial Capital (Bus Purchase)	$ 754,458	$ -	$ -	$ -	$ -	$ -	$ -	$ 754,458
Bus Stop Improvements	$ -	$15,000.00	$ -	$ -	$ -	$ -	$ -	$ 15,000
Bus Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 754,458	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ 769,458

Operations & Maintenance	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
iShuttle O&M	$ -	$ 308,049	$ 318,300	$ 328,900	$ 339,900	$ 351,200	$ 362,900	$ 2,009,249
Administration	$ -	$ 50,500	$ 52,200	$ 53,900	$ 55,700	$ 57,600	$ 59,500	$ 329,400
Total	$ -	$ 358,549	$ 370,500	$382,800	$ 395,600	$ 408,800	$ 422,400	$ 2,338,649

Support Costs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
City Consultant Services (Marketing)	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332
Supplies [Included]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Administration [Included]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ -	$ 27,777	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 11,111	$ 83,332

Total Expenses	$ 754,458	$ 401,326	$ 381,611	$393,911	$ 406,711	$ 419,911	$ 433,511	$ 3,191,440

REVENUES

Sources	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	Total
Project V Funds (OCTA)	$ 543,345	$ 357,181	$ 339,634	$ 350,581	$ 361,973	$ 373,721	$ 385,825	$ 2,712,259
Match Funds (IBC Vision Plan TMS funds)	$ 211,113	$ 44,146	$ 41,977	$ 43,330	$ 44,738	$ 46,190	$ 47,687	$ 479,181
Total Revenues	$ 754,458	$ 401,326	$ 381,611	$393,911	$ 406,711	$ 419,911	$ 433,512	$ 3,191,440

FINANCIALS
PROJECT READINESS, PROJECT SCHEDULE

PROJECT READINESS

Planning & Environmental
The City of Irvine has completed the planning and environmental phases for the proposed routes. The Transit Expansion Strategy and a CEQA Notice of Exemption are included in the Project Documentation section of this grant application.

Right of Way
No right of way is needed in order to implement the proposed project.

Maintenance Facilities
The proposed project will utilize Orange County Transportation Authority (OCTA) existing maintenance facilities.

PROJECT SCHEDULE

Planning & Design – complete

Right of Way – n/a

Procurement of Vehicles – 2016/2017

Construction of Bus Stop Improvements – 2017/2018

Route Implementation – 2017/2018

CITY COUNCIL RESOLUTION NO. 16-19

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, APPROVING THE SUBMITTAL OF GRANT APPLICATIONS TO THE ORANGE COUNTY TRANSPORTATION AUTHORITY UNDER THE MEASURE M2 PROJECT V - COMMUNITY BASED TRANSIT/CIRCULATORS PROGRAM

THE CITY COUNCIL OF THE CITY OF IRVINE HEREBY RESOLVES, DETERMINES, AND ORDERS AS FOLLOWS THAT:

WHEREAS, the City of Irvine desires to implement the transportation improvements listed below; and

WHEREAS, the City of Irvine has been declared by the Orange County Transportation Authority to meet the eligibility requirements to receive Measure M2 Fairshare funds; and

WHEREAS, the City's Circulation Element is consistent with the County of Orange Master Plan of Arterial Highways; and

WHEREAS, the City of Irvine and its project partners will provide matching funds for each project as required by the Orange County Project V Community based Transit/Circulators and Program Guidelines; and

WHEREAS, the Orange County Transportation Authority intends to allocate funds for transit circulator projects within the incorporated cities and the County; and

WHEREAS, the City of Irvine will not use Measure M2 funds to supplant Developer Fees or other commitments; and

WHEREAS, the City Council of the City of Irvine delegates signature authority to the Director of Public Works or his designee to enter into cooperative funding agreement with OCTA to facilitate the delivery of the projects.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY RESOLVE that the Orange County Transportation Authority allocate funds in the amounts specified in the City's applications from Project V. Said funds shall be matched by funds from the City of Irvine as required and shall be used as supplemental funding to aid the City in the improvement of the following projects:

- iShuttle Route W
- iShuttle Route E

PASSED and ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 23rd day of February 2016.

MAYOR OF THE CITY OF IRVINE

ATTEST:

CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a meeting of the City Council of the City of Irvine, held on the 23rd day of February 2016.

AYES:	5	COUNCILMEMBERS:	Krom, Lalloway, Schott, Shea and Choi
NOES:	0	COUNCILMEMBERS:	None
ABSENT:	0	COUNCILMEMBERS:	None
ABSTAIN:	0	COUNCILMEMBERS:	None

CITY CLERK OF THE CITY OF IRVINE

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 212
Sacramento, CA 95812-3044

County Clerk
County of Orange
12 Civic Center Plaza Rm 106
Santa Ana, CA 92701

From: (Public Agency) City of Irvine
One Civic Center Plaza
Irvine, CA 92623
(Address)

Project Title: iShuttle Route W (Tustin Station - IBC West)

Project Applicant: City of Irvine

Project Location - Specific:

Tustin Station, Barranca at Armstrong, Armstrong at Deere, Armstrong at Alton, Armstrong at McGaw, Armstrong at Reynolds, Armstrong at Gillette, Gillette at Reynolds, Gillette at McGaw and Gillette at Alton.

Project Location – City: Irvine Project Location – County: Orange

Description of Nature, Purpose and Beneficiaries of Project:

A compressed natural gas fueled rubber tire shuttle system that will provide services outlined in the attached route maps. Beneficiaries include residents, employees, and visitors within Irvine.

Name of Public Agency Approving Project: Public Agency: City of Irvine

Name of Person or Agency Carrying Out Project: Public Agency: City of Irvine

Exempt Status: **(check one)**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: New Construction or Conversion of Small Structures, 15303
- ☒ Statutory Exemptions. State code number: Public Resource Code 21080(b)(10)

Reasons why project is exempt:

The approval of the Irvine Spectrum Shuttle Expansion Plan is CEQA exempt because (1) the program involves the statutorily exempt institution or increase of passenger or commuter services on highway rights-of-way already in use (Pub. Resources Code, § 21080(b)(10)); (2) the structural components of the program, such as bus stop signage or amenities, are categorically exempt small structures (14 Cal. Code Regs., § 15303); and (3) under the CEQA "catch-all" exemption. CEQA does not apply to a program, such as the The i Shuttle Revised Service Plan, that does not have the potential to cause a significant effect on the environment. (14 Cal. Code Regs., § 15061(b)(3).) NOTE: While the The i Shuttle Revised Service Plan may not meet the CEQA definition of a 'project', this NOE is nevertheless being filed (1) in the event the The i Shuttle Revised Service Plan is construed as a CEQA Project, and (2) in order to advance the public disclosure objectives inherent in the optional NOE procedures set forth in the CEQA Guidelines.

Lead Agency Contact Person: Lisa Thai Area Code/Telephone/Extension: (949) 724-7384

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☒ No

Signature: [signature] Date: 2/23/16 Title: Senior Transportation Analyst

☒ Signed by Lead Agency
☐ Signed by Applicant

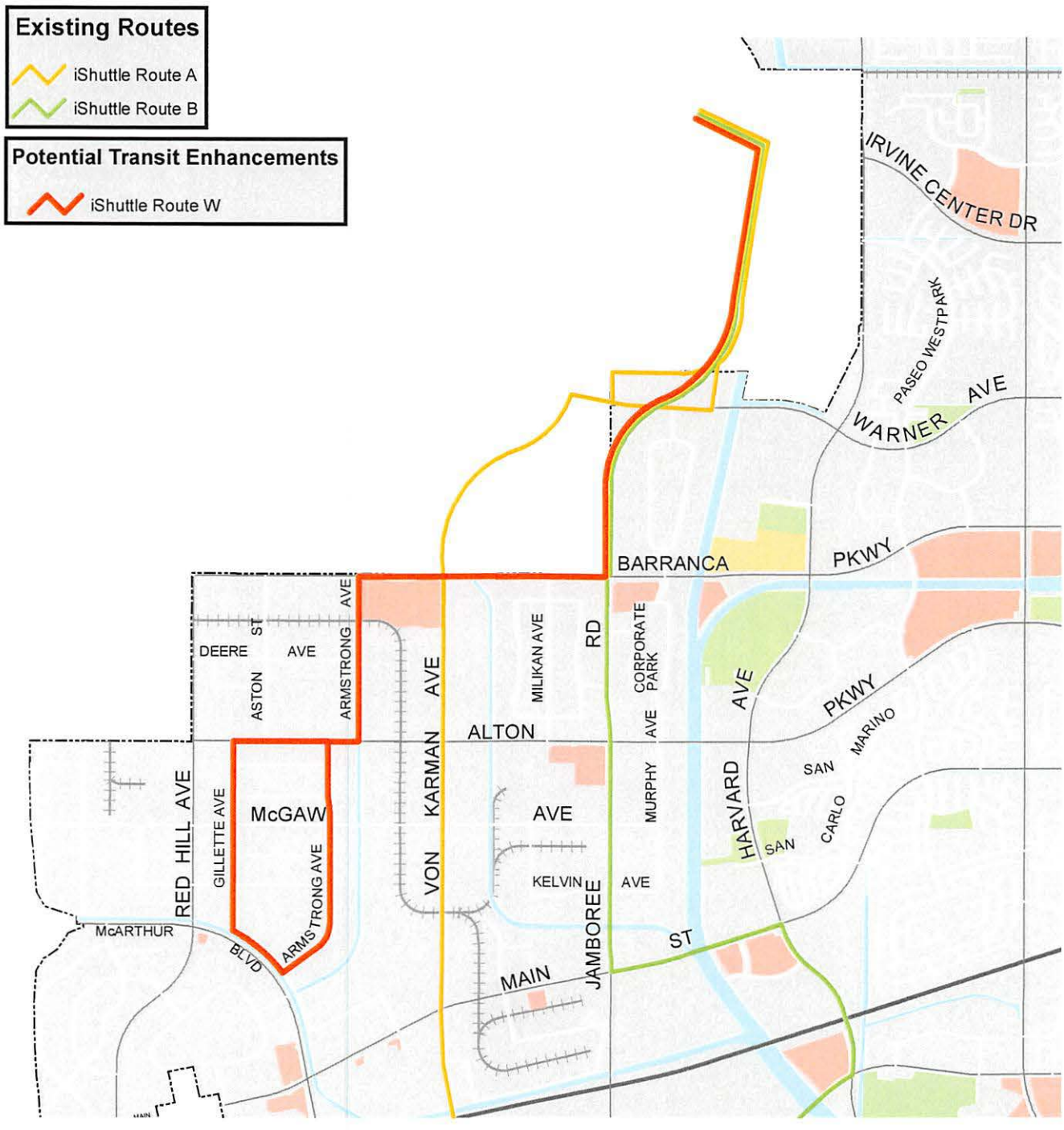
Date received for filing at OPR: _____

Revised 2011

CITY OF IRVINE

POTENTIAL TRANSIT ENHANCEMENTS

iShuttle Route W



ALBERT GROVER & ASSOCIATES

Note: GIS base mapping provided by City of Irvine.

Date: 2/17/2016

Path: C:\Users\AGA\Desktop\GIS IRVINE DATA BACKUP\Irvine\EG\iShuttle_RouteW.mxd

OPERATIONS PLAN (First Year)

Route Operating Characteristics									Daily Per-Shuttle Metrics			Performance Indicators						
Description	Route	Service Span	Headway (min)	Service Days per Year	Projected Daily Boardings	Shuttles in Service	Trip Distance (Miles)	Bus Stops	Round-Trip Runtime w/ Recovery (min)	Vehicle RevenueHours	Vehicle Revenue Miles	Daily Vehicle Revenue Hours	Boardings per Revenue Hour	Daily Vehicle Revenue Miles	Boardings per Revenue Mile	Annual boardings	Annual Vehicle Revenue Hours	Annual Vehicle Revenue Miles
Tustin Metrolink Station, SB Armstrong/Barranca, SB Armstrong/Deere, WB Alton/Armstrong, SB Armstrong/McGaw, SB Armstrong/Reyholds, SB Armstrong/Gillette, NB Gillette/Reynolds, NB Gillette/McGaw, NB Gillette/Alton, EB Alton/Armstrong, NB Armstrong/Deere, NB Armstrong/Barranca	**iShuttle Route W - Tustin Station - IBC West**	6:15 - 9:30 am 3:20 - 7:25 pm (Mon-Fri)	10	255	157	3	8.0	13	30	7	109.3	21	7	328	0.5	40,152	5,355	250,919

OPERATIONS PLAN
FLEET

Vehicles will be procured by OCTA for use with iShuttle Route W. It is suggested that three 27- to 32-foot compressed natural gas vehicles seating 20-30 passengers (or equivalent) be purchased.

It is estimated that the cost of these vehicles will be approximately $203,500 per bus.

OPERATIONS PLAN
STOP LOCATIONS

Project W – iShuttle Route W (Tustin Metrolink Station to IBC West)

- Tustin Metrolink Station
- SB Armstrong/Barranca
- SB Armstrong/Deere
- WB Alton/Armstrong
- SB Armstrong/McGaw
- SB Armstrong/Reynolds
- SB Armstrong/Gillette
- NB Gillette/Reynolds
- NB Gillette/McGaw
- NB Gillette/Alton
- EB Alton/Armstrong
- NB Armstrong/Deere
- NB Armstrong/Barranca

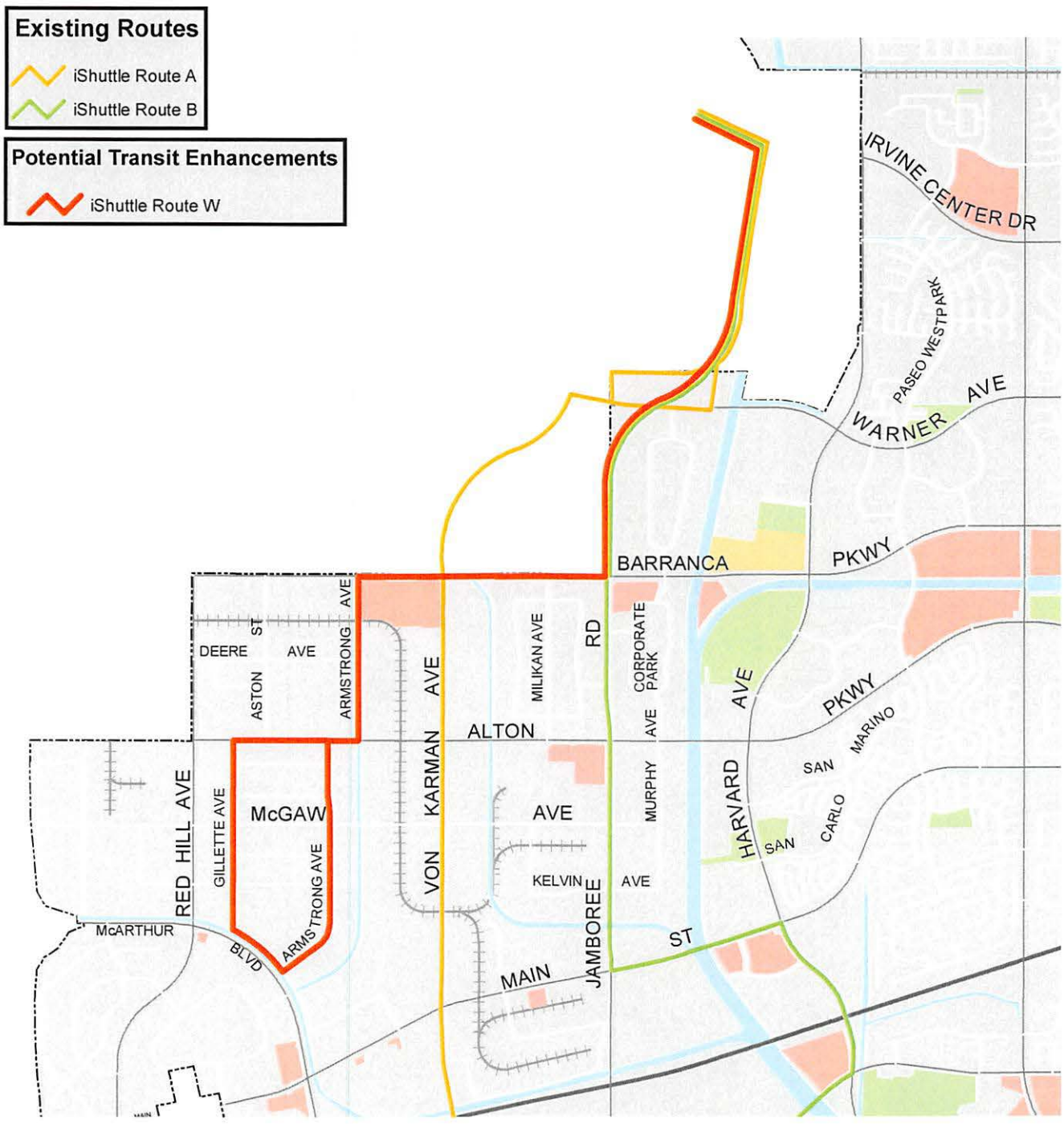
OPERATIONS PLAN
ROUTE MAP

Attached is the proposed route map for the iShuttle Route W (Tustin Station – IBC West).

CITY OF IRVINE

POTENTIAL TRANSIT ENHANCEMENTS

iShuttle Route W



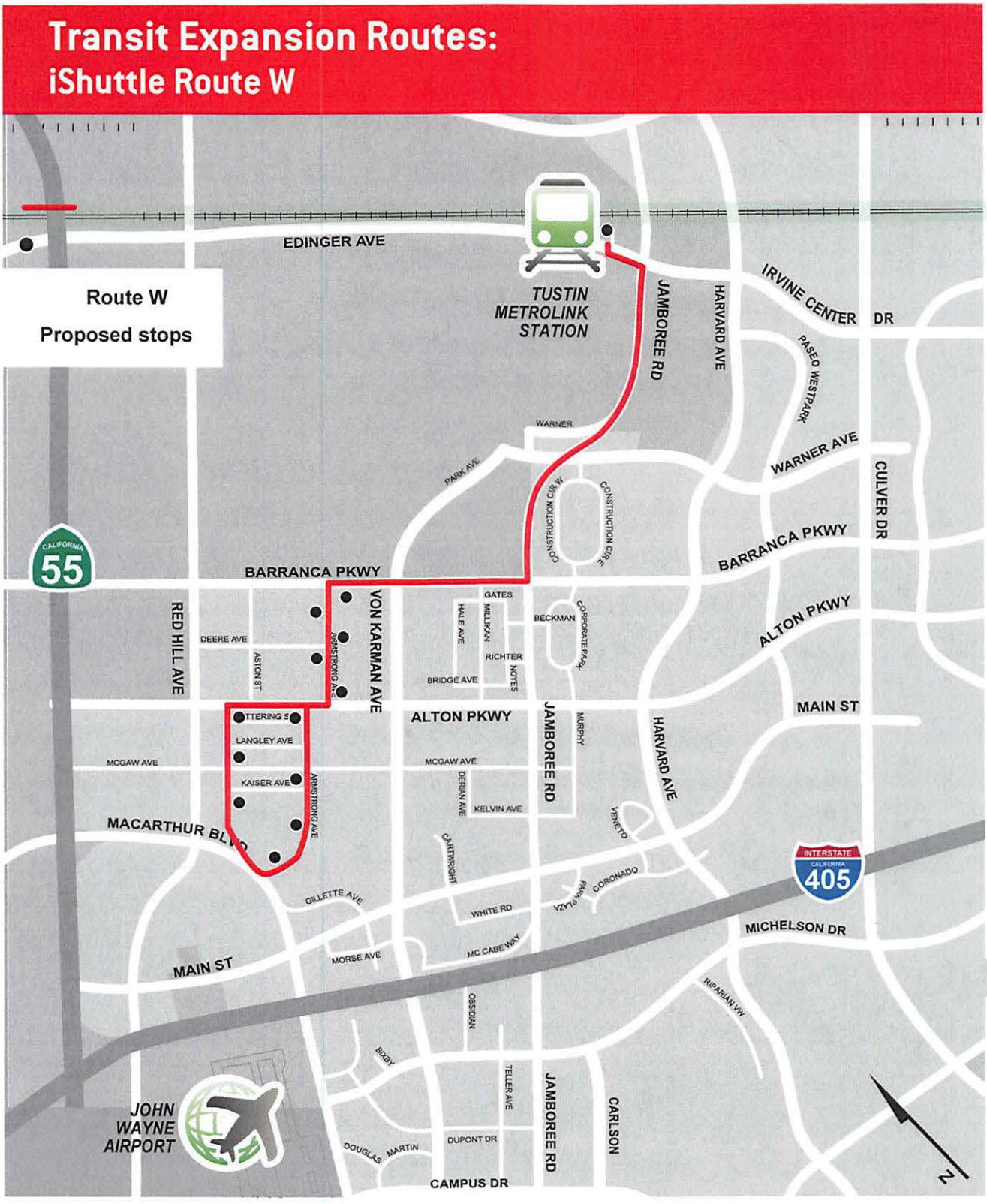
Albert Grover & Associates

Note: GIS base mapping provided by City of Irvine.

Date: 2/17/2016

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Updated Route W Map



OPERATIONS PLAN
DRAFT TIME TABLE

Tustin Metrolink Station	SB Armstrong/Barranca	SB Armstrong/Deere	WB Alton/Armstrong	SB Armstrong/McGaw	SB Armstrong/Reynolds	SB Armstrong/Gillette	NB Gillette/Reynolds	NB Gillette/McGaw	NB Gillette/Alton	EB Alton/Armstrong	NB Armstrong/Deere	NB Armstrong/Barranca	Tustin Metrolink Station
AM SERVICE													
6:15 AM	6:20 AM	6:21 AM	6:23 AM	6:25 AM	6:26 AM	6:27 AM	6:28 AM	6:29 AM	6:31 AM	6:32 AM	6:33 AM	6:34 AM	6:40 AM
6:25 AM	6:30 AM	6:31 AM	6:33 AM	6:35 AM	6:36 AM	6:37 AM	6:38 AM	6:39 AM	6:41 AM	6:42 AM	6:43 AM	6:44 AM	6:50 AM
6:35 AM	6:40 AM	6:41 AM	6:43 AM	6:45 AM	6:46 AM	6:47 AM	6:48 AM	6:49 AM	6:51 AM	6:52 AM	6:53 AM	6:54 AM	7:00 AM
6:45 AM	6:50 AM	6:51 AM	6:53 AM	6:55 AM	6:56 AM	6:57 AM	6:58 AM	6:59 AM	7:01 AM	7:02 AM	7:03 AM	7:04 AM	7:10 AM
6:55 AM	7:00 AM	7:01 AM	7:03 AM	7:05 AM	7:06 AM	7:07 AM	7:08 AM	7:09 AM	7:11 AM	7:12 AM	7:13 AM	7:14 AM	7:20 AM
7:05 AM	7:10 AM	7:11 AM	7:13 AM	7:15 AM	7:16 AM	7:17 AM	7:18 AM	7:19 AM	7:21 AM	7:22 AM	7:23 AM	7:24 AM	7:30 AM
7:15 AM	7:20 AM	7:21 AM	7:23 AM	7:25 AM	7:26 AM	7:27 AM	7:28 AM	7:29 AM	7:31 AM	7:32 AM	7:33 AM	7:34 AM	7:40 AM
7:25 AM	7:30 AM	7:31 AM	7:33 AM	7:35 AM	7:36 AM	7:37 AM	7:38 AM	7:39 AM	7:41 AM	7:42 AM	7:43 AM	7:44 AM	7:50 AM
7:35 AM	7:40 AM	7:41 AM	7:43 AM	7:45 AM	7:46 AM	7:47 AM	7:48 AM	7:49 AM	7:51 AM	7:52 AM	7:53 AM	7:54 AM	8:00 AM
7:45 AM	7:50 AM	7:51 AM	7:53 AM	7:55 AM	7:56 AM	7:57 AM	7:58 AM	7:59 AM	8:01 AM	8:02 AM	8:03 AM	8:04 AM	8:10 AM
7:55 AM	8:00 AM	8:01 AM	8:03 AM	8:05 AM	8:06 AM	8:07 AM	8:08 AM	8:09 AM	8:11 AM	8:12 AM	8:13 AM	8:14 AM	8:20 AM
8:05 AM	8:10 AM	8:11 AM	8:13 AM	8:15 AM	8:16 AM	8:17 AM	8:18 AM	8:19 AM	8:21 AM	8:22 AM	8:23 AM	8:24 AM	8:30 AM
8:15 AM	8:20 AM	8:21 AM	8:23 AM	8:25 AM	8:26 AM	8:27 AM	8:28 AM	8:29 AM	8:31 AM	8:32 AM	8:33 AM	8:34 AM	8:40 AM
8:25 AM	8:30 AM	8:31 AM	8:33 AM	8:35 AM	8:36 AM	8:37 AM	8:38 AM	8:39 AM	8:41 AM	8:42 AM	8:43 AM	8:44 AM	8:50 AM
8:35 AM	8:40 AM	8:41 AM	8:43 AM	8:45 AM	8:46 AM	8:47 AM	8:48 AM	8:49 AM	8:51 AM	8:52 AM	8:53 AM	8:54 AM	9:00 AM
8:45 AM	8:50 AM	8:51 AM	8:53 AM	8:55 AM	8:56 AM	8:57 AM	8:58 AM	8:59 AM	9:01 AM	9:02 AM	9:03 AM	9:04 AM	9:10 AM
8:55 AM	9:00 AM	9:01 AM	9:03 AM	9:05 AM	9:06 AM	9:07 AM	9:08 AM	9:09 AM	9:11 AM	9:12 AM	9:13 AM	9:14 AM	9:20 AM
9:05 AM	9:10 AM	9:11 AM	9:13 AM	9:15 AM	9:16 AM	9:17 AM	9:18 AM	9:19 AM	9:21 AM	9:22 AM	9:23 AM	9:24 AM	9:30 AM
PM SERVICE													
3:00 PM	3:05 PM	3:06 PM	3:08 PM	3:10 PM	3:11 PM	3:12 PM	3:13 PM	3:14 PM	3:16 PM	3:17 PM	3:18 PM	3:19 PM	3:25 PM
3:10 PM	3:15 PM	3:16 PM	3:18 PM	3:20 PM	3:21 PM	3:22 PM	3:23 PM	3:24 PM	3:26 PM	3:27 PM	3:28 PM	3:29 PM	3:35 PM
3:20 PM	3:25 PM	3:26 PM	3:28 PM	3:30 PM	3:31 PM	3:32 PM	3:33 PM	3:34 PM	3:36 PM	3:37 PM	3:38 PM	3:39 PM	3:45 PM
3:30 PM	3:35 PM	3:36 PM	3:38 PM	3:40 PM	3:41 PM	3:42 PM	3:43 PM	3:44 PM	3:46 PM	3:47 PM	3:48 PM	3:49 PM	3:55 PM
3:40 PM	3:45 PM	3:46 PM	3:48 PM	3:50 PM	3:51 PM	3:52 PM	3:53 PM	3:54 PM	3:56 PM	3:57 PM	3:58 PM	3:59 PM	4:05 PM
3:50 PM	3:55 PM	3:56 PM	3:58 PM	4:00 PM	4:01 PM	4:02 PM	4:03 PM	4:04 PM	4:06 PM	4:07 PM	4:08 PM	4:09 PM	4:15 PM
4:00 PM	4:05 PM	4:06 PM	4:08 PM	4:10 PM	4:11 PM	4:12 PM	4:13 PM	4:14 PM	4:16 PM	4:17 PM	4:18 PM	4:19 PM	4:25 PM
4:10 PM	4:15 PM	4:16 PM	4:18 PM	4:20 PM	4:21 PM	4:22 PM	4:23 PM	4:24 PM	4:26 PM	4:27 PM	4:28 PM	4:29 PM	4:35 PM
4:20 PM	4:25 PM	4:26 PM	4:28 PM	4:30 PM	4:31 PM	4:32 PM	4:33 PM	4:34 PM	4:36 PM	4:37 PM	4:38 PM	4:39 PM	4:45 PM
4:30 PM	4:35 PM	4:36 PM	4:38 PM	4:40 PM	4:41 PM	4:42 PM	4:43 PM	4:44 PM	4:46 PM	4:47 PM	4:48 PM	4:49 PM	4:55 PM
4:40 PM	4:45 PM	4:46 PM	4:48 PM	4:50 PM	4:51 PM	4:52 PM	4:53 PM	4:54 PM	4:56 PM	4:57 PM	4:58 PM	4:59 PM	5:05 PM
4:50 PM	4:55 PM	4:56 PM	4:58 PM	5:00 PM	5:01 PM	5:02 PM	5:03 PM	5:04 PM	5:06 PM	5:07 PM	5:08 PM	5:09 PM	5:15 PM
5:00 PM	5:05 PM	5:06 PM	5:08 PM	5:10 PM	5:11 PM	5:12 PM	5:13 PM	5:14 PM	5:16 PM	5:17 PM	5:18 PM	5:19 PM	5:25 PM
5:10 PM	5:15 PM	5:16 PM	5:18 PM	5:20 PM	5:21 PM	5:22 PM	5:23 PM	5:24 PM	5:26 PM	5:27 PM	5:28 PM	5:29 PM	5:35 PM
5:20 PM	5:25 PM	5:26 PM	5:28 PM	5:30 PM	5:31 PM	5:32 PM	5:33 PM	5:34 PM	5:36 PM	5:37 PM	5:38 PM	5:39 PM	5:45 PM
5:30 PM	5:35 PM	5:36 PM	5:38 PM	5:40 PM	5:41 PM	5:42 PM	5:43 PM	5:44 PM	5:46 PM	5:47 PM	5:48 PM	5:49 PM	5:55 PM
5:40 PM	5:45 PM	5:46 PM	5:48 PM	5:50 PM	5:51 PM	5:52 PM	5:53 PM	5:54 PM	5:56 PM	5:57 PM	5:58 PM	5:59 PM	6:05 PM
5:50 PM	5:55 PM	5:56 PM	5:58 PM	6:00 PM	6:01 PM	6:02 PM	6:03 PM	6:04 PM	6:06 PM	6:07 PM	6:08 PM	6:09 PM	6:15 PM
6:00 PM	6:05 PM	6:06 PM	6:08 PM	6:10 PM	6:11 PM	6:12 PM	6:13 PM	6:14 PM	6:16 PM	6:17 PM	6:18 PM	6:19 PM	6:25 PM
6:10 PM	6:15 PM	6:16 PM	6:18 PM	6:20 PM	6:21 PM	6:22 PM	6:23 PM	6:24 PM	6:26 PM	6:27 PM	6:28 PM	6:29 PM	6:35 PM
6:20 PM	6:25 PM	6:26 PM	6:28 PM	6:30 PM	6:31 PM	6:32 PM	6:33 PM	6:34 PM	6:36 PM	6:37 PM	6:38 PM	6:39 PM	6:45 PM
6:30 PM	6:35 PM	6:36 PM	6:38 PM	6:40 PM	6:41 PM	6:42 PM	6:43 PM	6:44 PM	6:46 PM	6:47 PM	6:48 PM	6:49 PM	6:55 PM
6:40 PM	6:45 PM	6:46 PM	6:48 PM	6:50 PM	6:51 PM	6:52 PM	6:53 PM	6:54 PM	6:56 PM	6:57 PM	6:58 PM	6:59 PM	7:05 PM
6:50 PM	6:55 PM	6:56 PM	6:58 PM	7:00 PM	7:01 PM	7:02 PM	7:03 PM	7:04 PM	7:06 PM	7:07 PM	7:08 PM	7:09 PM	7:15 PM
7:00 PM	7:05 PM	7:06 PM	7:08 PM	7:10 PM	7:11 PM	7:12 PM	7:13 PM	7:14 PM	7:16 PM	7:17 PM	7:18 PM	7:19 PM	7:25 PM

Funding Schedule for Irvine Proposition 116 Fund Exchange Agreement

Fiscal Year	Beginning Balance	Annual Funding Amount	Actual Expenses
A	B	C	D
2010-11	$0	$770,000	$725,264
2011-12	44,736	2,400,000	$2,359,311
2012-13	85,425	2,479,975	$2,524,711
2013-14	40,689	2,562,614	$1,832,046
2014-15	771,257	2,648,007	$1,914,835
2015-16	1,504,429	2,736,246	$1,773,408
2016-17	2,467,268	2,827,425	$1,196,854
2017-18	2,092,026	2,921,643	
2018-19	5,013,669	3,019,000	
2019-20	8,032,669	3,119,601	
2020-21	11,152,270	3,223,555	
2021-22	14,375,825	3,330,972	
2022-23	17,706,797	3,441,969	
2023-24	21,148,766	3,556,665	
2024-25	24,705,431	3,675,183	
2025-26	28,380,614	3,797,650	
2026-27	32,178,264	3,924,198	
2027-28	36,102,462	4,054,963	
2028-29	40,157,425	4,190,085	
2029-30	44,347,510	4,329,710	
2030-31	48,677,220	4,473,988	
2031-32	53,151,208	4,623,073	
2032-33	57,774,281	4,777,127	
2033-34	62,551,408	4,936,314	
2034-35	67,487,721	5,100,805	
2035-36	72,588,526	5,270,778	
2036-37	77,859,304	5,446,414	
2037-38	83,305,718	5,627,904	
2038-39	88,933,621	5,815,441	
2039-40	94,749,062	6,009,227	
2040-41	100,758,288	6,209,471	
Total:		**$121,300,000**	**$12,326,428**

ATTACHMENT 7

3.11

RECEIVED
CITY OF IRVINE
CITY CLERK'S OFFICE

2017 NOV 14 PM 1:38

Memo

RECEIVED

NOV 14 2017

CITY OF IRVINE
CITY MANAGER'S OFFICE

To: Sean Joyce, City Manager

From: Melissa Fox, Councilmember

Date: November 13, 2017

Re: **Community Partnership Fund Grant Nomination**

In accordance with City Council Resolution No. 08-42, I am requesting the City Council approve a $250 community partnership grant award to South Cardinal Football and Cheer in support of the South Cardinal Cheer Team.

South Cardinal Football and Cheer is a youth sports program in Irvine, which will compete within the Orange Empire Conference of the National Pop Warner Youth Football and Cheer Organization. They are committed to excellence in character, community, academics and athletics.

The above organization is a qualified 501(c)(3) tax-exempt organization.

Should the City Council approve this request, the organization will enter into a Funding Agreement with the City that specifies the grants use of funds, reporting requirements and regulatory compliance.

I would like to place this item on the November 28 City Council agenda to approve this community partnership grant award and authorize the City Manager to prepare and execute Funding Agreements.

cc: Irvine City Council
Molly McLaughlin, City Clerk

4.1

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: APPROVAL OF BOND ISSUANCE BY THE CALIFORNIA MUNICIPAL FINANCE AUTHORITY FOR FINANCING AND REFINANCING CERTAIN EDUCATIONAL FACILITIES AND OTHER RELATED MATTERS FOR CONCORDIA UNIVERSITY

Director of Administrative Services

City Manager

RECOMMENDED ACTION

1. Receive staff report.
2. Open the public hearing; receive public input.
3. Close the public hearing.
4. City Council comments and questions.
5. Adopt - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, APPROVING THE ISSUANCE OF BONDS BY THE CALIFORNIA MUNICIPAL FINANCE AUTHORITY IN A MAXIMUM AGGREGATE PRINCIPAL AMOUNT OF $40,000,000 FOR THE PURPOSES OF FINANCING AND REFINANCING THE COSTS OF CONSTRUCTION, EXPANSION, IMPROVEMENT, RENOVATION, FURNISHING AND EQUIPPING OF CERTAIN EDUCATIONAL FACILITIES AND CERTAIN OTHER MATTERS RELATING THERETO

EXECUTIVE SUMMARY

Concordia University (Concordia) submitted an application to the California Municipal Finance Authority (Authority) to issue tax-exempt revenue bonds in an amount not to exceed $40 million for the purposes of financing and refinancing the construction, expansion, improvement, renovation, furnishing and equipping of certain educational facilities. The Authority was created pursuant to a joint exercise of powers agreement to promote economic, cultural and community development through the financing of economic development and charitable activities throughout California. Federal tax law and Section 4 of the Authority's Joint Exercise of Powers Agreement require a public hearing be held in the jurisdiction where the project is located and approval by the governing body prior to the Authority's issuance of bonds. Adoption of the attached resolution would allow the issuance of the bonds by the Authority.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Not applicable.

ANALYSIS

Concordia is a private institution founded in 1972 in Irvine with a campus size of approximately 70 acres. Concordia offers undergraduate, graduate, and accelerated degree programs through online and regional cohort options, and has a total enrollment of approximately 4,000 students.

Concordia issued revenue bonds in the past to finance the acquisition, construction, expansion, improvement, renovation, and furnishing of various educational facilities, including the Education, Business, and Technology Building, student housing, and athletic facilities. In 2011, the Authority and Concordia issued bonds to refund the prior revenue bonds. Concordia has now submitted an application to the Authority for new bonds, the proceeds of which will be used to refinance the 2011 bonds and to provide funding for new educational facilities, including a Music Worship Theology Building on campus.

The Authority is authorized to issue bonds to promote economic development and public benefit. It has issued over $14 billion in bonds for more than 270 jurisdictions within the State of California. To initiate such financing, the City, as a member participant of the Authority in which the borrower's facilities is located, must conduct a public hearing and approve the Authority's issuance of indebtedness. The City previously approved the Authority's 2011 bonds for Concordia. More recently, in May 2017, through the California Statewide Communities Development Authority, the City approved financing for student housing facilities at the University of California, Irvine.

The proposed issuance of tax-exempt revenue bonds will reduce financing and debt service costs for Concordia University.

ALTERNATIVES CONSIDERED

The City Council could choose not to approve the issuance of these bonds. Without City Council approval, these bonds could not be financed through the Authority. Since there is no financial obligation to the City and the issuance of tax-exempt bonds is beneficial to Concordia University, this option is not recommended.

FINANCIAL IMPACT

There is no cost to the City associated with this item. The bonds are not an obligation of the City.

REPORT PREPARED BY Jennifer King, Finance Administrator

ATTACHMENT City Council Resolution

CITY COUNCIL RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, APPROVING THE ISSUANCE OF BONDS BY THE CALIFORNIA MUNICIPAL FINANCE AUTHORITY IN A MAXIMUM AGGREGATE PRINCIPAL AMOUNT OF $40,000,000 FOR THE PURPOSES OF FINANCING AND REFINANCING THE COSTS OF CONSTRUCTION, EXPANSION, IMPROVEMENT, RENOVATION, FURNISHING AND EQUIPPING OF CERTAIN EDUCATIONAL FACILITIES AND CERTAIN OTHER MATTERS RELATING THERETO

WHEREAS, pursuant to Chapter 5 of Division 7 of Title 1 of the Government Code of the State of California (the "Act"), certain public agencies (the "Members") have entered into a Joint Exercise of Powers Agreement Relating to the California Municipal Finance Authority, dated as of January 1, 2004 (the "Agreement") in order to form the California Municipal Finance Authority (the "Authority"), for the purpose of promoting economic, cultural and community development, and in order to exercise any powers common to the Members, including the issuance of bonds, notes or other evidences of indebtedness; and

WHEREAS, the City of Irvine, California (the "City") has previously become a Member of the Authority in order to facilitate the promotion of economic, cultural and community development activities in the City, including the financing of projects therefor by the Authority; and

WHEREAS, the Authority is authorized to issue revenue bonds for the purpose, among others, of financing or refinancing the construction of capital projects; and

WHEREAS, Concordia University, Irvine (the "Corporation"), an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986 (the "Code"), and a California nonprofit religious corporation, has requested that the Authority participate in the issuance of one or more series of revenue bonds in an aggregate principal amount not to exceed $40,000,000 (such issuance of bonds of the Authority referred to as the "Bonds") for the purposes of (i) refinancing revenue bonds currently outstanding in the aggregate principal amount of approximately $24,604,750, the proceeds of which were used to refinance the construction, expansion, improvement, renovation, furnishing and equipping of various educational facilities (the "Prior Facilities") of the Corporation, all located at the Corporation's main campus (the "Campus"), the address for which is 1530 Concordia West, Irvine, California 92612; (ii) financing, including reimbursing the Corporation for, the costs of the construction, expansion, improvement, renovation, furnishing and equipping of various new educational facilities of the Borrower, including a Music Worship Theology building to be located on the Campus (together with the Prior Facilities, the "Facilities"), and (iii) paying certain costs of issuing the Bonds (collectively, the "Project"). All of the Facilities are owned and operated by the Corporation and are located within the City; and

ATTACHMENT

WHEREAS, pursuant to Section 147(f) of the Code, prior to their issuance, the Bonds are required to be approved by the "applicable elected representative" of the governmental unit on whose behalf the Bonds are expected to be issued and by a governmental unit having jurisdiction over the entire area in which any facility financed or refinanced by the Bonds is to be located, after a public hearing held following reasonable public notice; and

WHEREAS, the facilities to be financed and refinanced are located within the territorial limits of the City; and

WHEREAS, the members of the City Council are the applicable elected representatives of the City; and

WHEREAS, there has been published, at least 14 days prior to the date hereof, in a newspaper of general circulation within the City of Irvine, a notice that a public hearing regarding the Bonds would be held on the date hereof; and

WHEREAS, such public hearing was conducted on the this date by the City Council, at which time an opportunity was provided to interested parties to present arguments both for and against the issuance of the Bonds; and

WHEREAS, the Authority has requested that the City Council approve the issuance of the Bonds by the Authority in order to satisfy the public approval requirement of Section 147(f) of the Code and the requirements of Section 4 of the Agreement; and

WHEREAS, it is intended that this resolution shall constitute the approval of the Bonds and the Project required by Section 147(f) of the Code;

NOW THEREFORE, BE IT RESOLVED AND ORDERED by the City Council of the City of Irvine as follows:

Section 1. The above recitals are true and correct.

Section 2. The City Council hereby approves the Bonds and the Project to be financed or refinanced thereby. It is the purpose and intent of the City Council that this resolution constitute approval of the Bonds by the Authority for the purposes of (a) Section 147(f) of the Code by the applicable elected representative of the governmental unit having jurisdiction over the area in which the Project is located, in accordance with said Section 147(f) and (b) Section 4 of the Agreement. The City of Irvine does not bear any responsibility for the tax-exempt status of the Bonds, the debt service on the Bonds or any other matter related to the Bonds.

Section 3. The Bonds shall be subject to the approval of the Authority of all financing documents relating thereto to which the Authority is a party. The City shall have no responsibility or liability whatsoever with respect to the Bonds.

Section 4. The adoption of this Resolution shall not obligate the City or any department thereof to (i) provide any financing to acquire or construct the Facilities or any refinancing of the Facilities; (ii) approve any application or request for or take any other action in connection with any planning approval, permit or other action necessary for the acquisition, rehabilitation or operation of the Facilities; (iii) make any contribution or advance any funds whatsoever to the Authority; or (iv) take any further action with respect to the Authority or its membership therein.

Section 5. The officers of the City are hereby authorized and directed, jointly and severally, to do any and all things and to execute and deliver any and all documents which they deem necessary or advisable in order to carry out, give effect to and comply with the terms and intent of this resolution and the financing transaction approved hereby.

Section 6. The Clerk is hereby directed to forward a certified copy of this resolution to:

Ronald E. Lee, Esq.
Jones Hall, A Professional Law Corporation
475 Sansome Street, Suite 1700
San Francisco, California 94111

Section 7. This resolution shall take effect immediately upon its adoption.

PASSED and ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 28th day of November, 2017.

_____
MAYOR OF THE CITY OF IRVINE

ATTEST:

_____
CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, California, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 28th day of November, 2017.

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

_____
CITY CLERK OF THE CITY OF IRVINE

4.2

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: CITY COUNCIL OVERRIDE OF INCONSISTENCY DETERMINATION BY THE AIRPORT LAND USE COMMISSION OF ORANGE COUNTY

Acting Director of Community Development

City Manager

RECOMMENDED ACTION

1. Receive staff report.
2. Reopen the public hearing, receive public input.
3. Close the public hearing.
4. City Council comments and questions.
5. City Council may either: Adopt RESOLUTION NO. 17-XX – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING FINDINGS TO OVERRIDE THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY INCONSISTENCY DETERMINATION FOR THE LANDMARK PROJECT LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX); FILED BY GREAT FAR EAST, LLC

   – OR –

   Determine the findings to override the Airport Land Use Commission decision on the Landmark project cannot be made, thereby invalidating the Planning Commission's approval of the Master Plan for the project.

EXECUTIVE SUMMARY

On October 24, 2017, the City Council continued a request by the project applicant for The Landmark Project, to consider an override of the Airport Land Use Commission's (ALUC) inconsistency determination for the project. The continuance was granted to allow the City's aviation consultant, Johnson Aviation, to complete an evaluation of the proposed project and provide a recommendation as to whether the City should grant the requested override. Prior City Council reports on this item are included as Attachments 1, 2 and 3 to provide historical context for the project.

The evaluation report (Attachment 4) requested by the City Council is now complete. Staff requests that the City Council review the project with the benefit of the additional

analysis provided by the consultant. The consultant's recommendation is that the City should accept the Federal Aviation Administration's (FAA) Determinations of No Hazard to Navigation for The Landmark Project.

ANALYSIS

At a public hearing on July 25, 2017, where the override of the ALUC decision was considered, the City Council requested the hiring of an independent aviation safety consultant to resolve the disagreement between the FAA and ALUC findings on the project and to provide a recommendation as to whether the override should be supported.

The consultant was tasked with reviewing all project plans, staff reports, environmental documents and public correspondence to gain an in-depth understanding of the:

a. Scope of the project
b. Site characteristics
c. FAA Determinations of No Hazard to Air Navigation
d. Objections raised by Airport Land Use Commission staff
e. Inconsistency determination made by the Airport Land Use Commission

To complete its review, the consultant reviewed all applicable project documents as well as any other documents, source material and technical information that would allow it to provide a thorough evaluation of the project and associated impacts.

The report completed by the consultant finds that the FAA's "aeronautical studies for the Landmark Hotel and Office structures are the definitive standard for assessing compliance with federal aviation safety laws and regulations."

If called upon to do so, the aviation consultant will be available to present the findings of the report and address any questions at the City Council hearing.

ALTERNATIVES CONSIDERED

The City Council may adopt the attached resolution, which includes findings in support of the override (Attachment 4), which will allow the project to proceed as proposed.

Alternatively, the City Council may decide that the required override findings cannot be made. Under this alternative, the Planning Commission's approval of the Commercial Master Plan for The Landmark Project would be invalidated.

The City Council could also request the applicant re-design the project to meet the maximum height requirements set forth in the ALUC staff report. This would require further review of the project by the ALUC and the Planning Commission.

FINANCIAL IMPACT

The evaluation by the aviation consultant is funded by the project applicant.

REPORT PREPARED BY Stephanie Frady, Senior Planner

ATTACHMENTS

Attachment 1	October 24, 2017 City Council Staff Report
Attachment 2	July 11, 2017 City Council Staff Report (without Attachment 5)
Attachment 3	July 25, 2017 City Council Staff Report (without Attachments 1 and 5)
Attachment 4	Safety Evaluation for The Landmark Project
Attachment 5	City Council Resolution 17-XX

cc: Sean Cao, Great Far East (via email: sean.cao@greatfareast.com)
Hope Fazio, Great Far East (via email: hope.fazio@greatfareast.com)
Tim Strader, Starpointe Ventures (via email: tj@starpointeventures.com)
Nick Johnson, Johnson Aviation (via email: nick.johnson@johnson-aviation.com)
Kari Rigoni, Airport Land Use Commission (via email: KRigoni@ocair.com)
Lea Choum, John Wayne Airport (via email: LChoum@ocair.com)
Joel Belding, Principal Planner
File: 00659728-PMPC

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: OCTOBER 24, 2017

TITLE: CITY COUNCIL OVERRIDE OF INCONSISTENCY DETERMINATION BY THE AIRPORT LAND USE COMMISSION OF ORANGE COUNTY

Acting Director of Community Development

City Manager

RECOMMENDED ACTION

1. Reopen the public hearing.
2. Continue the public hearing to the November 28, 2017 meeting.

EXECUTIVE SUMMARY

On July 25, 2017, the City Council reopened a public hearing, related to the request by the project applicant for The Landmark Project, to consider an override of the Airport Land Use Commission for Orange County's inconsistency determination for the project.

After the presentation of evidence by staff and testimony from a number of public speakers, the City Council requested that staff issue a limited Request for Proposals (RFP) to hire an independent aviation consultant. The consultant would be tasked with reviewing all project-related materials and providing a recommendation to the City Council concluding whether the proposed project is safe and whether the override request should be supported.

On July 26, staff issued an RFP for aviation consultant services and sent the RFP to eight firms. No proposals were received by the August 8 deadline. Some firms indicated interest, but stated that the established timeline for preparation of their review was insufficient and recommended that an additional 30 days be added to the schedule. As a result, a second RFP was issued on August 14 extending the deadline for submittal.

Staff received one response to the second RFP. The consultant was vetted and found to be responsive to the proposal and possess the qualifications necessary to complete the scope of work requested. The City has since entered into a contract with Johnson Aviation, Inc., setting the due date for the consultant's final evaluation of the project for November 9.

Staff, therefore, recommends the hearing on this item be continued to the November 28 City Council meeting.

ALTERNATIVES CONSIDERED

None.

FINANCIAL IMPACT

The evaluation by the aviation consultant will be funded by the project applicant.

REPORT PREPARED BY Stephanie Frady, Senior Planner

cc: Sean Cao, Great Far East (via email: sean.cao@greatfareast.com)
Hope Fazio, Great Far East (via email: hope.fazio@greatfareast.com)
Tim Strader, Starpointe Ventures (via email: tj@starpointeventures.com)
Nick Johnson, Johnson Aviation (via email: nick.johnson@johnson-aviation.com)
Kari Rigoni, Airport Land Use Commission (via email: KRigoni@ocair.com)
Lea Choum, John Wayne Airport (via email: LChoum@ocair.com)
Joel Belding, Principal Planner

File: 00659728-PMPC

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: JULY 11, 2017

TITLE: CITY COUNCIL OVERRIDE OF INCONSISTENCY DETERMINATION BY THE AIRPORT LAND USE COMMISSION OF ORANGE COUNTY

Director of Community Development

City Manager

RECOMMENDED ACTION

1. Receive staff report.
2. Open the public hearing, receive public input.
3. Close the public hearing.
4. City Council comments and questions.
5. ADOPT CITY COUNCIL RESOLUTION 17-XX – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING FINDINGS TO OVERRIDE THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY INCONSISTENCY DETERMINATION FOR THE LANDMARK PROJECT LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX); FILED BY GREAT FAR EAST, LLC

EXECUTIVE SUMMARY

Great Far East, LLC filed an application for a Commercial Master Plan to develop The Landmark, a mixed-use commercial development that includes a 15-story, 386-room hotel, a 15-story office building, ground level restaurant/retail space and a combination subterranean parking structure containing 2,089 parking spaces, located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36, the Irvine Business Complex (IBC).

On April 20, 2017, the Airport Land Use Commission (ALUC) for Orange County, which has shared jurisdiction with the City over developments in the vicinity of the airport, voted unanimously finding the proposed Landmark Project inconsistent with the 2008 John Wayne Airport Environs Land Use Plan (AELUP). The ALUC's staff report and decision letter is included as Attachment 1. The ALUC requests that the building height for the hotel component of the project be reduced by 47 feet and the office component by 95 feet. The request by ALUC would require significant redesign of the proposed project.

As a result of the ALUC decision, the applicant has the option to redesign the project and return for a new decision. Alternatively, the City Council may choose to override the ALUC decision at a noticed public hearing. The applicant has requested the City Council consider an override rather than pursuing a new project design.

The City Council must make specific findings that the proposed override is consistent with the purposes stated in Sections 21670, 21676(b) and 21676.5 of the Public Utilities Code. Staff recommends the Irvine City Council adopt the attached resolution, which includes findings in support of the override (Attachment 5).

CITY COMMISSION / BOARD / COMMITTEE RECOMMENDATIONS

On March 22, 2017, the Irvine Subdivision Committee reviewed and unanimously approved, with all members present, an application for Vesting Tentative Parcel Map 2016-139 to reconfigure parcel boundaries on the site into three parcels to facilitate the development of the project. Specifically, the parcel map subdivides the project site, totaling approximately seven acres, to create two numbered parcels, one for a future hotel and one for a future office building, and one lettered parcel for public street dedication along MacArthur Boulevard.

On June 15, 2017, the Irvine Planning Commission considered the Commercial Master Plan application for The Landmark Project and voted 4-0-1 (Commissioners Duong, Kuo, Nirschl and Smith voting in favor; Commissioner Bartlett absent) to approve the project contingent upon the City Council's approval of an override of the ALUC decision (Attachment 2). The Planning Commission reviewed the comment letters provided by the ALUC and John Wayne Airport (JWA) for the project. Specific attention was given to the flight tracks provided, which show that limited small, general aviation aircraft travel over the project site. Additionally, in response to the Airport's comment letter, the Planning Commission added an additional condition of approval on the project requiring glare studies be completed for the proposed office, hotel and solar panels on-site to ensure no impacts to airport operations occur.

On June 20, 2017, the Irvine Transportation Commission reviewed the Access Study for The Landmark Project. An Access Study analyzes a project's new or altered access points and the interface of these access points with the existing roadways. The study serves to assist with design of these access points and, if necessary, analyzes forecasted roadway operations as it relates to these new or altered access points. The Transportation Commission unanimously voted, with all members present, to accept the Access Study.

AIRPORT LAND USE COMMISSION HEARING

On April 20, 2017, the ALUC considered the proposed Landmark Project. When a project site is located within proximity of JWA, it is subject to the AELUP and state law requires the ALUC to make a determination whether the proposed land use is consistent with its

regulations and restrictions. At its meeting on April 20, the ALUC voted unanimously finding the proposed project inconsistent with the AELUP.

ANALYSIS

In January and March 2017, in accordance with Irvine Zoning Ordinance requirements for building height in the IBC, the Federal Aviation Administration (FAA) issued *Determinations of No Hazard to Air Navigation* for the proposed 253-foot high office and 204-foot high hotel buildings on the project site. The heights listed are measured above ground level. The FAA has sole review authority to determine whether proposed developments will result in hazards or impediments to air navigation safety.

Specifically, the *Determinations of No Hazard to Air Navigation* are based upon the results of aeronautical studies prepared by the FAA for the hotel and office buildings. The studies considered and analyzed the impact of the project on:

1. existing and proposed arrival, departure, and *en route* procedures for aircraft operating under both visual flight rules and instrument flight rules;
2. all existing and planned public-use airports, military airports and aeronautical facilities; and,
3. cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures.

The *Determinations of No Hazard to Air Navigation* states that the buildings are considered to be an obstruction, but not a hazard. An obstruction is defined as a building that is at a height in excess of a certain horizontal plane, but with the incorporation of mitigation measures (including such items as lighting and markings) will not pose a hazard to air navigation.

The studies determined that the hotel and office buildings would have no substantial adverse effect on air navigation. Additionally, the conclusion states that the "proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation."

At its meeting on April 20, the ALUC did not concur with the FAA *Determinations of No Hazard to Air Navigation* issued for the project and, instead, voted unanimously to find that the proposed project is inconsistent with the AELUP. Specifically, the ALUC requested the building height for the hotel be reduced by 47 feet and the office by 95 feet, to a maximum of 206 feet above mean sea level (AMSL), as airspace above 206 feet is reserved for air navigation. This request would require significant redesign of the proposed project.

Because of the ALUC determination, the applicant has the option to either 1) revise the project and return for a new decision, or 2) request the City Council override the ALUC

decision during a public hearing and make specific findings that the proposed override is consistent with Section 21676 of the Public Utilities Code. The applicant has decided not to redesign the project and has requested City Council consideration of an override.

Pursuant to state law, the City is required to initiate the ALUC override process to consider approval of the proposed project. The override process requires a 45-day advance notice to the ALUC of the City's intent to override its determination. Notice of intent to consider an override was provided to ALUC on May 25, 2017 (Attachment 3).

A two-thirds vote of the City Council is required to overrule a decision of the ALUC, and this action must occur prior to a final decision being made on the proposed project. Staff believes that the City Council should support the override for the following reasons:

1. State law states that the ALUC serves only as an "advisory body" to the City Council.

2. The height of the buildings is in compliance with the Irvine Zoning Ordinance, which defers to the FAA. The FAA is the single authority on air navigation safety and has issued official *Determinations of No Hazard to Air Navigation* for the office and hotel buildings proposed, which conclude:

    a. Details of the proposal were distributed as Public Notice to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structures, were received as a result of the Public Notice distribution.

    b. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for JWA.

    c. Upon recommendation from the FAA, the project applicant has voluntarily lowered the office structure height by 36 feet from the originally filed proposal not to exceed 301 feet AMSL to mitigate any adverse effect upon instrument procedural operations at JWA.

    d. No further attempt to negotiate the proposed structure to a lower height is considered necessary.

    e. A comment letter from JWA to the FAA noted that the height of both buildings is classified as an obstruction under Federal Aviation Regulation Part 77. JWA, therefore, recommended that the structures be reduced to a height not exceeding 206 feet AMSL, which would put them below the JWA Horizontal Surface. However, the FAA allows specific measures to be applied to buildings classified as obstructions. These measures include

the requirement to use specific lighting and markings to mitigate the presence of an obstruction. In implementing the measures, the buildings are not considered to be hazardous.

3. As recommended by the FAA, a condition of approval was added to Planning Commission Resolution 17-3615, approving the Commercial Master Plan for The Landmark Project, which requires the hotel and office building to be marked and lighted in accordance with FAA Advisory Circular 70-7460-1 L Change 1, Obstruction Marking and Lighting, red lights – Chapters 4, 5 (Red) & 12.

4. The proposed 15-story office building is not unique as there are several other tall buildings in the vicinity of the project site. Surrounding multi-story buildings include:

    a. 2600 Michelson – 16 stories (constructed in 1986),
    b. Tower 17, 18881 Von Karman – 17 stories (1987),
    c. Jamboree Center, 1-5 Park Plaza – 19 stories (1989-90),
    d. 2030 Main Street – 16 stories (1990),
    e. Lakeshore Tower, 18007 Von Karman – 18 stories (1990),
    f. MacArthur Court, 4675 MacArthur Ct, Newport Beach (the two towers located closest to the project site) – 15 stories (1985), and
    g. 3161 Michelson – 19 stories (2007).

5. The flight tracks provided in the JWA comment letter show sporadic flight paths of general aviation aircraft (*i.e.*, helicopters and/or small private planes) over the site. The flight tracks provide detailed depictions of the flight path for aircraft using the smaller runway and this flight path is located to the east, outside the project site. The Landmark Project is not located within flight paths associated with approach or departure from JWA.

All of the reasons above, as supplemented by the findings set forth in the attached City Council Resolution, support the City Council override of the ALUC inconsistency determination.

Should the City Council override the ALUC decision, the City will retain its status as a consistent agency with the AELUP and the City will not bear any liability in the event of an accident.

The City Council last issued an ALUC override in December 2005 for a general plan amendment to allow a residential project in the IBC. The project was Phases III – IV of the Plaza, Irvine, located at the corner of Jamboree Road and Diploma. The two buildings approved as part of that project were 200.9 feet AMSL and 115 feet AMSL.

Required Noticing and Correspondence

The initial step in the override process is to notify the ALUC and State Division of Aeronautics of the City's intention to overrule the ALUC decision. This notification must take place a minimum of 45 days prior to a final decision on the project and was sent to ALUC on May 25, 2017 (Attachment 3), within the prescribed timeframe. In turn, the ALUC/State may provide comments to the City for consideration up until 15 days prior to the hearing date.

On June 19, 2017, staff received a comment letter from the California Division of Aeronautics. This letter, included as Attachment 4, discusses the preliminary draft findings provided by staff in a May 25, 2017 letter. In response to the state's letter, staff has added additional supporting evidence to the findings in the attached resolution. New information added includes, for example, citations to the legal basis for the various findings; specifications of the tall buildings surrounding the project site to demonstrate that the project height is not unique; and a discussion of the flight tracks over the project site.

On June 26, 2017, staff received a second comment letter from the ALUC for Orange County. This letter is also included in Attachment 4. It reiterates the comments made previously during both the ALUC hearing in April 2017 and in the letter to the Planning Commission dated June 2017. Comments include the request to lower the heights of both the hotel and office building and that there are general aviation flight paths over the project site.

New information provided in this letter includes the fact that there were previous overrides granted to allow the other tall buildings in the vicinity of the project site, which in turn, caused JWA to modify general aviation operations. From review of the flight tracks included with the ALUC letter, the project site is not in the established flight path for JWA and general aviation aircraft have the option to fly elsewhere, not over the project site. Finally, the ALUC advises that Section 11010 of the California Business & Professions Code applies to the project, which requires placement of notice of airport proximity in sale/lease documentation. In response to the ALUC letter, staff has updated the attached resolution to include a discussion of this requirement in the findings.

ALTERNATIVES CONSIDERED

The City Council could decide not to support the request for an override of the ALUC decision or the City Council could direct the applicant to re-design the project to meet the maximum height requirements set forth in the ALUC staff report. This would require further review of the project by ALUC and the Planning Commission.

FINANCIAL IMPACT

The City's Budget Office estimates that the proposed hotel would generate approximately $632,000 in transient occupancy taxes (TOT) and $158,000 in Hotel Improvement District assessment fees for the first year of operation. For subsequent years, TOT is estimated to be $1.3 million and the Hotel Improvement District assessment fees are estimated to be $316,000 annually. These calculations are based on occupancy levels for similar hotels in the City, an average citywide room rate ($165 per night), and factors in market saturation. The applicant anticipates that the TOT generated by this hotel will be higher than estimated as the room rates will likely be higher than the average rate used in the City's calculation.

The property tax revenue generated from the project would also increase. According to data provided by the applicant, current property taxes paid to the City total approximately $24,000 per year. At full buildout, the project is expected to generate property taxes of $270,000 per year for the City. The potential sales tax revenue generated by the project is estimated to be approximately $100,000 per year based on restaurant and conference center sales of similar square footage and retail markets. Office employees would generate a nominal amount of sale tax revenue based on incidental spending in the City.

REPORT PREPARED BY: Stephanie Frady, Senior Planner

ATTACHMENTS

Attachment 1:	ALUC Staff Report dated April 20, 2017 and Decision Letter
Attachment 2:	Planning Commission Agenda Report dated June 15, 2017 with Attachments
Attachment 3:	Staff Notification Letter to ALUC dated May 25, 2017
Attachment 4:	Correspondence
Attachment 5:	City Council Resolution 17-XX

cc: Sean Cao, Great Far East (via email: sean.cao@greatfareast.com)
Hope Fazio, Great Far East (via email: hope.fazio@greatfareast.com)
Tim Strader, Starpointe Ventures (via email: tj@starpointeventures.com)
Kari Rigoni, Airport Land Use Commission (via email: KRigoni@ocair.com)
Lea Choum, John Wayne Airport (via email: LChoum@ocair.com)
Joel Belding, Principal Planner
File: 00659728-PMPC

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY
3160 Airway Avenue Costa Mesa, CA 92626 (949) 252-5170 Fax (949) 252-6012

REGULAR MEETING OF THE

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

April 20, 2017

PLEASE NOTE LOCATION

TIME:	**4:00 p.m.**	**PLACE:**	**John Wayne Airport** **3160 Airway Avenue**
SUBJECT:	**Regular Meeting**		**Costa Mesa, CA 92626** **Airport Commission Hearing Room**

NOTICE

PERSONS ADDRESSING THE COMMISSION ARE REQUESTED TO GIVE THEIR NAMES AND ADDRESSES FOR THE RECORD.

EXCEPT AS OTHERWISE PROVIDED BY LAW, NO ACTION WILL BE TAKEN ON ANY ITEM NOT APPEARING IN THE FOLLOWING AGENDA. THE RECOMMENDED ACTIONS STATED IN THE AGENDA ITEM OR UNDERLYING STAFF REPORTS SIMPLY REFLECT THE RECOMMENDATION OF THE COMMISSION STAFF AND THE DISCUSSION AND ACTION TAKEN BY THE COMMISSION MAY DEVIATE THEREFROM.

AT THE CONCLUSION OF THE MEETING ON ITEMS LISTED IN THIS AGENDA, MEMBERS OF THE PUBLIC MAY ADDRESS THE COMMISSION ON ITEMS OF INTEREST TO THE PUBLIC THAT ARE WITHIN THE SUBJECT MATTER JURISDICTION OF THE COMMISSION.

ALL SUPPORTING DOCUMENTATION IS AVAILABLE FOR PUBLIC REVIEW IN THE EDDIE MARTIN ADMINISTRATION BUILDING LOCATED AT 3160 AIRWAY AVENUE, COSTA MESA, CA 92626 DURING REGULAR BUSINESS HOURS, 8:00 A.M. – 5:00 P.M. MONDAY THROUGH FRIDAY. AGENDA ITEMS ARE ALSO AVAILABLE BY CALLING (949) 252-5170.

AGENDA

ORDER:

PLEDGE:

ATTACHMENT 1 TO CC REPORT DATED 7/11/17

APPROVAL OF MINUTES:

Regular Meeting of November 17, 2016:

Commissioners Present:	Gerald Bresnahan, Gary Miller, Diane Dixon, Stephen Beverburg, Jeff Mathews, Brendan OReilly
Alternate Commissioners Present:	Patricia Campbell, Tony Khoury, Schelly Sustarsic
Commissioners Absent:	Mark Monin

NEW BUSINESS:

1. **City of Irvine Request for Consistency review of the Landmark Project**:

   The project proponent, Great Far East, The Investment & Management Co, is proposing to construct a hotel and office building located in the western portion of the City of Irvine. The proposed project includes construction and operation of a 19-story, 448,200 square foot office building; a 15-story, 323,415 square foot, 386-room hotel; 13,665 square feet of retail and restaurant space; and a 2,089-space parking structure. The proposed site is a 7-acre site located at 18872, 18912 and 18952 MacArthur Boulevard. The proposed project site is surrounded by a mix of land uses including office, multi-family residential, commercial, hotel and retail. The project site currently contains office buildings and parking which will all be demolished to implement the proposed project.

   Recommendation:

   1. That the Commission find the proposed Landmark Project Inconsistent with the *AELUP for JWA* per *AELUP* Sections 1.2 and 2.1.4, and PUC Section 21674 which state that the Commission is charged by PUC Section 21674(a) "to assist local agencies in ensuring compatible land uses in the vicinity of …existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses," and PUC Section 21674(b) "to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety and welfare."

   2. That the Commission find the proposed Landmark Project Inconsistent with the *AELUP for Heliports* per Section 1.2 which states that the *AELUP* seeks to protect the public from the adverse effects of aircraft noise, to ensure that sites are not proposed for locations where people and facilities are concentrated, and to ensure that structures or activities in the area would not adversely affect the navigable airspace.

2. **Administrative Status Report**:

   Receive and file memo regarding various administrative activities/issues, Commission correspondence sent/received, and pending project reviews.

   Receive staff update on JWA General Aviation Improvement Program.

3. **Proceedings with Consistent Agencies:**

   Aliso Viejo (April 15, 2004), Anaheim, Buena Park, Costa Mesa (October 17, 2008), Cypress (August 16, 2001), Fullerton (June 17, 2004), Garden Grove, Huntington Beach, Irvine, Laguna Hills, Lake Forest (June 15, 2006) Los Alamitos, Mission Viejo, Newport Beach (2006), Santa Ana (December 18, 2008), Stanton, Tustin, Westminster, and County of Orange.

4. **Proceedings with Inconsistent Agencies:**

   Laguna Woods (April 19, 2001) and Seal Beach.

5. **Items of Interest to the Commissioners:**

   Commissioners may comment on agenda or non-agenda matters, and ask questions of or give direction to staff; provided that no action may be taken on off-agenda items.

6. **Items of Interest to the Public:**

   Members of the public may address the Commission regarding any item within the subject matter jurisdiction of the Airport Land Use Commission provided that no action may be taken on off-agenda items unless authorized by law.

ADJOURNMENT: Next Regular Meeting: May 18, 2017

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

AGENDA ITEM 1

April 20, 2017

TO: Commissioners/Alternates

FROM: Kari A. Rigoni, Executive Officer

SUBJECT: City of Irvine Request for Consideration of the Landmark Project proposed at 18872, 18912 and 18952 MacArthur Boulevard

Background

The project proponent, Great Far East, The Investment & Management Co, is proposing to construct a hotel and office building located in the western portion of the City of Irvine. The proposed project includes construction and operation of a 19-story, 448,200 square foot office building; a 15-story, 323,415 square foot, 386-room hotel; 13,665 square feet of retail and restaurant space; and a 2,089-space parking structure. See Attachment 1 to view the Site Plan.

The proposed site is a 7-acre site located at 18872, 18912 and 18952 MacArthur Boulevard (See Attachment 2 for the Project Location Map). The site is generally bounded by MacArthur Boulevard and John Wayne Airport to the north and west, Douglas Street to the east, and Campus Drive to the south. The proposed project site is surrounded by a mix of land uses including office, multi-family residential, commercial, hotel and retail. The project site currently contains office buildings and parking which will all be demolished to implement the proposed project.

The project is being referred to your Commission because of the project's location within the Airport Planning Area for JWA and because the proposed project building heights exceed 200 feet above ground level (AGL). The hotel is proposed to 206 feet AGL and the office building is proposed to 253 feet AGL.

The City of Irvine has scheduled a public hearing on the proposed project as follows:

May 2017 Planning Commission

AELUP Issues

The project has been evaluated for conflicts with respect to aircraft noise, building heights, flight tracks, safety zones and the development of heliports.

Regarding Aircraft Noise Impacts

The proposed project is located within the JWA Master Plan 60 dBA CNEL noise contour (see Attachment 3). The Draft Addendum to the IBC Vision Plan and Mixed Use Overlay Zoning Code Environmental Impact Report for the Landmark Mixed-Use Project includes Project Design Feature (PDF 9-4) stating that the interior standard of 45 dBA CNEL will be achieved and that parks within the 60 dBA CNEL noise contour shall include signage indicating their proximity to JWA and related airport noise.

Regarding Height Restrictions

In Section 2.1.3 of the *JWA AELUP*, the Commission has incorporated the standards for height limits for determining obstructions and has incorporated the definitions of "imaginary surfaces" for airports as defined in Federal Aviation Regulations (FAR) Part 77. The proposed project is located within the FAR Part 77 "imaginary surfaces" referral area (see Attachments 4 and 5). The proposed heights for the project are 253 feet above mean sea level (AMSL) for the hotel and 301 feet AMSL for the office building. Both buildings would surpass the notification surface which would be penetrated at 95 feet AMSL.

Attachment 5 shows that the proposed project is located within the horizontal surface for JWA which would be penetrated at 206 feet AMSL. The proposed building heights at this site are 253 feet above mean sea level (AMSL) for the hotel and 301 feet AMSL for the office building. Both of the proposed buildings penetrate the horizontal surface. The hotel penetrates the surface by 47 feet and the office building by 95 feet. The airspace above 206 feet AMSL is reserved for air navigation. The project applicant filed Form 7460-1 with the Federal Aviation Administration (FAA) and has received a Determination of No Hazard to Air Navigation for both buildings. The FAA Aeronautical Study No. 2016-AWP-5166-OE for the hotel building and Aeronautical Study No. 2016-AWP-5171-OE for the office building are included as Attachment 6. Comments from JWA were sent to FAA regarding these FAA Aeronautical Studies and are included as Attachment 7.

Regarding Flight Tracks and Safety Zones

As shown in Attachment 8, the proposed project is located within Safety Zone 6, the traffic pattern zone, and would be subject to overflight from general aviation (GA) aircraft. Attachment 9 shows the flight tracks over the proposed project site. Exhibits were prepared to demonstrate the elevations of planes flying over the property. The exhibits in Attachment 9 show various days of normal operational flight tracks. Exhibits demonstrating general aviation operations for Wednesday, December 7, 2016 and Saturday, December 10, 2016 show some aircraft flying at 301 feet AGL (shown in blue) to 601 feet AGL (shown in red) over the proposed project site.

The exhibits showing general aviation operations for Tuesday, March 28, 2017 and Saturday, April 1, 2017 have a corresponding print out listing each flight, the time of day and elevation above the proposed project site. On both days, there were flights flying at 305 feet AGL to 500 feet AGL. With the proposed building heights of 253 feet AMSL and 301 feet AMSL, the buildings will be in close proximity to airspace used by general aviation aircraft that fly within the general traffic pattern consistently throughout the day. The flight track information suggests it would be prudent to reduce the proposed project building heights. Building the proposed project to 301 feet AMSL may impact flight patterns for existing GA operations at JWA and potentially cause safety concerns for aircraft and structures within that airspace.

Heliports

Heliports are not proposed as part of project. The City of Irvine General Plan includes language that states proposed heliport projects must comply with FAA Regulations, Caltrans Division of Aeronautics and the *AELUP for Heliports* in the development of heliports.

Helicopter operations are also a part of the JWA general aviation operations over the proposed project site. The exhibits in Attachment 9 for Tuesday, March 28, 2017 and Saturday, April 1, 2017 also include known helicopter operations.

Environmental Compliance

A Draft Addendum to the IBC Vision Plan and Mixed Use Overlay Zoning Code Environmental Impact Report for the Landmark Mixed-Use Project is being prepared as the CEQA documentation to analyze the potential impacts of the project. It will be released as an attachment to the City of Irvine Planning Commission staff report for their consideration during decision-making on the project.

Conclusion

Attachment 10 to this report contains excerpts from the project submittal package received from the City of Irvine for your reference. ALUC staff has reviewed this project with respect to compliance with the *AELUPs for JWA and Heliports*, including review of height restrictions, imaginary surfaces and flight tracks over the proposed project area.

The project is located within the horizontal surface for JWA and falls within the Safety Zone 6, Traffic Pattern Zone for JWA. As demonstrated by the flight track exhibits, this area would be subject to overflight activity. The airspace above 206 feet AMSL is reserved for air navigation and the proposed hotel would penetrate the horizontal surface by 47 feet, and the office building by 95 feet.

For your information, JWA staff provided comments on the Parcel Map 2016-139 for the proposed project on March 20, 2017 to the City of Irvine Subdivision Committee (See Attachment 11). The letter emphasized that the flight tracks over the proposed project site show GA aircraft flying at elevations starting at 301 feet AMSL over the proposed project site. Building the proposed project to 301 feet AMSL may impact the flight patterns for existing GA operations at JWA and potentially cause safety concerns for aircraft and structures within that airspace.

In addition, the letter stated that it is the County's policy to maintain and ensure the safe operation of JWA and therefore, we continue to recommend that the structure height be reduced to below 206 feet AMSL, including all rooftop equipment and/or architectural details. For the safe operation of GA air traffic, the airspace above 206 feet AMSL needs to be reserved for air navigation.

Per Section 1.2 of the *JWA AELUP*, the purpose of the *AELUP* is to safeguard the general welfare of the inhabitants within the vicinity of the airport and to ensure the continued operation of the airport. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. Additionally, Section 2.1.4 of the *JWA AELUP* and PUC Section 21674 charge the Commission to coordinate at the local level to ensure compatible land use planning. Therefore, because the proposed project would be entering

airspace reserved for air navigation by penetrating the horizontal surface for JWA, staff is recommending the following:

Recommendation:

1. That the Commission find the proposed Landmark Project Inconsistent with the *AELUP for JWA* per *AELUP* Sections 1.2 and 2.1.4, and PUC Section 21674 which state that the Commission is charged by PUC Section 21674(a) "to assist local agencies in ensuring compatible land uses in the vicinity of ...existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses," and PUC Section 21674(b) "to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety and welfare."

2. That the Commission find the proposed Landmark Project Inconsistent with the *AELUP for Heliports* per Section 1.2 which states that the *AELUP* seeks to protect the public from the adverse effects of aircraft noise, to ensure that sites are not proposed for locations where people and facilities are concentrated, and to ensure that structures or activities in the area would not adversely affect the navigable airspace.

Respectfully submitted,

Kari A. Rigoni
Executive Officer

Attachments:

1. Project Site Plan
2. Project Location Map
3. JWA CNEL Contours
4. FAR Part 77 AELUP Notification Area for JWA
5. FAR Part 77 JWA Obstruction Imaginary Surfaces
6. FAA Aeronautical Study No. 2016-AWP-5166-OE and 2016-AWP-5171-OE
7. JWA letters to FAA
8. JWA Safety Zone Reference Map
9. Flight Tracks over proposed project
10. Submittal Package Excerpts from City of Irvine
11. JWA letter to the City of Irvine Subdivision Committee Parcel Map 2016-139

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

May 5, 2017

Stephanie Frady
City of Irvine
P.O. Box 19575
Irvine, CA 92623

Subject: Landmark Project

Dear Ms. Frady:

On April 20, 2017 the Airport Land Use Commission (ALUC) for Orange County considered the subject project. The matter was duly discussed, moved, seconded, and carried unanimously by the Commission to find the City of Irvine proposed Landmark Project Inconsistent with the *Airport Environs Land Use Plans (AELUPs) for John Wayne Airport (JWA)* and *Heliports* based on the following:

1. That the proposed Landmark Project is Inconsistent with the *AELUP for JWA* per *AELUP* Sections 1.2 and 2.1.4, and PUC Section 21674 which state that the Commission is charged by PUC Section 21674(a) "to assist local agencies in ensuring compatible land uses in the vicinity of …existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses," and PUC Section 21674(b) "to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety and welfare."

2. That the proposed Landmark Project Inconsistent with the *AELUP for Heliports* per Section 1.2 which states that the *AELUP* seeks to protect the public from the adverse effects of aircraft noise, to ensure that sites are not proposed for locations where people and facilities are concentrated, and to ensure that structures or activities in the area would not adversely affect the navigable airspace.

Please contact ALUC staff at (949) 252-5123 or via email at lchoum@ocair.com if you require additional information or have questions regarding this proceeding.

Sincerely,

Kari A. Rigoni
Executive Officer

REQUEST FOR PLANNING COMMISSION ACTION

MEETING DATE: JUNE 15, 2017

TITLE: COMMERCIAL MASTER PLAN FOR THE LANDMARK, A MIXED USE PROJECT CONTAINING HOTEL, RETAIL AND OFFICE USES LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX)

Director of Community Development

RECOMMENDED ACTION

1. Open public hearing; receive public input; Commission comments and questions.
2. Close public hearing.
3. Adopt RESOLUTION NO. 17-3615 – A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF IRVINE, CALIFORNIA, APPROVING COMMERCIAL MASTER PLAN 00659728-PMPC TO DEVELOP THE LANDMARK, A 15-STORY, 386-ROOM HOTEL, A 15-STORY OFFICE BUILDING AND GROUND-LEVEL RETAIL/RESTAURANT SPACE, LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX), CONTINGENT ON THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA OVERRULING THE DETERMINATION OF THE AIRPORT LAND USE COMMISSION OF THE COUNTY OF ORANGE THAT THE PROPOSED PROJECT IS NOT CONSISTENT WITH THE 2008 JOHN WAYNE AIRPORT ENVIRONS LAND USE PLAN; FILED BY GREAT FAR EAST, LLC

EXECUTIVE SUMMARY

Great Far East, LLC has filed an application for a Commercial Master Plan to develop The Landmark, a mixed use commercial development which includes a 15-story, 386-room hotel, a 15-story office building, ground level restaurant/retail space, and a combination subterranean parking structure containing 2,089 parking spaces, located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36, the Irvine Business Complex (IBC) (PC Attachment 1).

The project is located in the 5.1 IBC Multi-Use zoning district. A Master Plan is required, per Section 2-17-2(C)(2) of the Irvine Zoning Ordinance, as the IBC site includes two or more principal uses.

The proposed Commercial Master Plan establishes site level design standards and the exterior architectural treatment for the hotel, retail and office buildings. It also addresses on-site amenities provided for the hotel as well as parking, landscaping and vehicular and pedestrian circulation throughout the project site.

Within the IBC, the overall amount of development allowed is regulated by the development intensity value (DIV) budget assigned to each parcel. For the subject project site, there exists a cumulative DIV budget of 1,122 AM, 1,321 PM and 13,638 daily DIVs. The proposed project requires 779 AM, 976 PM and 11,180 daily DIVs, which is entirely covered by the site's budget.

As such, no transfer of development rights is necessary to facilitate the development of the project and, therefore, per Irvine's Traffic Impact Analysis Guidelines, the requirement for a Traffic Impact Analysis is not triggered. In the absence of a Traffic Impact Analysis, an Access Study was completed to analyze the proposed project. The study found that there would be "no impacts to vehicle access" and that "the proposed project will not significantly affect the surrounding circulation system." The City's Transportation Division staff reviewed the Access Study and supports the conclusions contained therein.

Staff reviewed the proposed project and determined it complies with all applicable standards of the Irvine Zoning Ordinance and is compatible with existing and anticipated future uses in the vicinity. Refer to the PC Information Sheet for additional details on the project (PC Attachment 2). Staff further determined that the proposed project will not be detrimental to the public health, safety or welfare, or be materially injurious to properties or improvements in the vicinity, and that it will be adequately serviced by existing utilities and facilities.

In the case of the proposed project, the Airport Land Use Commission (ALUC) for Orange County previously reviewed the proposed project and found it to be inconsistent with the 2008 John Wayne Airport Environs Land Use Plan (AELUP). This issue is discussed in detail later in this report; however, it means that the City Council must vote to override this decision if the project is to be approved. Consequently, an affirmative decision by the Planning Commission on the project would be contingent upon the City Council's approval of an override of the ALUC inconsistency determination.

Therefore, staff recommends the Planning Commission approve Commercial Master Plan 00659728-PMPC, subject to the draft conditions set forth in Planning Commission Resolution No. 17-3615 (PC Attachment 6) and contingent on the City Council overriding the ALUC inconsistency determination.

COMMISSION / BOARD / COMMITTEE RECOMMENDATION

On March 22, 2017, the Irvine Subdivision Committee reviewed and unanimously approved, with all members present, an application for Vesting Tentative Parcel Map

2016-139 to reconfigure three lots and one parcel into three parcels on the project site. Specifically, the parcel map subdivides the project site, totaling approximately seven acres, to create two numbered parcels, one for a future hotel and one for a future office building, and one lettered parcel for public street dedication along MacArthur Boulevard.

On April 20, 2017, the ALUC for Orange County considered the proposed Landmark Project. When a development project is subject to the AELUP, as the project site is located within close proximity to John Wayne Airport, state law requires the ALUC to make a determination whether the proposed land use is consistent with its regulations and restrictions. At its meeting on April 20th, the ALUC voted unanimously finding the proposed project inconsistent with the AELUP.

ANALYSIS

Surrounding Uses and Setting

The approximately seven-acre, irregularly-shaped project site is located in the western portion of the City of Irvine. The project site is generally bounded by MacArthur Boulevard and John Wayne Airport to the west, Douglas (a street) to the north and east, and an existing nine-story office building (19000 MacArthur Boulevard), Campus Drive and Martin (a street) to the south. Addresses associated with the project include 18872, 18912, and 18952 MacArthur Boulevard. The City of Irvine/City of Newport Beach corporate boundary is located just south of the site along Campus Drive/Irvine Avenue.

The subject lots/parcels are designated 5.1 IBC Multi-use on the City of Irvine Zoning Map. The City's General Plan Land Use Map designates the project site as Urban and Industrial. Specific land uses located in the vicinity of the project site include:

- North: Hilton Irvine / Orange County Airport Hotel (18800 MacArthur Boulevard)
- East: Carlyle Apartments (18880 Douglas)
- South: Campus-MacArthur Court Office Park (19000 MacArthur Boulevard)
- West: John Wayne Airport

The project site supports both office and restaurant uses. A four-story, 49,104-square-foot office building (18872 MacArthur Boulevard) is located on the northern corner of the project site, and a similar four-story, 47,118-square-foot office building (18952 MacArthur Boulevard) is at the southwest corner of the site. A stand-alone, 9,821-square-foot restaurant building (18972 MacArthur Boulevard) is located along the western portion of the project site between the two office buildings. In addition to these buildings, surface parking lots and ornamental landscape areas compose the balance of the project site. All existing development would be demolished should the proposed project be approved.

Project Description

The proposed project includes construction and operation of a 15-story, 448,200-square-foot office building; a 15-story, 323,415-square-foot, 386-room hotel; 13,665 square feet of retail and restaurant space; and a 2,089-space parking structure (PC Attachment 3).

The hotel building would be located on the northern portion of the project site, directly south of the intersection of MacArthur Boulevard and Douglas. The proposed hotel is a full-service hotel with 21,445 square feet of meeting and conference space, 5,043 square feet of restaurant and bar use on the ground floor, a 2,631 square-foot fitness center/spa, a rooftop lounge, swimming pool and outdoor deck. It is anticipated that the majority of guests staying at the hotel would be travelers conducting business in and around the IBC and the City of Irvine. The hotel would be located within walking distance of John Wayne Airport, and numerous office complexes and corporate headquarters.

A ground-level retail/restaurant space would be located immediately adjacent to the hotel building and partially front along Douglas. This area would be topped by the pool deck serving the hotel. There is also a stand-alone building planned within the interior loop drive area for the valet area and the site entrance/exit drive. The valet entrance and exit ramps accessing the subterranean garage would be located beneath this building.

The office building would be located on the southern part of the project site, adjacent to the existing off-site office building located on the northeast corner of the intersection of MacArthur Boulevard and Campus Drive.

The entire project site would sit atop a two level subterranean garage. There will be 1,060 parking spaces serving the hotel (valet only), retail and office (long-term) located underground. In addition to the subterranean garage, there will be a five level, above-ground parking structure which wraps around the office building along MacArthur Boulevard and the southern property line. This portion of the structure will contain 1,029 spaces serving the office building.

Access to the project site and parking structure will be provided via a proposed right-in/right-out driveway on MacArthur Boulevard and two existing full-access driveways on Douglas (one main driveway for employees and guests and a service-only access for maintenance and delivery vehicles). The service-only access consists of an inbound-only driveway and an outbound-only driveway.

Finally, sidewalk connections to all adjacent streets and for internal pedestrian access will be provided.

<u>Design</u>

The hotel and office buildings and associated improvements have been designed with a strong and appropriately scaled framework of architectural and landscape elements.

High-quality development features would be provided through site design (*e.g.*, building orientation, screening and placement of service areas), architecture (*e.g.*, mass, scale, form, style, material, and color) and streetscape elements (*e.g.*, lighting, paving materials). Overall, the proposed project would enhance and strengthen the existing quality of the project site through new landscaping, hardscape, and other improvements both on site and along the public rights-of-way.

Specifically, the buildings feature a contemporary design, entirely skinned by large glass windows and prominent steel window frames for architectural interest. This design moves away from the mix of stone, concrete and glass found on the existing nearby office buildings. When compared with other hotel and office buildings in the IBC, as well as other such buildings throughout the City of Irvine and in the nearby adjacent City of Newport Beach, the scale and massing of the proposed project would be consistent with existing development in both the immediate and in the broader project area.

For example, within an approximately 0.5-mile radius of the project site, there are several hotel or office buildings of similar size and height, including the 10-story Radisson Hotel Newport (4545 MacArthur Boulevard), the 15-story MacArthur Court office campus (4665 through 4695 MacArthur Court), the 17-story Airport Tower office building (18881 Von Karman Avenue), the 11-story Atrium office building (19100 and 19200 Von Karman Avenue), and the 19-story Lakeshore Towers office campus (18007 through 18191 Von Karman Avenue).

The design of the above ground parking structure is similar to existing structures located in the Spectrum Center area of the City. It will be painted white and have large horizontal rectangular cut outs along the sides. There are metal screens, to allow landscape screening to grow upwards, located on the ground level of the parking structure on both the MacArthur Boulevard side and the southern property line, as well as on all levels to fully screen the portion of the structure facing Douglas.

A portion of the fourth level of the parking structure, along the southern property line near Campus Drive, has been designed with landscaping and provides an outdoor activity area. This open space area will include a bocce court, central gathering area and a secondary seating area for the use of the office tenants. Solar panel shade structures are proposed at the upper level of the parking structure. Additionally, landscape screening is proposed and will utilize a combination of existing Pine and Poplar trees (off-site along the parking structure on the site to the immediate south), palm trees, African Fern Pine trees and hedges along the base of the structure.

In addition to its compatibility with surrounding development, the parking structure is of a similar design to the structures constructed to serve the office towers at 200 and 400 Spectrum Center Drive. The design of those other structures was refined after Planning Commission review and in accordance with conditions of approval that were placed on the projects at the time of their approval.

Landscaping / Signage

As discussed above, the site will receive an entirely new landscape treatment. Palm, pine and other trees (to be determined at a later date) will be planted along the property frontages and within the interior of the site. Hedges and flowers will also be planted around the exterior edges of the buildings. The street trees planned are consistent with the City's Master Streetscape Plan and the site landscape coverage of 23 percent exceeds the minimum requirement of 15 percent.

With regard to signage, the project plans show a conceptual primary building sign to be located on the hotel building, at grade, near the corner of the Douglas and MacArthur Boulevard. This primary sign, and all other signage proposed for the project, is not being approved in conjunction with this Master Plan and will be processed under a separate application.

Valet Service

Valet parking is proposed for the hotel only, in accordance with Section 4-8-1 (Valet Parking Operation Standards) of the Irvine Zoning Ordinance. All hotel guests will be required to utilize the valet parking service. Hotel guests will not be able to use the gated parking structure entrance for the office and retail/restaurant uses. Office and retail/restaurant guests will not be able to use the hotel's valet parking services.

Required Parking for On-site Uses

The overall parking requirement for the proposed project is 1,920 stalls. A total of 2,089 stalls are provided for a surplus of 169 stalls. A breakdown of the parking requirements per use follows.

Office: The parking rate for office, per Section 4-3-4 of the Irvine Zoning Ordinance, is four stalls per 1,000 square feet for the first 250,000 gross square feet plus two stalls per 1,000 square feet over 250,000 square feet. As such, the proposed office component of the project requires a minimum of 1,397 stalls. The project includes a total of 1,548 stalls dedicated to the office use, in compliance with the Zoning Ordinance requirement, which is broken down as follows: 830 long-term parking stalls, 153 full-sized stalls and eight compact stalls. In addition to the general use stalls, there are 11 handicapped accessible stalls, 22 motorcycle parking stalls and space for parking 110 bicycles proposed; all of which fully comply with the applicable Zoning Ordinance provisions.

Retail/Restaurant: As retail and restaurant uses have different parking requirements, staff used the restaurant rate to determine the required parking total as it requires a higher parking stall allocation. The parking rate for restaurant, per Section 4-3-4 of the Irvine Zoning Ordinance, is one stall per 75 square feet of gross floors area. As such, the proposed office component of the project requires a minimum of 183 stalls. A total of

183 full-size stalls and two accessible stalls are reserved for the restaurant/retail space on-site, in compliance with the Zoning Ordinance requirement.

Hotel: The Zoning Ordinance does not provide a parking ratio specific to hotel uses, but rather requires a parking study to determine the appropriate rate for each individual project. The applicant's parking study, dated November 29, 2016, concluded an applied parking ratio of 0.88 parking stalls per room would adequately serve both the hotel guests and employees (PC Attachment 4).

To determine an appropriate parking ratio, the parking study used a combination of surveys of comparable hotels, information provided by the applicant for typical operations, as well as localized information related to access to transit opportunities in the area. The parking study used a comparison hotel, the Irvine Spectrum Marriott Hotel at 7955 Spectrum Center Drive, which is similar in size and amenities provided. The parking study approved for that hotel set a rate of 0.88 parking stalls per room. Based upon the parking study and the factors outlined above, staff believes the proposed parking ratio of 0.88 parking stalls per room will adequately address the anticipated parking demand by both hotel guests and employees for the project.

A total of 349 full-size stalls and seven accessible stalls are reserved for the hotel use on-site, in compliance with the parking study completed. The parking rate discussed above nets a parking requirement of 340 spaces. Therefore, there will be a surplus of 16 parking stalls provided for the hotel use. Additionally, as the parking for this use will be valet-controlled, the stacking of cars can take place allowing for parking management practices that increase the parking capacity and efficiency when compared to self-parking arrangements.

Building Height Review - Airport Land Use Commission

In January and March 2017, in accordance with Irvine Zoning Ordinance requirements for building height in the IBC, the Federal Aviation Administration (FAA) issued Determinations of No Hazard to Air Navigation for the proposed 253-foot high office and 204-foot high hotel buildings on the project site. These determinations state that the "proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation."

As discussed above, at its meeting on April 20, 2017, the ALUC did not concur with the FAA Determinations of No Hazard issued for the project and, instead, voted unanimously to find that the proposed project is inconsistent with the AELUP. Specifically, the ALUC requested the building height for the hotel be reduced by 47 feet and the office by 95 feet, to a maximum of 206 feet above mean sea level, as that airspace is reserved for air navigation. This request would require significant redesign of the proposed project.

Because such a determination was made, per the AELUP, the applicant has the option to either 1) revise the project and return for a new decision, or 2) request the City Council override the ALUC decision during a public hearing and make specific findings that the proposed override is consistent with Section 21676 of the Public Utilities Code. The applicant has decided not to redesign the project and has requested City Council consideration of an override.

Pursuant to state law, the City is required to initiate the ALUC override process in order to consider approval of the proposed project. The override process requires a 45-day advance notice to the ALUC of the City's intent to override its determination. Notice of the intent to consider an override was provided to ALUC on May 25, 2017.

A two-thirds vote of the City Council is required to overrule a decision of the ALUC, and this action must occur prior to a decision being made on the proposed project. As such, the Planning Commission may only approve the project, contingent upon a decision to override the inconsistency finding. If the Planning Commission supports the proposed project, the override request will be considered by the City Council at a future meeting.

PUBLIC OUTREACH

On May 24, 2017, a notice of the June 15, 2017 Planning Commission hearing was mailed to property owners and occupants within a 500-foot radius and was posted at the project site as well as the City's standard posting locations. Staff has not received any public comments, other than those from the ALUC discussed above, related to this application to date.

ENVIRONMENTAL REVIEW

Pursuant to Section 15164 of the California Environmental Quality Act (CEQA) Guidelines, an Addendum to the IBC Vision Plan and Mixed Use Overlay Zoning Code Environmental Impact Report (EIR) (SCH No. 2007011024) for The Landmark project was completed in June 2017. This new addendum considers potential project impacts of the project in the areas of aesthetics, biological resources, air quality, greenhouse gas emissions, hazards/hazardous materials, hydrology/water quality, noise, public services, transportation/traffic and utilities (PC Attachment 5).

The June 2017 Addendum concludes that the project will not result in any new significant impacts that were not previously addressed in the IBC EIR. All previous mitigation measures, project design features, and programs, policies and procedures, as applicable, continue to apply to the proposed project and are included as conditions of approval in the resolution for this project. No new mitigation measures are required. This Addendum to the IBC EIR adequately serves as the environmental document for the proposed project and satisfies all requirements of CEQA.

ALTERNATIVES CONSIDERED

The Planning Commission could choose to recommend denial of the Commercial Master Plan or it could recommend project modifications. Staff does not recommend these alternatives as the project complies with the Irvine Zoning Ordinance and, as evidenced by the EIR Addendum, is consistent with the project evaluated in the IBC EIR.

FINANCIAL IMPACT

Information received from the City's Budget Office estimates that the proposed hotel would generate approximately $632,000 in transient occupancy taxes (TOT) and $158,000 in Hotel Improvement District taxes for the first year of operation. For subsequent years, TOT is estimated to be $1.3 million and the Hotel Improvement District tax is estimated to be $316,000 annually. These calculations are based upon the opening year for the hotel, the type of hotel constructed, as well as market saturation. Hotel guests whose stay does not exceed 30 consecutive days will pay TOT, consistent with the City's Municipal Code.

REPORT PREPARED BY: Stephanie Frady, Senior Planner

REVIEWED BY: Tim Gehrich, Deputy Director of Community Development
Joel Belding, Principal Planner

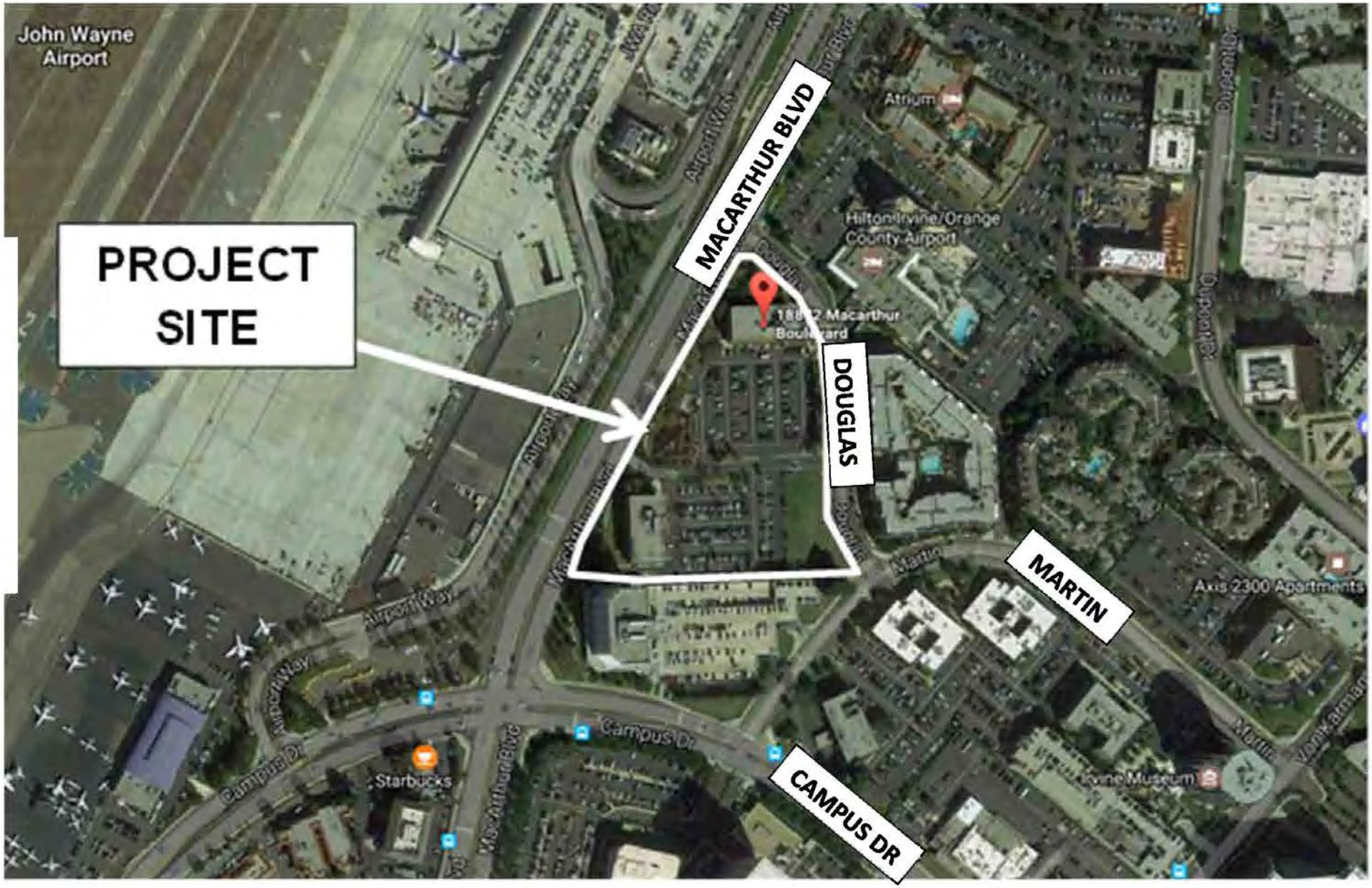
ATTACHMENTS

PC Attachment 1: Vicinity Map
PC Attachment 2: Planning Commission Information Sheet
PC Attachment 3: Master Plan Set
PC Attachment 4: Hotel Parking Study dated November 2016
PC Attachment 5: Addendum to IBC EIR
PC Attachment 6: Planning Commission Resolution No. 17-3615 Approving Commercial Master Plan 00659728-PMPC

cc: Sean Cao, Great Far East (via email: sean.cao@greatfareast.com)
Hope Fazio, Great Far East (via email: hope.fazio@greatfareast.com)
Tim Strader, Starpointe Ventures (via email: tj@starpointeventures.com)
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Mark Mispagel (via email: mark@mispagellaw.com)
Kari Rigoni, Airport Land Use Commission (via email: KRigoni@ocair.com)
Lea Choum, John Wayne Airport (via email: LChoum@ocair.com)
Joel Belding, Principal Planner

File: 00659728-PMPC

VICINITY MAP – 18872, 18912 AND 18952 MACARTHUR BOULEVARD



PC ATTACHMENT 1 TO PC REPORT DATED 6/15/17

PLANNING COMMISSION INFORMATION SHEET

THE LANDMARK COMMERCIAL MIXED USE PROJECT

Meeting Date:	June 15, 2017
Applicant:	Great Far East LLC
Staff Recommends:	The Planning Commission approve a Commercial Master Plan for The Landmark, a commercial mixed use project which includes a 15-story, 386-room hotel, a 15-story office tower and ground level retail/restaurant space.

Legal Description:

Lot 3: (2.293 acres) APN 445-012-01

Lot 3 of Tract 8299, in the City of Irvine, County of Orange, State of California as shown on a map recorded in Book 340, Pages 44 to 47 inclusive of miscellaneous maps, in the office of the County Recorder of said county

Lot 4: (1.345 acres) APN 445-012-02

Lot 4 of Tract 8299, in the City of Irvine, County of Orange, State of California as shown on a map recorded in Book 340, Pages 44 to 47 inclusive of miscellaneous maps, in the office of the County Recorder of said county

Lot 5: (2.312 acres) APN 445-012-03

Lot 5 of Tract 8299, in the City of Irvine, County of Orange, State of California as shown on a map recorded in Book 340, Pages 44 to 47 inclusive of miscellaneous maps, in the office of the County Recorder of said county

Parcel 2: (1.082 acres) APN 445-012-06

Parcel 2 of Parcel Map 80-617, in the City of Irvine, County of Orange, State of California as shown on a map recorded in Book 154, Page 31 of parcel maps, in the office of the County Recorder of said county

Site Size:	7.0329 acres
Location:	18872, 18912 and 18952 MacArthur Boulevard
Topography:	Generally flat
General Plan:	Urban and Industrial
Existing Zoning:	5.1 IBC Multi-use

Existing Land Use: Two existing four-story office buildings and a free-standing restaurant building with surface parking and landscaping.

Adjacent Zoning / Land Uses

	Zoning Designation	Land Use
North:	5.1 IBC Multi-use	Douglas (a street), Hilton Irvine/Orange County Airport Hotel (18800 MacArthur Blvd.)
East:	5.3A IBC Residential	Douglas, Carlyle Apartments (18880 MacArthur Blvd.)
West:	n/a	MacArthur Blvd., John Wayne Airport
South:	5.1 IBC Multi-use	Campus-MacArthur Court Office Park (19000 MacArthur Blvd.), Campus Drive/Irvine Avenue, City of Newport Beach

Development Standards

	Required/Allowed	Provided
Minimum Site Size:	30,000 sq. ft.	306,352 sq. ft.
Maximum Site Coverage:	65%	54.8% (including parking structure)
Maximum Building Height:	FAA standard	No Hazard Determination from FAA issued
Hotel:		204 feet
Office:		253 feet
Minimum Landscape Coverage:	15%	23%
Minimum Setbacks		
MacArthur:	40 feet	40 feet
Douglas:	40 feet	40 feet
Side:	10 feet	10 feet from southern property line
Parking:		
Hotel:	340 stalls* (0.88 per room)	356 stalls (0.88 per room)
Office:	1,397 stalls	1,548 stalls
Retail/Restaurant:	183 stalls	185 stalls
TOTAL:	1,920 stalls	2,089 stalls

* Per Section 4-3-4(21) of the Irvine Zoning Ordinance, the hotel rate shall be established by a parking study. A parking study for the proposed project was completed by LSA Associates, Inc. on November 29, 2016.

THE LANDMARK
IRVINE, CALIFORNIA

GREAT FAR EAST



SHEET INDEX

GENERAL

CS-000 COVER SHEET

SITE / CIVIL / LANDSCAPE DRAWINGS

MP-010 EXISTING CONDITIONS SITE PLAN
MP-011 TYPICAL SECTIONS
MP-012 TECHNICAL SITE PLAN
MP-013 SITE ACCESS PLAN

MP-020 CONCEPTUAL LANDSCAPE PLAN - LEVEL ONE
MP-021 CONCEPTUAL LANDSCAPE PLAN - LEVEL TWO
MP-022 CONCEPTUAL LANDSCAPE PLAN - LEVEL THREE
MP-023 CONCEPTUAL LANDSCAPE ELEVATIONS

MP-030 WASTE MANAGEMENT PLAN

MP-040 FIRE MASTER PLAN SHEET 1
MP-041 FIRE MASTER PLAN SHEET 2

ARCHITECTURAL DRAWINGS

MP-100 SITE PLAN
MP-101 HOTEL, OFFICE, PARKING GROUND LEVEL FLOOR PLAN
MP-102 HOTEL, OFFICE SECOND LEVEL FLOOR PLAN - PARKING LEVELS 2-4
MP-103 HOTEL, OFFICE THIRD LEVEL FLOOR PLAN - PARKING LEVEL 5
MP-104 HOTEL, OFFICE TYPICAL LEVEL FLOOR PLAN
MP-105 PENTHOUSE FLOOR PLANS
MP-106 PARKING BASEMENT 1 LEVEL PLAN
MP-107 PARKING BASEMENT 2 LEVEL PLAN
MP-120 BUILDING ELEVATIONS
MP-121 BUILDING ELEVATIONS
MP-122 SITE SECTION
MP-130 PERSPECTIVE VIEWS
MP-131 PERSPECTIVE VIEWS

MASTER PLAN APPLICATION
CASE # 00659728-PMPC
JANUARY 27, 2017

PROJECT SUMMARY

THIS PROJECT IS COMPRISED OF A 15-STORY HOTEL, A 15-STORY OFFICE TOWER AND A FREESTANDING RETAIL BUILDING WHICH IS EXPECTED TO PROVIDE COFFEE/FOOD SERVICE TO HOTEL AND OFFICE PERSONNEL AND GUESTS. PARKING FOR THE PROJECT IS PROVIDED ON TWO SUBTERRANEAN PARKING LEVELS AND A 5-LEVEL ABOVE GRADE PARKING STRUCTURE LOCATED ADJACENT TO THE OFFICE TOWER.

THE HOTEL IS COMPRISED OF 386 GUEST ROOMS, RESTAURANT, BAR/LOUNGE, MEETING ROOMS, POOL/SPA DECK AND GUEST FITNESS CENTER.

TABULATIONS FOR PARKING AND BUILDING AREAS ARE LOCATED ON SHEET MP-101.

Table A: 18912, 18952, and 18872 MacArthur Boulevard IBC DIV Summary

Land Use	Size	Unit	Daily	AM Peak Hour	PM Peak Hour
DIV Rates [1]					
Retail		sf	0.08400	0.00254	0.00696
Office (Zoning Potential)		sf	0.01377	0.00130	0.00138
Industrial		sf	0.00462	0.00045	0.00042
Hotel		room	10.00000	0.42000	0.68000
Existing DIV Budget					
18912 MacArthur Boulevard (IBC Project No. 401)					
Retail	**9,821**	**sf**	**825**	**25**	**68**
18952 MacArthur Boulevard (IBC Project No. 402)					
Office	**47,118**	**sf**	**649**	**61**	**65**
18872 MacArthur Boulevard (IBC Project No. 436)					
Office (Existing)	49,104	sf	676.16	63.84	67.76
Office (Approved Demo)	(49,104)	sf	(676.16)	(63.84)	(67.76)
Retail (Discretionary Approval)	21,000	sf	1,764.00	53.34	146.16
Industrial (Discretionary Approval)	15,000	sf	69.30	6.75	6.30
Office (Discretionary Approval)	750,231	sf	10,330.68	975.50	1,035.32
DIV Conversion Factor			0	1	0
Total			**12,164**	**1,036**	**1,188**
Total			**13,638**	**1,122**	**1,321**
Project DIV Generation					
Office	448,200	sf	6,171.71	582.66	618.52
Retail	13,665	sf	1,147.02	34.68	95.04
Hotel	386	room	3,860.00	162.12	262.48
Total			**11,179**	**779**	**976**
Difference (Existing DIV Budget - Project DIV Generation)			**2,459**	**343**	**345**
Remaining Entitlement (Office Equivalency)			**178,577**	263,846	250,000

[1] DIV rates obtained from the IBC Database Summary.

sf = square feet

TDR = transfer of development rights

THE LANDMARK
IRVINE, CA



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04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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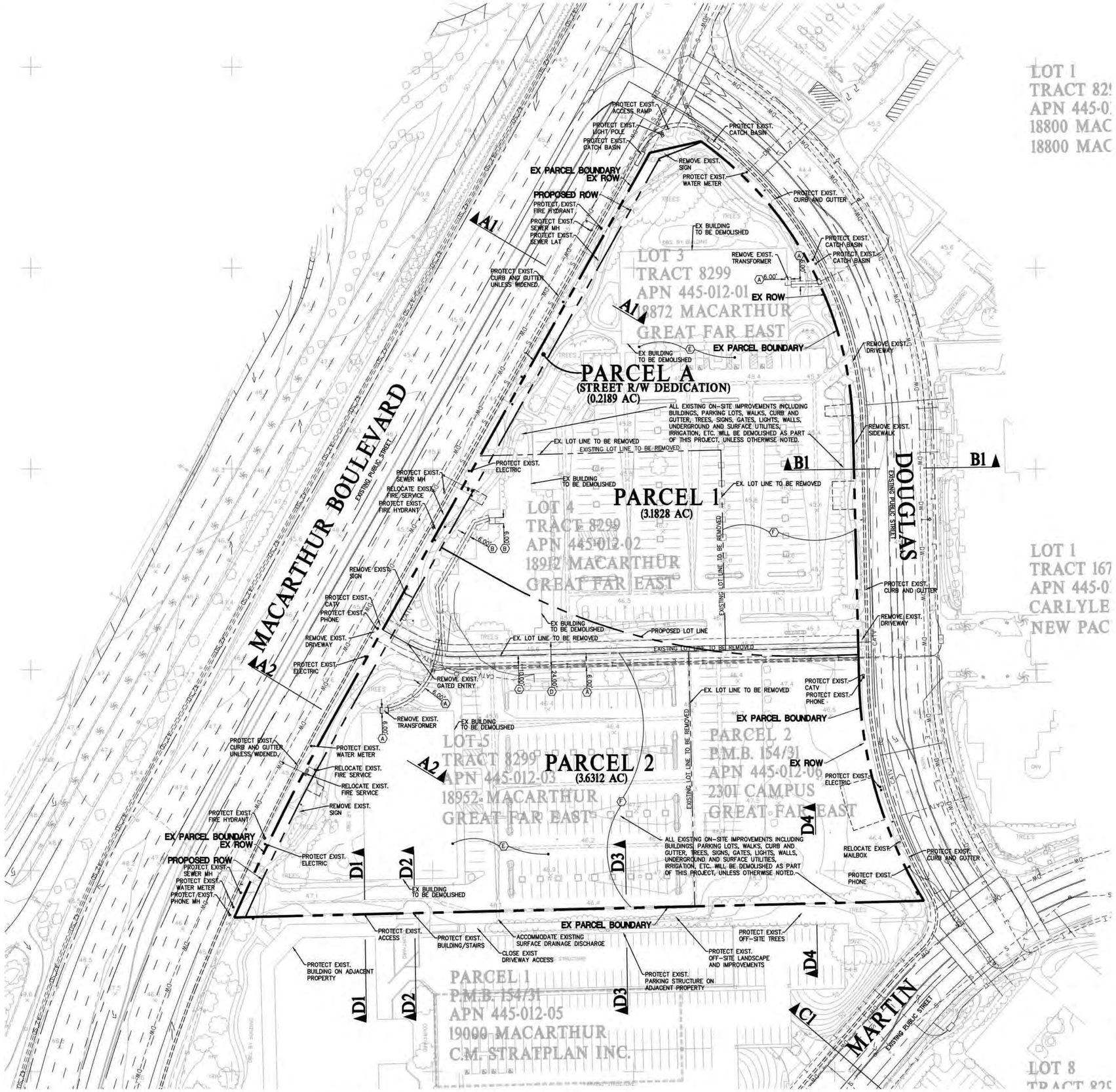
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SCALE	PROJECT NO.
-	PCF-1514
DATE	REV.
5/12/16	

DRAWING NO.

MP-000

PEI COBB FREED & PARTNERS
Architects LLP



EXISTING CONDITIONS SITE PLAN

SCALE: 1" = 40'

NORTH

EXISTING EASEMENTS

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- (F) DRAINAGE ACCEPTANCE AGREEMENT (TO BE QUITCLAIMED)

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 feet

LEGEND

- PROPOSED TRACT BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING LOT LINE
- EXISTING CENTERLINE
- EXISTING EASEMENT
- DW — EXISTING DOMESTIC WATER
- S — EXISTING STORM DRAIN
- EXISTING SEWER
- DW — PROPOSED DOMESTIC WATER
- PROPOSED STORM DRAIN
- S — PROPOSED SEWER
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- PUBLIC STREET RIGHT OF WAY DEDICATION
- PIP PROTECT IN PLACE
- TBR TO BE REMOVED
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT

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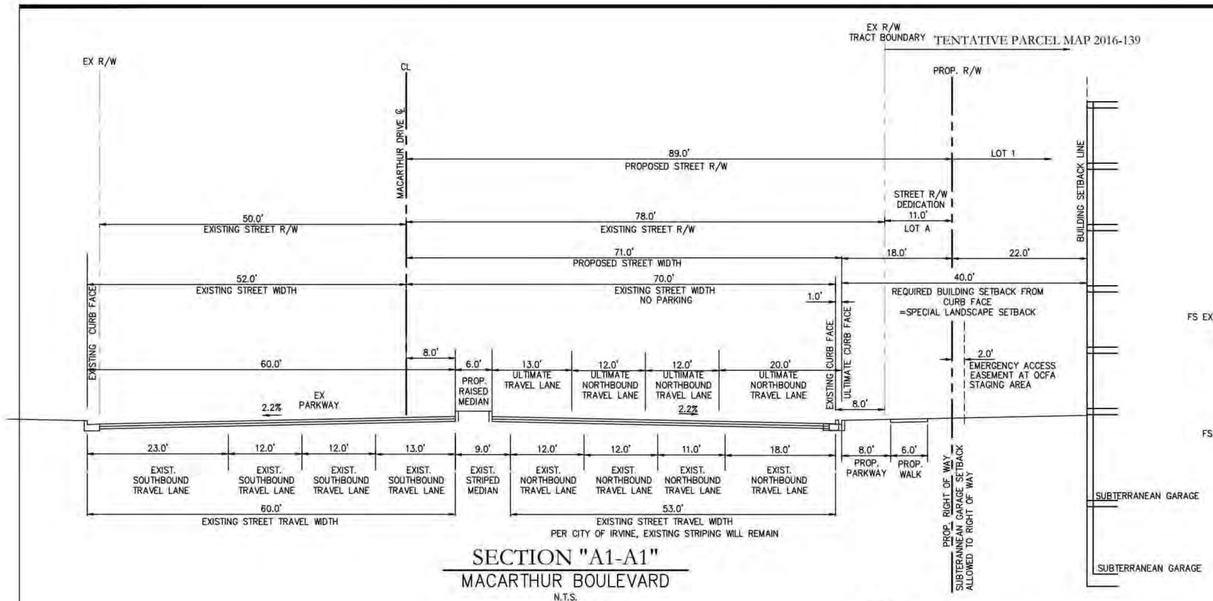
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SCALE	PROJECT NO.
DATE 12/1/16	REV.

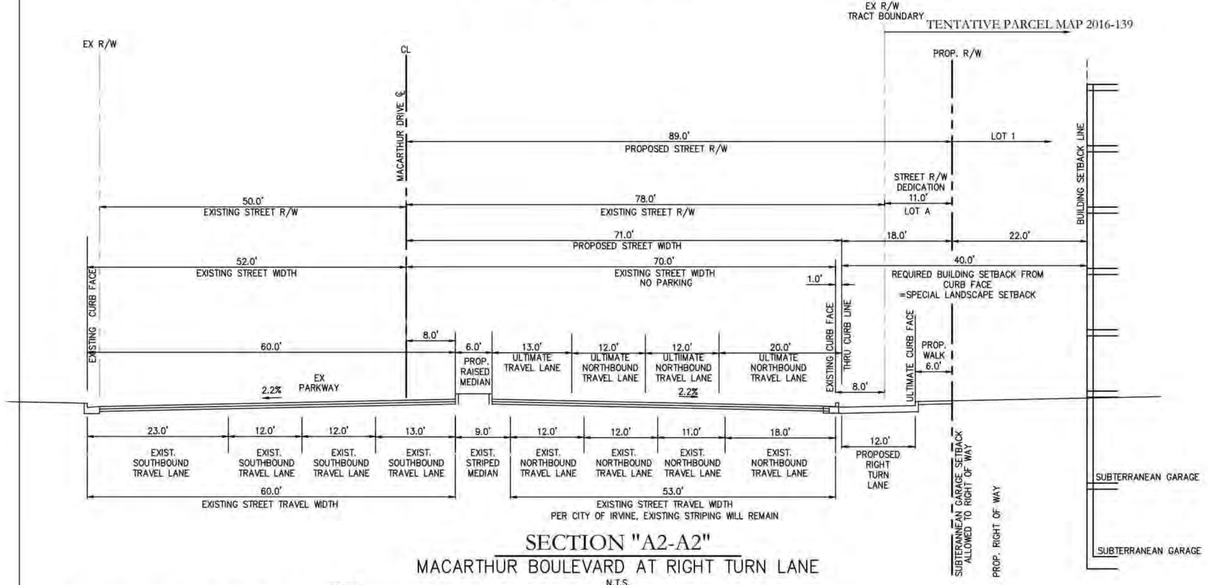
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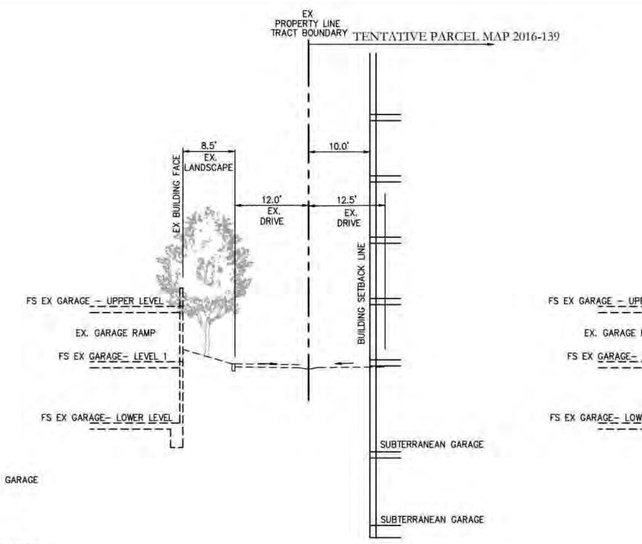
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Architects LLP



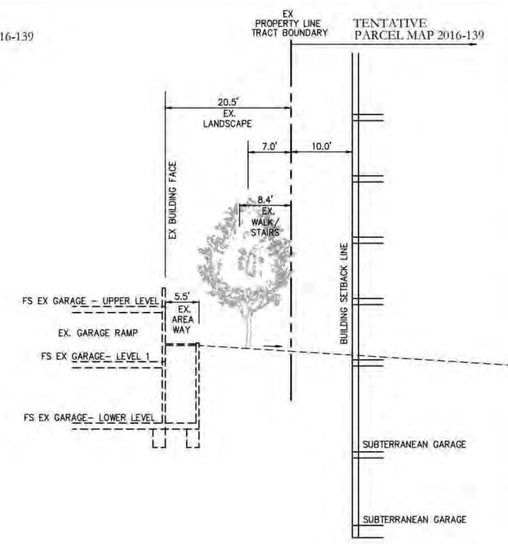
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MACARTHUR BOULEVARD
N.T.S.



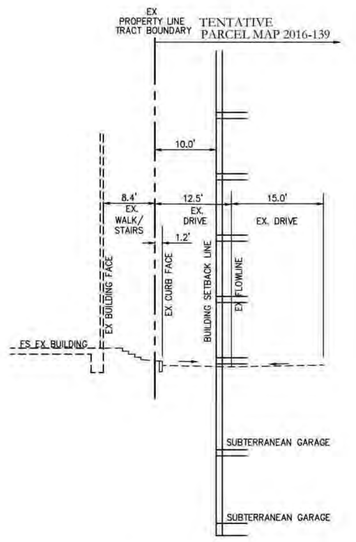
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MACARTHUR BOULEVARD AT RIGHT TURN LANE
N.T.S.



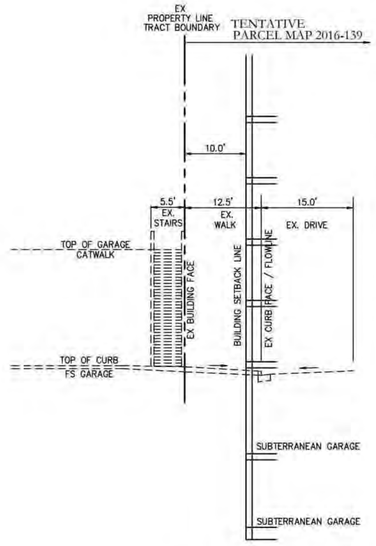
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N.T.S.



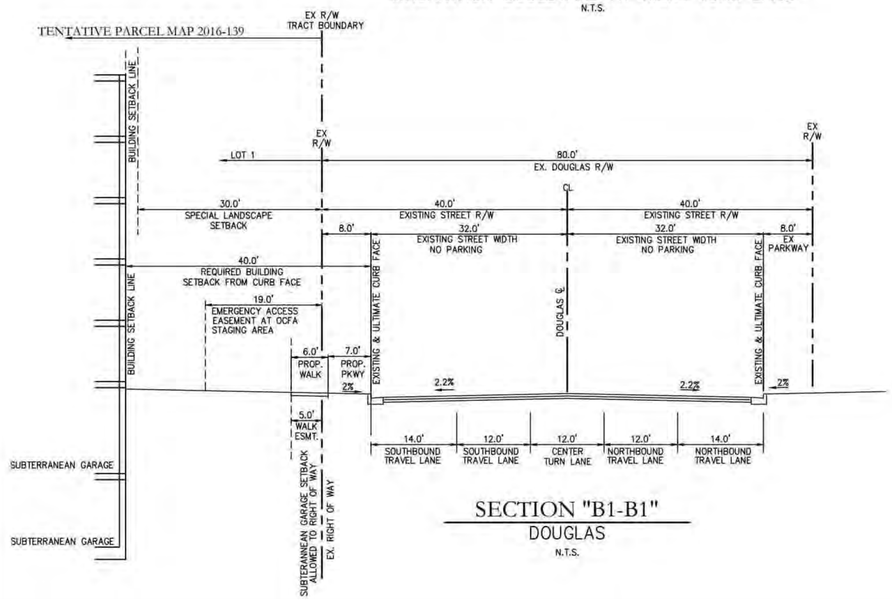
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N.T.S.



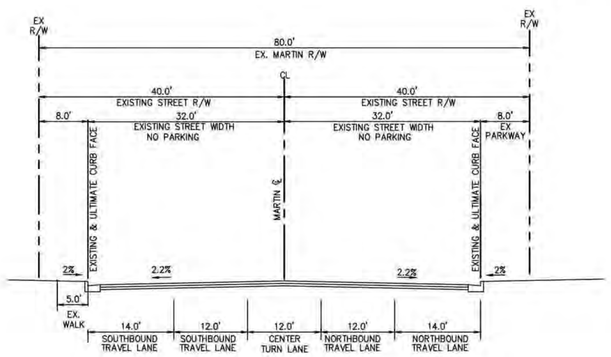
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MARTIN
N.T.S.



SECTION "D2-D2"
MARTIN
N.T.S.



SECTION "B1-B1"
DOUGLAS
N.T.S.



SECTION "C1-C1"
MARTIN
N.T.S.

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MASTER PLAN SUBMITTAL
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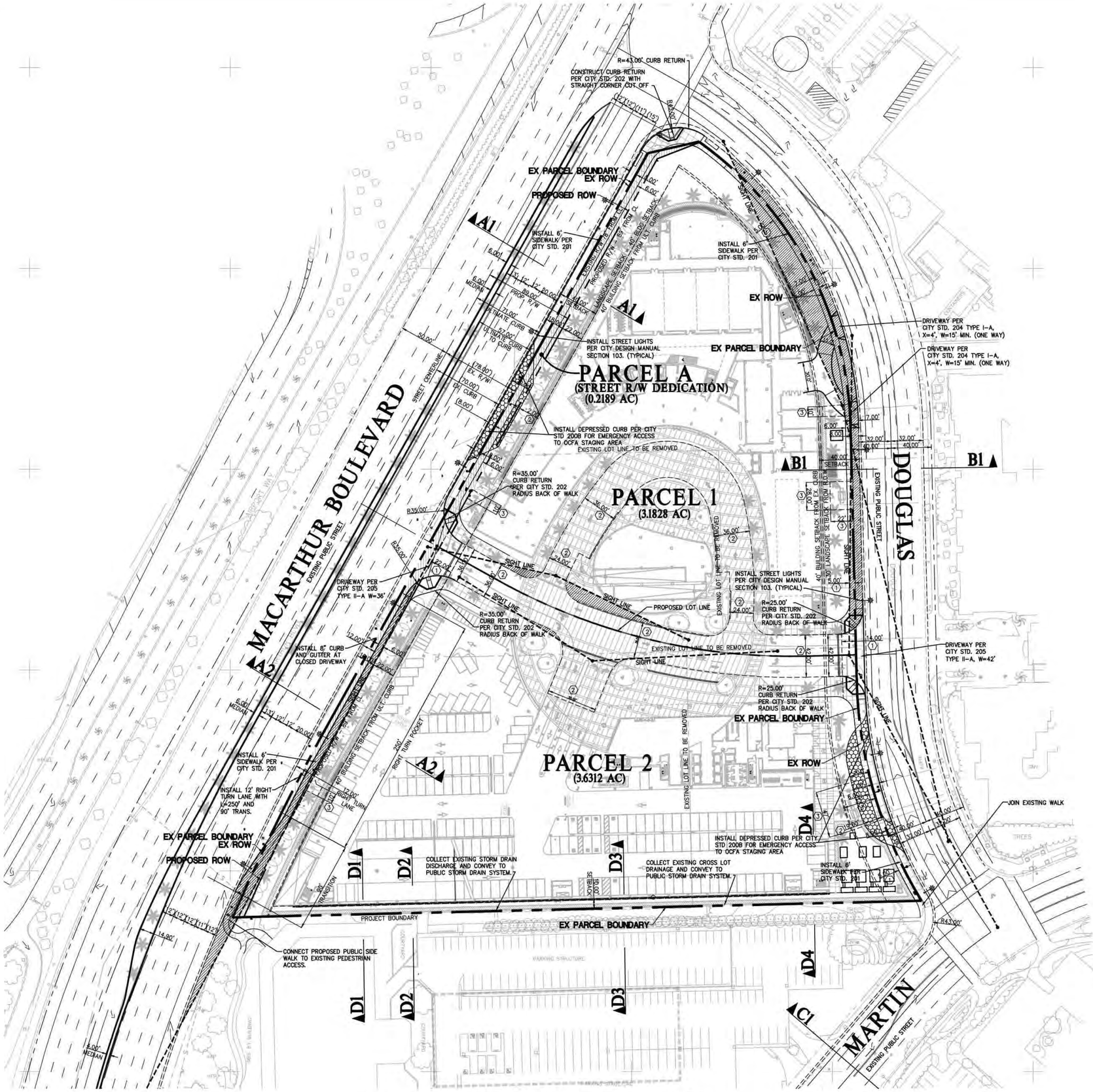
TYPICAL SECTIONS

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SCALE | PROJECT NO.
DATE 12/1/16 | REV.

DRAWING NO.

MP-011

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Architects LLP



TECHNICAL SITE PLAN

SCALE: 1" = 40'

NORTH

EXISTING EASEMENTS

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- (F) DRAINAGE ACCEPTANCE AGREEMENT (TO BE QUITCLAIMED)

PROPOSED EASEMENTS / DEDICATIONS

- (1) EASEMENT FOR PUBLIC SIDEWALK, MAINTENANCE AND ACCESS PURPOSES DEDICATED TO THE CITY OF IRVINE AS SHOWN HEREON.
- (2) EASEMENT FOR VEHICULAR AND PEDESTRIAN ACCESS AND EMERGENCY ACCESS DEDICATED TO THE CITY OF IRVINE AS SHOWN HEREON.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 feet

LEGEND

- PROPOSED TRACT BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING LOT LINE
- EXISTING CENTERLINE
- EXISTING EASEMENT
- EXISTING DOMESTIC WATER
- EXISTING STORM DRAIN
- EXISTING SEWER
- PROPOSED DOMESTIC WATER
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- PUBLIC STREET RIGHT OF WAY DEDICATION
- PIP PROTECT IN PLACE
- TBR TO BE REMOVED
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- SIGHT DISTANCE LIMITED USE AREA PER CITY STANDARD NO. 403

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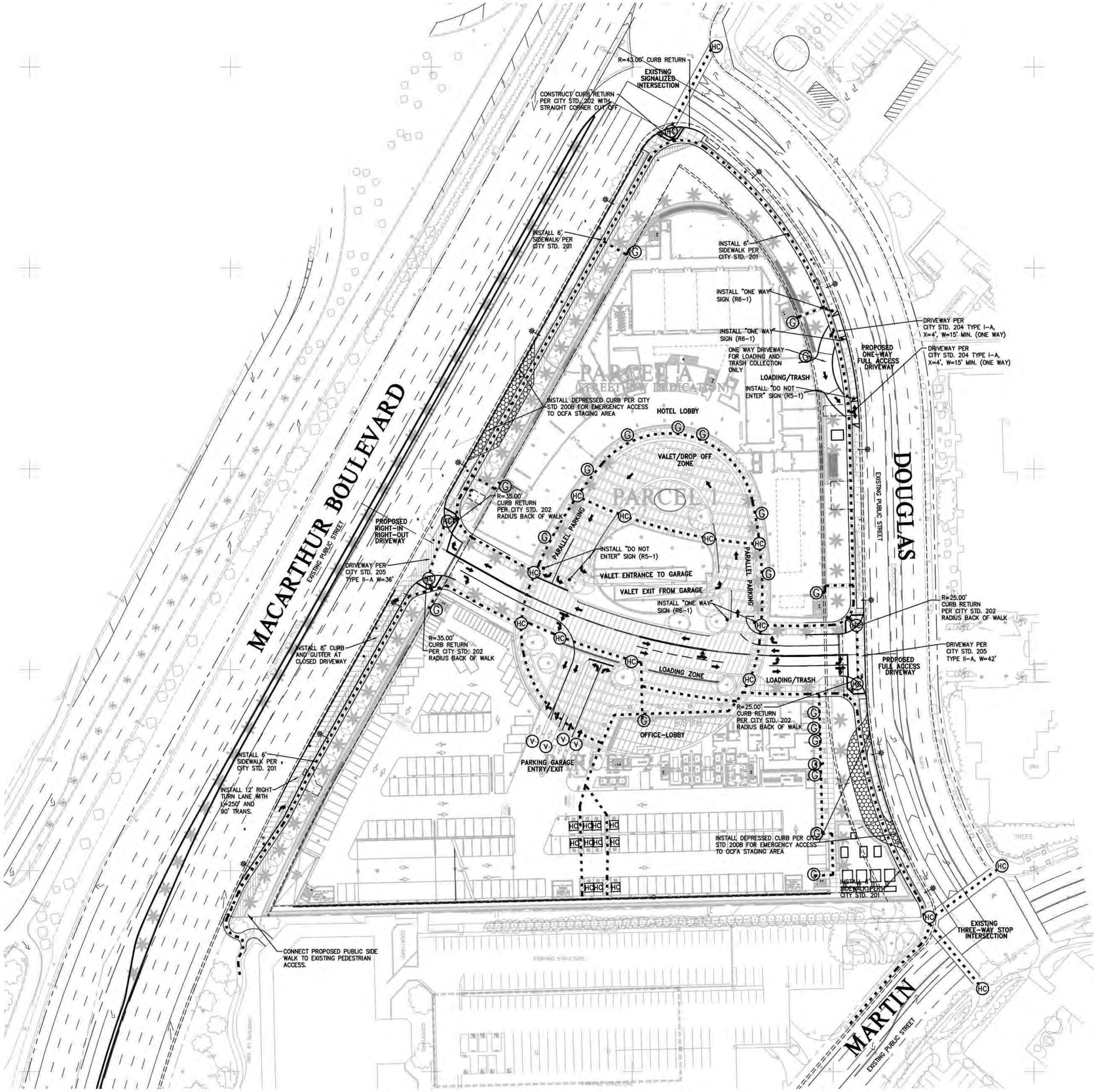
TECHNICAL SITE PLAN

DRAWN	CHECKED
SCALE	PROJECT NO.
DATE 12/1/16	REV.

DRAWING NO.

MP-012

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Architects LLP



SITE ACCESS PLAN

SCALE: 1" = 40'

NORTH

LEGEND

- ADA ACCESSIBLE PATH
- (G) PEDESTRIAN GATE, RESTRICTED PUBLIC ACCESS
- (V) VEHICULAR GATE, RESTRICTED PUBLIC ACCESS
- [E] ELEVATOR
- (HC) HANDICAPPED RAMP
- [HC] HANDICAPPED PARKING STALLS

ADA ACCESSIBLE PATH NOTES

1. THE ACCESSIBLE PATH OF TRAVEL SHALL NOT EXCEED 5% IN THE DIRECTION OF TRAVEL NOR SHALL IT EXCEED 2% CROSS SLOPE. 8.33% MAXIMUM RAMPS MAY BE PROVIDED FOR A PATH OF TRAVEL BETWEEN 5% AND 8.33% SLOPE.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 feet

LEGEND

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- EXISTING STORM DRAIN
- S EXISTING SEWER
- DW PROPOSED DOMESTIC WATER
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- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
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- PROPOSED MANHOLE
- PUBLIC STREET RIGHT OF WAY DEDICATION
- PIP PROTECT IN PLACE
- TBR TO BE REMOVED
- EXISTING STREET LIGHT
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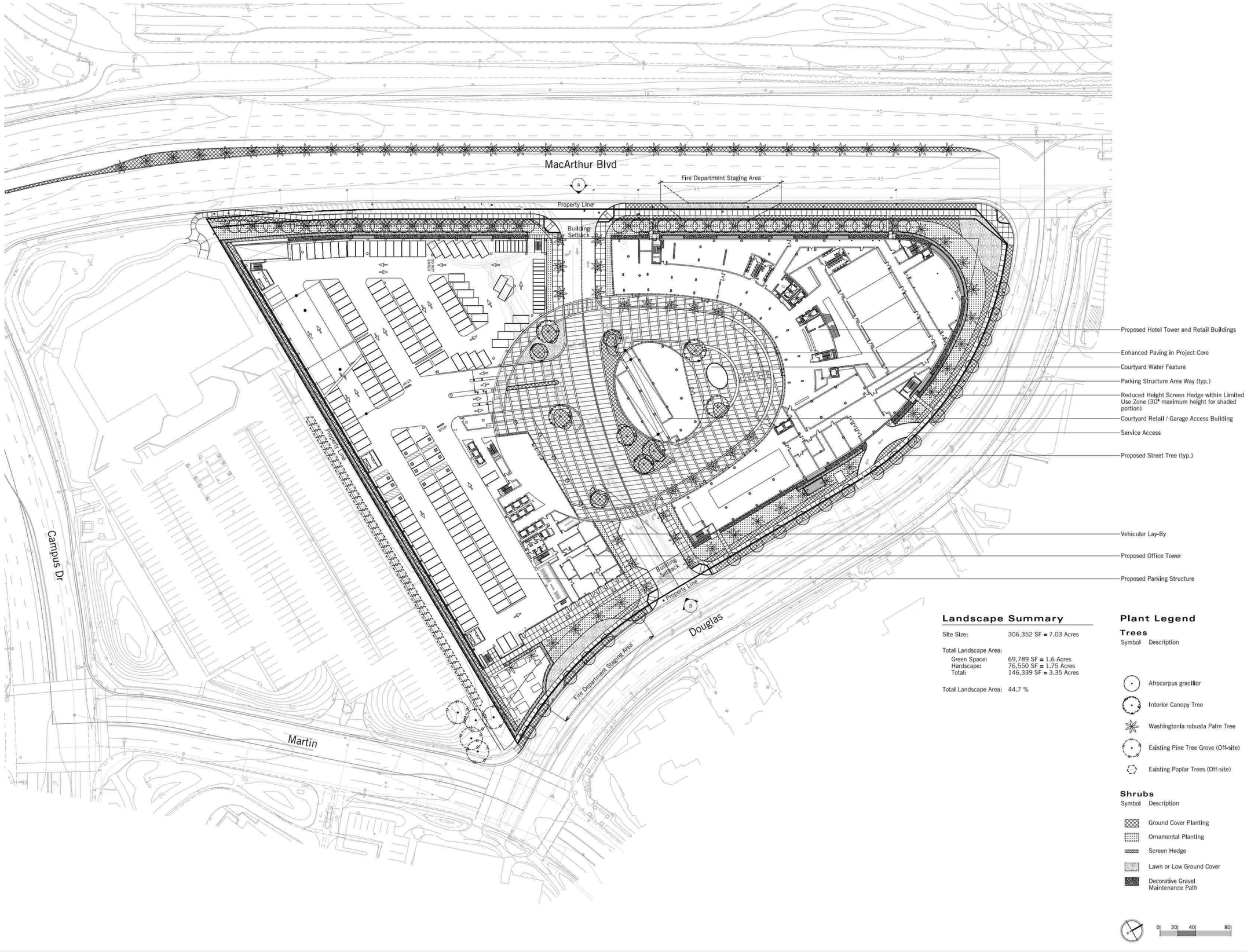
SITE ACCESS PLAN

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SCALE	PROJECT NO.
DATE 12/1/16	REV.

DRAWING NO.

MP-013

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Landscape Summary

Site Size:	306,352 SF = 7.03 Acres
Total Landscape Area:	
Green Space:	69,789 SF = 1.6 Acres
Hardscape:	76,550 SF = 1.75 Acres
Total:	146,339 SF = 3.35 Acres
Total Landscape Area:	44.7 %

Plant Legend

Trees

Symbol	Description
	Afrocarpus gracilior
	Interior Canopy Tree
	Washingtonia robusta Palm Tree
	Existing Pine Tree Grove (Off-site)
	Existing Poplar Trees (Off-site)

Shrubs

Symbol	Description
	Ground Cover Planting
	Ornamental Planting
	Screen Hedge
	Lawn or Low Ground Cover
	Decorative Gravel Maintenance Path

0 20 40 80

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MASTER PLAN SUBMITTAL
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DECEMBER 1, 2016

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DRAWING TITLE

CONCEPTUAL LANDSCAPE PLAN - LEVEL ONE

DRAWN	CHECKED
SCALE: 1" = 40'	PROJECT NO.: PCF-1514
DATE: 01/27/17	REV.

DRAWING NO.

MP-020

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OCFA CITY MASTER PLAN

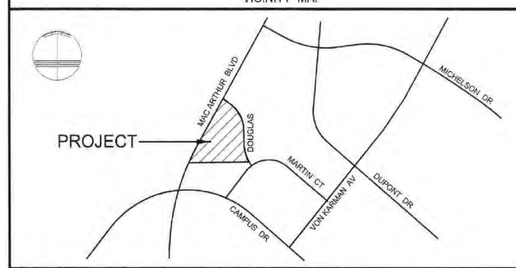
FOR CONDITION OF APPROVAL

THE LANDMARK

TENTATIVE TRACT NO. 2016-139

CITY OF IRVINE

VICINITY MAP



BUILDING DATA

BUILDING (TYPE 1A)	SQUARE FOOTAGE	MATERIALS
BASEMENT PARKING LEVEL:	481,000 SF	CAST IN PLACE CONCRETE
PARKING GARAGE:	432,800 SF	PRECAST CONCRETE (LIKELY)
OFFICE TOWER:	448,200 SF	STRUCTURAL STEEL WITH UNITIZED CURTAIN WALL ENCLOSURE
HOTEL BUILDING:	323,415 SF	CAST IN PLACE CONCRETE WITH STONE CLADDING AND GLASS STOREFRONT
RETAIL BUILDING:	13,655 SF	STRUCTURE TBD, GLASS ENCLOSURE

A FIRE COMMAND CENTER SHALL BE CONSTRUCTED WITHIN THE HOTEL AND OFFICE TOWER. IT SHALL BE A MINIMUM OF 200 S.F. WITH MINIMUM DIMENSIONS OF 10 FEET WITH AN EXTERIOR ACCESS DOOR. THEY SHALL CONTAIN EQUIPMENT AS STATED IN OCFA GUIDELINE H-01.

OCFA ALTERNATE MATERIALS & METHODS LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92856-0086

SUBJECT: The Landmark, Irvine, CA
Alternate Materials and Methods for OCFA City Master Plan for Condition of Approval

PROJECT DESCRIPTION:
The project site is a parcel bounded by an office building on the west, MacArthur Boulevard, Douglas to the south.
The development is a 15-story office podium building along with a 15 story hotel building, both on a parking structure from basement thru second floor. The hotel site contains retail units at ground floor with amenities on the fourth floor. The project falls under OCFA 'Highrise' requirements.
A portion of the fire access route bridges over parking garage as shown on site plan, sheet 2 of this package. This access will be designed and constructed per requirements shown in OCFA Guideline B-09 under 'Bridges' paragraph. The project structural engineer will certify the construction will support a full assignment.

On behalf of The Landmark, we hereby submit a request for use of Alternate Materials and Methods (AM&M), per the 2013 California Fire Code. Our request relates to the 75' hose pull deficiency around the back of the 3-floor above grade non-combustible parking garage.

The following information is being provided to assist in your evaluation of this proposed AM&M.

A. Project information:
Development type: Hotel/Office Development

B. Code Sections for which the modification is requested:
CFC Section 104.9: Alternate Means and Methods
CFC Section 503.1.1: Fire lanes shall be provided within 150' of every portion of the perimeter of the building as measured along an approved route.
CFC Section 503.1.1, 503.2.2: Fire Lane setback

C. Hardship:
Our hardship is: Due to the site usage, there is a hose pull deficiency of 38' from each access point for a total of 75' at the back of the non-combustible parking structure. The structure will not have amenities. OCFA Guideline B-09 notes the hose pull reach may be extended to 300 feet for open parking garages if certain criteria are met. This structure meets all of those listed with the exception of one of the two stairway door locations being 60' from a fire access roadway, 20' greater than noted.

D. Proposed alternative fire protection measures:
- Wet stand pipes will be installed at all stairwells and along the rear of the non-combustible parking structure at the end of each 300' hose pull reach and at the mid-point. The standpipes will be tied into the building automatic fire sprinkler system.

The AM&M proposal and acceptance letter shall be copied onto the architectural, alarm, sprinkler, and standpipe plans submitted to the OCFA for review in addition to the architectural plans submitted to the OCFA. The architect/developer shall be responsible for rectifying any errors or omissions arising from failure to provide these documents on these submittals. It is our belief that the proposed alternate fire protection methods and modifications developed both enhance and protect the building and more importantly provide additional protection for fire personnel and the public.

Approval of this alternate methods and materials request is contingent upon acceptance of the design and installation of the fire walls and other construction features by the Building Department. This AM&M letter will be included on the architectural plans submitted to both the OCFA and City of Irvine as well as the sprinkler and alarm plans submitted to OCFA.

Accepted:

Fire Prevention Analyst
Orange County Fire Authority

Vahid Toosi, P.E. Fire Prevention
Orange County Fire Authority

☐ NO ADDITIONAL CONDITIONS OF APPROVAL REQUIRED.

☐ ADDITIONAL CONDITIONS OF APPROVAL APPLY. SEE ATTACHED LETTER.

PARKING ENFORCEMENT LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA. 92602-0125

Re: The Landmark, Irvine, CA.
Parking Enforcement Plan

The fire lane parking enforcement plan for the above referenced project is stated as follows:

All fire lanes within project shall be maintained and in no event shall parking be permitted along any portion of a street or drive that required fire lanes or any area designated as a fire lane for turn-around or drive through purposes.

Site Management shall adopt reasonable rules and regulations regarding the parking of vehicles along the streets, roads and or drives within the project that are not in conflict with applicable law.

In furtherance thereof, Site Management, through its officers, committees and agents will establish the "parking" and "no parking" areas within the property in accordance with Section 22658.2 of the California Vehicle Code and OCFA Guideline B-09. The law shall be enforced through such rules and regulations by all lawful means, including, written warnings, citing, levying fines and towing vehicles in violation.

Site Management will contract with a certified patrol and towing company to remove vehicles that violate no parking restrictions. First time violators will receive a written warning and with subsequent violations, the vehicle shall be subject to towing. The vehicle owner shall be responsible for all costs incurred in remedying such violation, including without limitation towing cost, citations and legal fees.

COMBUSTIBLE CONSTRUCTION LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA. 92602-0125

Subject: Combustible Construction Letter. The Landmark. Irvine, CA.

The purpose of this letter is to notify you that The Landmark development shall install all required paved fire access roads that meet OCFA access requirements per the approved plans. All fire hydrants and water supply for firefighting purposes shall be installed per the approved plans and shall meet all fire flows requirements, prior to any combustible construction materials being delivered for construction.

FIRE AUTHORITY NOTES

1. OCFA site inspections are required for this project. Please schedule all field inspections at least 48 hours in advance. Inspections canceled after 1 p.m. on the day before the scheduled date will be subject to a re-inspection fee. Call OCFA Inspection Scheduling at (714) 573-6150.
2. A lumber drop inspection shall be performed prior to bringing combustible materials (or combustible fixtures and finishes for structures of non-combustible construction). All-weather access roads capable of supporting 68,000 lbs., topped with asphalt, concrete, or equivalent shall be in place and hydrants operational at time of lumber drop inspection.
3. For projects with fuel modification, a vegetation clearance inspection is required prior to a lumber drop inspection. Use the fuel modification plan service request number to schedule the vegetation clearance inspection.
4. Phased installation of fire access roads requires additional inspections not covered by the fees paid at plan submittal. Contact Inspection Scheduling to arrange for additional inspections that may be needed and any fees that may be due.
5. An original approved, signed, wet-stamped OCFA fire master plan shall be available on-site at time of inspection.
6. Access roads and hydrants shall be maintained and remain clear of obstructions at all times during and after construction. Areas where parking is not permitted shall be clearly identified at all times. Obstruction of fire lanes and hydrants may result in cancellation or suspension of inspections.
7. Temporary fuel tanks of 60 or more gallons shall be reviewed, inspected, and permitted by the OCFA prior to use.
8. The project address shall be clearly posted and visible from the public road during construction.
9. All gates in construction fencing shall be equipped with either a Knox or breakaway padlock.
10. Buildings of four or more stories shall be provided with stairs and a standpipe before reaching 40 feet in height.
11. Fire lane widths shall be measured from top face of the curb to top face of the curb for fire lanes with standard curbs and gutters and from flow-line to flow-line for fire lanes with modified curb designs (e.g., rolled, ramped, etc). The developer is responsible to verify that all approved public works or grading department street improvement plans or precise grading plans conform to the minimum street width measurements per the approved OCFA fire master plan and standards identified in OCFA Guideline B-09 for all portions of the fire access roads.
12. Permanent, temporary, and phased emergency access roads shall be designed and maintained to support an imposed load of 68,000 lbs. and surfaced to provide all-weather driving capabilities.
13. Fire lane signs and red curbs shall meet the specifications shown in OCFA Guideline B-09 and shall be installed as described therein. Additional fire lane markings may be required at the time of inspection depending on field conditions.
14. All fire hydrants shall have a "Blue Reflective Pavement Marker" indicating their location per the OCFA standard. On private property markers are to be maintained in good condition by the property owner.
15. Address numbers shall be located and be of a color and size so as to be plainly visible and legible from the roadway from which the building is addressed in accordance with OCFA Guideline B-09. Wayfinding signs, when required by the local AHJ, shall comply with the standards of that agency. When wayfinding signs are also required by the OCFA, they may be designed to local AHJ requirements provided that such standards facilitate location of structures, suites, and dwelling units by emergency personnel.
16. Access gates shall be approved prior to installation and shall be in compliance with Chapter 5 of the CFC and OCFA guidelines.
17. Approved access walkways shall be provided to all required openings and all rescue windows.
18. Vegetation shall be selected and maintained in such a manner as to allow immediate access to all hydrants, valves, fire department connections, pull stations, extinguishers, sprinkler risers, alarm control panels, rescue windows, and other devices or areas used for firefighting purposes. Vegetation or building features shall not obstruct address numbers or inhibit the functioning of alarm bells, horns, or strobes.
19. Dumpsters and trash containers larger than 1.5 cubic yards shall not be stored in buildings or placed within 5 feet of combustible walls, openings or combustible roof eave lines unless protected by an approved sprinkler system.
20. Any future modification to the approved Fire Master Plan or approved site plan, including but not limited to road width, grade, speed humps, turning radii, gates or other obstructions, shall require review, inspection, and approval by the OCFA.
21. Approval of this plan shall not be construed as approval of any information or project conditions other than those items and requirements identified in OCFA Guideline B-09 and related portions of the 2013 CFC and CBC. This project may be subject to additional requirements not stated herein upon examination of actual site and project conditions or disclosure of additional information.

PROJECT-SPECIFIC REQUIREMENTS

22. An underground piping plan is required for the installation of an automatic fire sprinkler system or for a private fire hydrant system. A separate plan submittal is required.
23. An architectural plan is required to be submitted to the OCFA for review and approval for projects containing A, C, E, F, H, I, L, and R-4 occupancies. A plan may also be required for R-1 and R-2 occupancies over two stories or those utilizing sprinklers or fire walls to increase the maximum building size allowed–see OCFA Info Bulletin 02-13.
24. An automatic fire sprinkler system shall be installed in accordance with applicable codes and local ordinances, amendments, and guidelines. Sprinkler systems, other than those listed in CFC 903.4, shall be monitored by an approved central station. Separate plan submittals for the sprinkler and monitoring systems are required.
25. A fire alarm system shall be installed in accordance with applicable codes and local ordinances, amendments, and guidelines. A separate plan submittal is required.

ADDITIONAL NOTES

26. Guideline H-01 Laddering/Staging area setbacks notes:
For buildings over 90 feet, the laddering areas shall be no less than 20 and no more than 40 feet from the facade.
Exception: When approved by the fire code official, designated laddering areas are not required provided than the nearest edge of the fire lane is located between 20 and 40 feet from the structure along the entire length of at least two sides of the building, one of which is the longest side of the structure, or for at least 50% of the perimeter of the structure, whichever is greater. An unobstructed minimum 26 foot wide fire lane shall be provided; parking and other obstructions shall not intrude into this clear width.
27. Guideline B-09 page 6, item 2 'exception' allows 300 foot hose pull reach for open parking garages protected throughout with an NFPA 13 sprinkler system.
28. The Landmark project that consists of office, hotel and retail is a privately owned site that will be maintained by the current owner. There is no association responsible for any portion of the site maintenance. In the event that either the office building or hotel is sold, the new owner(s) would be required to continue the site maintenance.

DEFERRED SUBMITTALS

Portions of the project that are deferred shall be subject to the codes, standards and other applicable requirements in force on the date that the deferred plan is submitted to OCFA.

Architectural
- Chemicals (for pool)
- Generator (for fuel tank >60 gallons)
- Battery Systems (>50 gallons)
- Sprinkler/Monitoring system
- Standpipe System
- Underground System: Serving sprinklers and private hydrants
- Alarm System

STRUCTURAL ENGINEER LOADING REPORT

NABIH YOUSSEF ASSOCIATES
STRUCTURAL ENGINEERS

January 13, 2017

Orange County Fire Authority
Fire Prevention Bureau
Planning & Development Services
1 Fire Authority Road
Irvine, CA 92602

Re: The Landmark – Slab Design for Fire Vehicle Loading – WO # 1600.01

The purpose of this letter is to present the results of our investigation into the effects of the fire vehicle loading requirements per the Orange County Fire Authority (OFCA) Guideline B-09 on the design of the Level 1 slab in the driveway areas between the Office Tower and Hotel of the Landmark project. We understand that the OFCA has some concern regarding the ability of the slab to support the weight of fire vehicles. The purpose of this study is to show that the 14" thick slab indicated in the Schematic Design set can be designed to support the prescribed loading and to propose a simplified method for this design using uniform loading. (The actual slab design and detailing will be completed in the Design Development and Construction Document phases of the project.)

Truck Loading per California Building

It is not uncommon for structures to be designed for fire vehicle access. Often, fire lanes will occur over portions of subterranean parking structures, since such structures often extend beyond the footprint of the above-grade building. It is common structural engineering practice to design such slabs for a live load of 150 psf which is the prescribed loading for "sidewalks, vehicular driveways and yards subject to trucking" per Item 23 in Table 1607.1 of the 2016 California Building Code. (See Figure 1).

Fire Vehicle Loads per OCFA Guideline B-09

Fire Master Plans for Commercial & Residential Development Guideline B-09 (shown in Figure 2) published by the OCFA prescribes that "bridges" supporting a fire access road "shall be designed and constructed to accommodate a total weight of 68,000 pounds" distributed as 46,000 lb. on the tandem rear axle and 22,000 lbs. on the front axle. (Note that although the document refers to bridges, buildings can also be designed for such loading where necessary to support a fire access route.)

Guideline B-09 does not prescribe, a specific distribution for these loads. For the purpose of this investigation, the Emergency Vehicle Size and Weight Regulation Guideline published by the International Association of Fire Chiefs (IAFC) was therefore consulted. The axle weights per Guideline B-09 fall within the range of axle weights given for the "Aerial Ladder – Tandem Rear Axle" shown on page 5 of this document. (See Figure 3.) Therefore, the dimensions given for this vehicle were used to develop a distribution of the loads as shown in Figure 4. The 46,000 lb. tandem rear axle load is divided into two 23,000 lb (i.e. 23 kip) loads spaced 4 feet apart.

For this investigation, the effect of these loads on the slab design is compared to the effect to the 250 psf uniform loading for trucking per the CBC.

Driveway Layout of the Landmark Level 1 Slab

Figure 5 shows the portion of the ground floor between the office tower and the hotel of the Landmark project. The area of the driveways requiring fire vehicle access is highlighted. Per the Schematic Design set, this area is supported by a 14 inch thick reinforced concrete slab. The column spacing varies, but the maximum spacing is 31'-6" in one directing and 30'-6" in the other direction. Note that the slab thickness indicated in the Schematic Design drawings was determined based on comparison with the slab thicknesses used on other projects with similar spans and similar loads. The required slab thickness will verified during the Design Development phase and the reinforcing layout will be detailed during the Construction Document Phase of the project.

The purpose of this investigation is not to present a final slab design based on the exact column layout of the project, but rather to confirm that a reinforced concrete slab of the same thickness and similar column spacing as shown in the Landmark Schematic Design set can support to fire vehicle loading and to propose a simplified method for this design using uniform loading. To facilitate this study, a simplified column layout has been analyzed under various loading conditions.

Slab Analysis Model under 250 PSF Uniform Live Load

Figure 6 shows the simplified slab layout that has been analyzed for this study. The analysis has been performed using the finite element analysis program SAFE which has been developed specifically for reinforced concrete slab design and will be used for all reinforced concrete slab design on the is project. The analysis model includes three bays of 31'-6" in one direction and 30'-6" in the other direction, matching the maximum column span in the driveway area of the Landmark project. At the perimeter of the analysis model, the slab cantilevers about 40% of the typical bay span, which approximates a continuous slab condition.

In addition to the self weight of the slab, a superimposed dead load of 110 psf has been applied as shown in Figure 7. This represents the weight of an 8" concrete topping slab over the 14" structural slab plus an additional 10 psf to represent loads suspended from below. (The exact loading for the Landmark project has not been set, but these are conservative estimates.) This superimposed loading has been used in all models for this study.

For the base model in this study, a uniform live load of 250 psf (the live load for trucking per the CBC) as shown in Figure 8. The resulting required slab reinforcing in each direction is shown in Figures 9 and 10. The reinforcing is reported as square inches per foot of slab width and is calculated separately for column strips and middle strips in each bay per American Concrete Institute code requirements (ACI 318-14).

Slab Analysis for Single Vehicle at Middle Strip

Figure 11 shows the slab analysis model for a single vehicle with the rear tandem axle centered on a bay to maximize the required reinforcing in the middle strip. The point loads shown on Figure 12 represent the wheel loads spaced 6' apart. (Each wheel load is half the axle load shown in Figure 4.) In addition to these point loads representing the fire vehicle, a uniform load of 50 psf has been applied to the slab, except within the footprint of the vehicle as shown in Figure 13. This is a conservative estimate of the weight of other vehicle, people, etc. that could be located around the truck. (This load exceeds the 40 psf live load required for parking garages per the CBC.) Also note that Guideline B-09 prescribes bridges be designed for a "total load of 68,000 lbs." The guideline does not prescribe that this load be combined with any other live loads.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 13 and 14. Comparing these figures to Figures 9 and 10, it is found that a single fire vehicle with the rear tandem axle located at the center of the bay (plus 50 psf live load elsewhere) does not govern at any location over the required reinforcing for a uniform load of 250 psf.

Slab Analysis for Two Vehicles at Middle Strip

Guideline B-09 does not explicitly require the design of bridges for multiple fire vehicles. However, in practice, a structure may be required to support multiple vehicles in an emergency. For the purposes of this study, we have investigated the effect of two vehicles side-by side with a clear space of 4' between them. Although it is possible that more than two vehicles could be located on the structure, it is unlikely that they would be located closely enough (i.e. in one bay or adjacent bays) to significantly affect the slab design. (Due to the footprint of the vehicle extending beyond the axles, the most critical layout for multiple vehicles is side by side rather than end to end and it is unlikely that there would be three vehicles side by side by side.) Also note that the effect of the 50 psf uniform load applied in addition to the point loads will account for additional fire vehicle that are located further way.

Figure 16 shows the slab analysis model for two vehicles with the rear tandem axles centered on a bay to maximize the required reinforcing in the middle strip. The point loads shown on Figure 17 represent the two vehicles spaced 4' apart. The additional uniform load of 50 psf is shown in Figure 18.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 19 and 20. Comparing these figures to Figures 9 and 10, it is found that the two fire vehicles with the rear tandem axle located at the center of the bay (plus 50 psf live load elsewhere) governs only at one location over the required reinforcing for a uniform load of 250 psf. The required north-south direction bottom reinforcing at the middle strip is 13% greater than for the 250 psf load case.

Slab Analysis for Two Vehicles at Column Strip

Figure 20 shows the slab analysis model for two vehicles with the rear tandem axles centered at mid bay in one direction and on a column in the other direction. This layout is intended to maximize the required reinforcing in the column strip. The point loads for this case are shown in Figure 22. The additional uniform load of 50 psf is shown in Figure 23.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 24 and 25. Comparing these figures to Figures 9 and 10, it is found that the two fire vehicles with the rear tandem axle located at the column strip (plus 50 psf live load elsewhere) governs only at one location over the required reinforcing for a uniform load of 250 psf. The required north-south direction bottom reinforcing at the column strip is 3% greater than for the 250 psf load case.

Slab Analysis Model under 300 PSF Uniform Live Load

The various load configurations investigated in the study resulting in a worst case increase in reinforcing of 13% over the 250 psf load case. This is a fairly moderate increase. Since it is much simpler to analyze the slab under a uniform load rather an point loads (which would need to be separately analyzed in multiple configurations in multiple bays, we propose increasing the uniform load case of 250 psf (for trucking per the CBC) to 300 psf to account for the loading requirements per Guideline B-09.

The slab analysis under a 300 psf uniform load (as shown in Figure 26) results in the required reinforcing shown in Figures 27 and 28. In comparing these figures to those for the various load configurations investigated in this study, it is found that the 300 psf load case governs over the various other load configurations except for one condition. For two vehicles in the middle strip, the bottom reinforcing at the middle strip is 2% greater than for the 300 psf load. This is a very minor difference.

Conclusions

Based on the results of the various slab analyses performed for this study, the 14" reinforced concrete slab indicated in the Schematic Design drawings for the Landmark project will be adequate to support the fire vehicle loading prescribed by OCFA Guideline B-09. The reinforcing required based on this loading (assuming two side by side vehicles) exceeds that required for a 250 psf uniform load (per CBC for trucking) by only 13% at the center of the bay. Increasing the uniform load to 300 psf reduces this difference to only 2%.

The final slab analysis, design and detailing for the project will be completed during the Construction Documents phase of the project based on the actual column layout and other specific conditions that have not been accounted for in the analyses performed for this study. However, in our judgment, a uniform live load of 300 psf will be adequate to capture the effect of fire vehicle loading in the driveway areas of the ground floor slab based on the results of this study. Note that the 2% difference noted above is small considering the safety factors involved in reinforced concrete design. For instance, the design load combination is 1.2D + 1.6L which means the required strength (i.e. required area of reinforcement) is based on a 60% increase in the live loads. Thus, the 300 psf applied service live load becomes 480 psf in the analysis for strength design.

Please let us know if you have questions regarding this matter.

Sincerely,

NABIH YOUSSEF & ASSOCIATES

Nabih Youssef, S.E., F.ASCE
President

ILLUSTRATION INDEX MAP



ELEVATED ROADWAY SURFACE NOTE AND CODES

A LETTER, WET-STAMPED AND SIGNED BY THE PROJECT REGISTERED ENGINEER, SHALL BE PROVIDED ON THE PLANS CERTIFYING THAT ANY NEW ROADWAY MEETS OCFA 68,000-POUND, ALL-WEATHER REQUIREMENT. THE ELEVATED SURFACES WITHIN THE PROJECT SITE WHICH ARE A PART OF ANY ACCESS ROADWAYS SHALL BE A MINIMUM OF 20' IN WIDTH AND DESIGNED AND CONSTRUCTED TO ACCOMMODATE A TOTAL WEIGHT OF 68,000 POUNDS. APPARATUS WEIGHT IS DISTRIBUTED AS 46,000 POUNDS ON TANDEM REAR AXLES AND 22,000 POUNDS ON THE FRONT AXLE. CFC 503.2.6

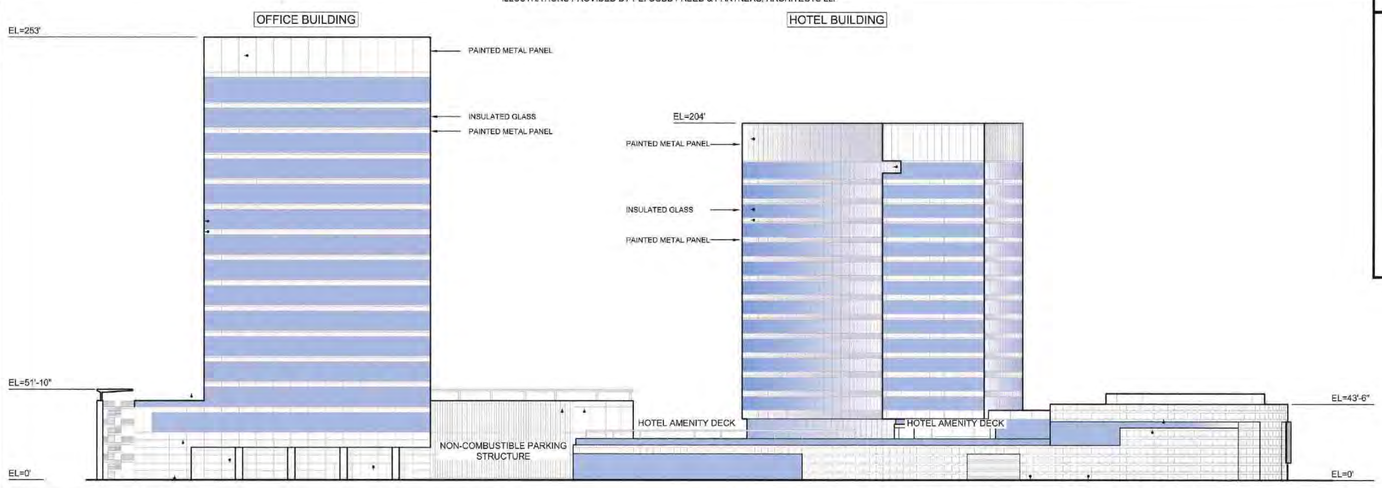
2016 California Fire Code Section 503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges where required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces that are not designed for such use, approved barriers, approved signs or both shall be installed and maintained where required by the fire code official.

NOTE: HB-17 stands for AASHTO's publication entitled, "Standard Specifications for Highway Bridges" 17th Edition. Research shows that the most recent edition of the "Standard Specifications for Highway Bridges" is the 17th edition and it was published in 2002. AASHTO has created the document titled "LRFD Bridge Design Specifications" which is now in its 3rd Edition (2010) with interim changes published for 2010 through 2016 to provide additional design criteria to bridges and elevated surfaces. Project will provide proof of compliance on the plans in form of a signed letter by the project engineer.

REVIEWED
OCFA
204503
2/2/17
BA

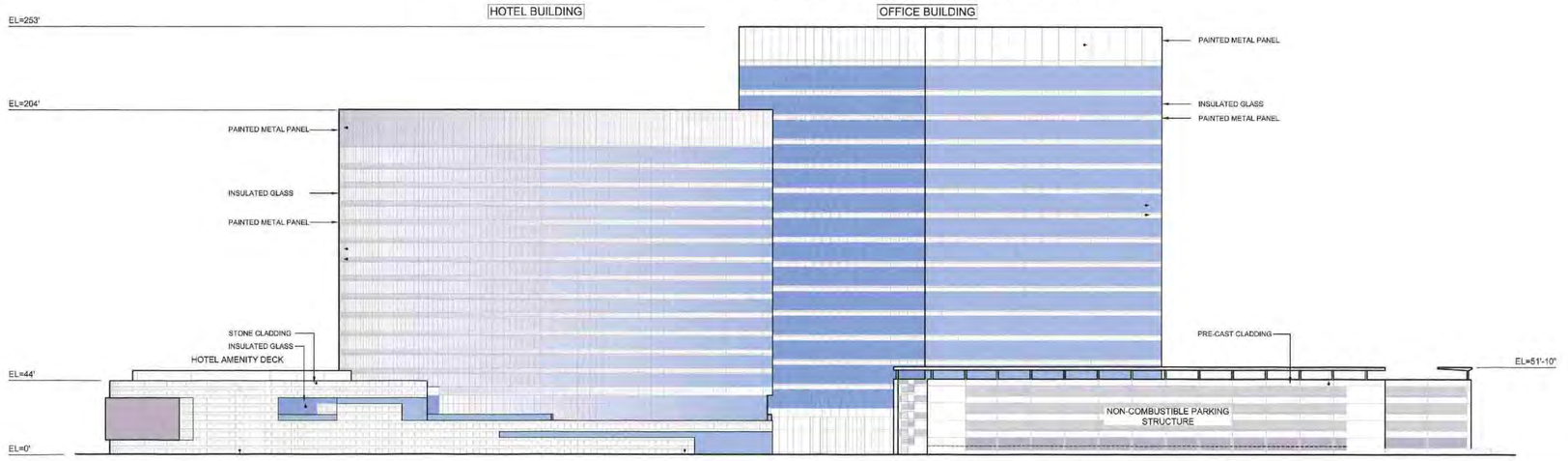
1 VIEW FROM DOUGLAS FACING NORTH

ILLUSTRATIONS PROVIDED BY PEI COBB FREED & PARTNERS, ARCHITECTS LLP



2 VIEW FROM MAC ARTHUR BOULEVARD FACING SOUTH

ILLUSTRATIONS PROVIDED BY PEI COBB FREED & PARTNERS, ARCHITECTS LLP



LANDSCAPE ARCHITECT	ARCHITECT	ARCHITECT	STRUCTUAL ENGINEER:	CIVIL ENGINEER:
BURTON LANDSCAPE ARCHITECTURE STUDIO 207 S. CEDROS AVE SOLANA BEACH, CA 92075	LPA 5161 CALIFORNIA AVENUE SUITE 100 IRVINE, CA 92617 P. (949) 261-1001	PEI COBB FREED & PARTNERS ARCHITECTS LLP 7700 IRVINE CENTER DRIVE IRVINE, CA 92618	NABIH YOUSSEF ASSOCIATES STRUCTURAL ENGINEERS 800 WILSHIRE BOULEVARD, STE 200 LOS ANGELES, CA 90017	URBAN RESOURCE CONSULTING CIVIL ENGINEERS 23 Mauchly, Suite 110 Irvine, CA 92618 Phone: 949-727-9093 Fax: 949-727-9098

PREPARED BY:	PREPARED FOR:		SHEET
firesafe PLANNING SOLUTIONS 302 N. EL CAMINO REAL, SUITE 202 SAN CLEMENTE, CA 92672 (949) 240-5911	GREAT FAR EAST 7703 IRVINE CENTER DRIVE IRVINE, CA 92618 PHONE: 949-551-6688 PHONE: 949-551-6687	OCFA SERVICE REQUEST NO. 213894 OCFA CITY MASTER PLAN FOR CONDITION OF APPROVAL NOTES, BUILDING ELEVATIONS, STRUCTURAL ENGINEER REPORT THE LANDMARK MAC ARTHUR BOULEVARD TENTATIVE TRACT NO. 2016-139 CITY OF IRVINE	1 OF 2 SHEETS

The use of these plans and specifications shall be restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Reproduction, publication, or re-use by any method, in whole or in part without the express consent of FIRESAFE PLANNING SOLUTIONS is prohibited.

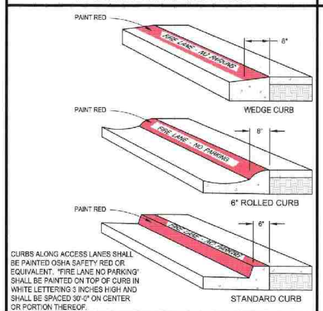


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BY

AERIAL LADDER SECTION AT HOTEL PORTE COCHERE

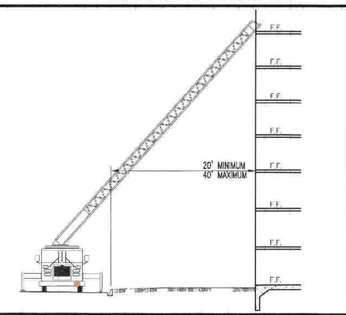
SCALE: 1"=20'

FIRE LANE CURB MARKING

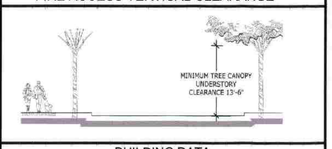


CURBS ALONG ACCESS LANES SHALL BE PAINTED OSHA SAFETY RED OR EQUIVALENT. "FIRE LANE NO PARKING" SHALL BE PAINTED ON TOP OF CURB IN WHITE LETTERING 3 INCHES HIGH AND SHALL BE SPACED 30'-0" ON CENTER OR PORTION THEREOF.

TYPICAL AERIAL LADDER SECTION



FIRE ACCESS VERTICAL CLEARANCE



BUILDING DATA

BUILDING (TYPE 1A)	SQUARE FOOTAGE	MATERIALS
BASEMENT PARKING LEVEL:	481,000 SF	CAST IN PLACE CONCRETE
PARKING GARAGE:	432,800 SF	PRECAST CONCRETE (LIKELY)
OFFICE TOWER:	448,200 SF	STRUCTURAL STEEL WITH UNITIZED CURTAIN WALL ENCLOSURE
HOTEL BUILDING:	323,415 SF	CAST IN PLACE CONCRETE WITH STONE CLADDING AND GLASS STOREFRONT
RETAIL BUILDING:	16,545 SF	STRUCTURE TBD, GLASS ENCLOSURE

LEGEND

FCC	FIRE COMMAND CENTER ROOM
E	ELEVATOR
CLK	CLICK 2 ENTER GATE ACCESS
ROOF	STAIRWAY WITH ROOF ACCESS
	BUILDING IDENTIFICATION LOCATIONS - 6" MIN. TALL LETTERING - APPROXIMATE LOCATION SHOWN - SEE SIGNAGE PACKAGE FOR FINAL DESIGN
EXIST FH	EXISTING PUBLIC FIRE HYDRANT
PROP PUB FH	PROPOSED PUBLIC FIRE HYDRANT CHROME OR BRASS FINISH
PROP PRIV FH	PROPOSED PRIVATE FIRE HYDRANT CHROME OR BRASS FINISH
	INDICATES BLUE REFLECTIVE FIRE HYDRANT MARKER. MARKER SHALL BE PLACED ON HYDRANT SIDE OF CENTERLINE OF STREET
SP	WET STAND PIPE
	AERIAL TRUCK ACCESS TO TOWER / AT GRADE STAGING
	AERIAL TRUCK ACCESS TO TOWER / ON DECK STAGING
	150' HOSE PULL TO EXTERIOR PORTIONS OF BUILDING
	300' HOSE PULL AT NON-COMBUSTIBLE SPRINKLERED GARAGE - SEE FIRE NOTE 1 UNDER 'ADDITIONAL NOTES', SHEET 1
	OUT OF HOSE PULL ACCESS AS PART OF AM & M REQUEST
	PAINTED RED CURB PER DETAIL AND OCFA GUIDELINES
KNOX	KEY SWITCH OR SUB-KEYED KNOX LOCK WITH 3-SETS OF KEYS
1	INDICATES ILLUSTRATION VIEW NUMBER AND DIRECTION - SEE ILLUSTRATIONS ON SHEET MP-040
	INDICATES PAVED FIRE ACCESS
	INDICATES PAVED FIRE ACCESS ON DECK OF PARKING STRUCTURE

CONSTRUCTION NOTES

1. INSTALL FIRE LANE ENTRY SIGN PER DETIAL ON SHEET 1 AND OCFA GUIDELINES
2. INSTALL SUB-KEYED KNOX BOX WITH 3-SETS OF KEYS PER OCFA GUIDELINES
3. INSTALL KNOX KEY SWITCH PER OCFA GUIDELINES
4. PAINT CURB RED 15' ON EITHER SIDE OF HYDRANT AS SHOWN PER OCFA GUIDELINES

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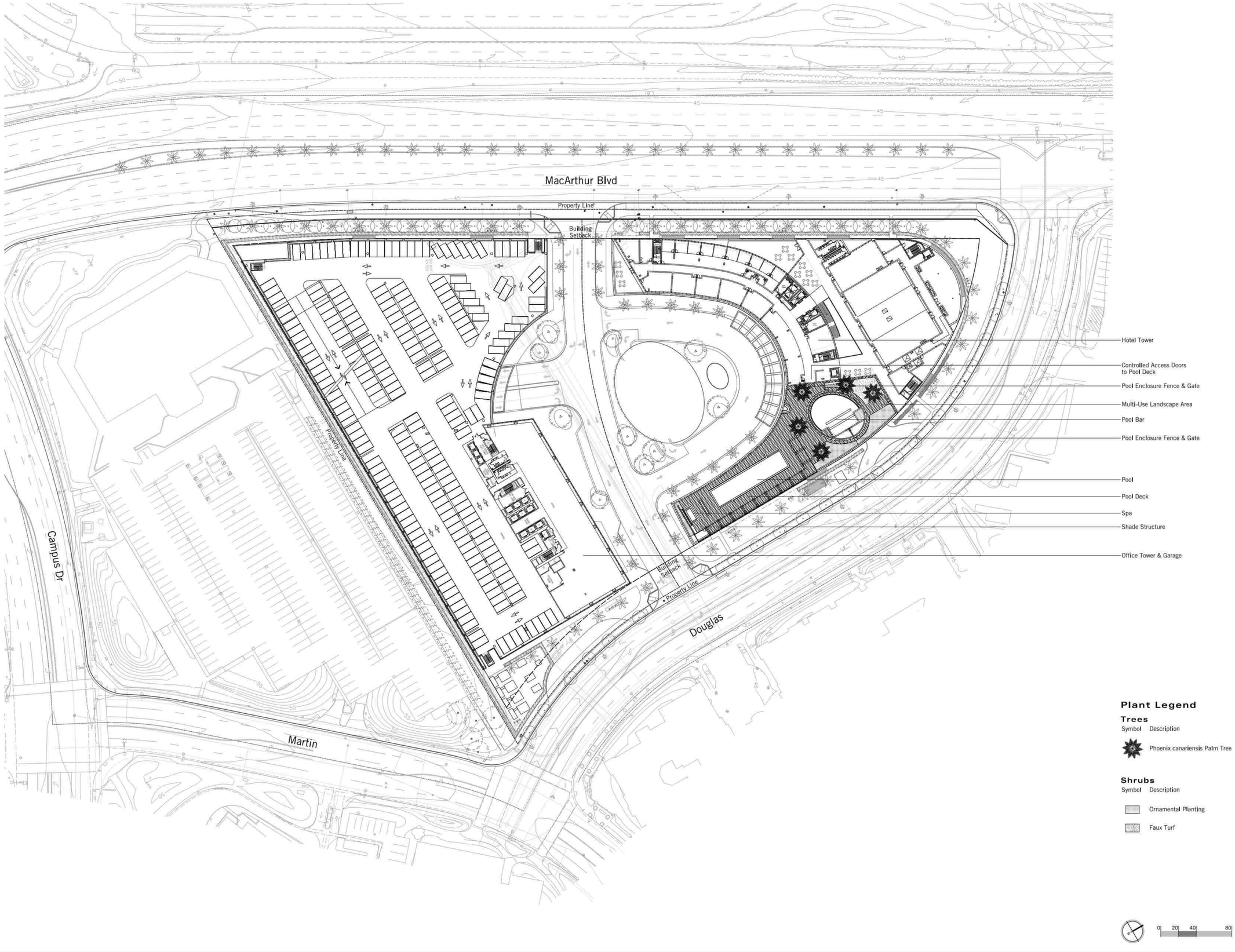
PREPARED FOR:
GREAT FAR EAST
7700 IRVINE CENTER DRIVE
IRVINE, CA 92618
PHONE: 949-551-6688
PHONE: 949-551-6687

OCFA CITY MASTER PLAN
FOR CONDITION OF APPROVAL
OCFA CITY MASTER PLAN, DETAILS
THE LANDMARK
MAC ARTHUR BOULEVARD
TENTATIVE TRACT NO. 2016-139
CITY OF IRVINE

SHEET
2
OF 2 SHEETS

THE LANDMARK - OCFA CITY MASTER PLAN

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No.	Date	Revision
00	05/12/16	SUBMISSION No. 1
01	12/01/16	SUBMISSION No. 2
02	01/27/17	SUBMISSION No. 3

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
DECEMBER 1, 2016

STAMP

DRAWING TITLE

CONCEPTUAL LANDSCAPE PLAN - SECOND LEVEL

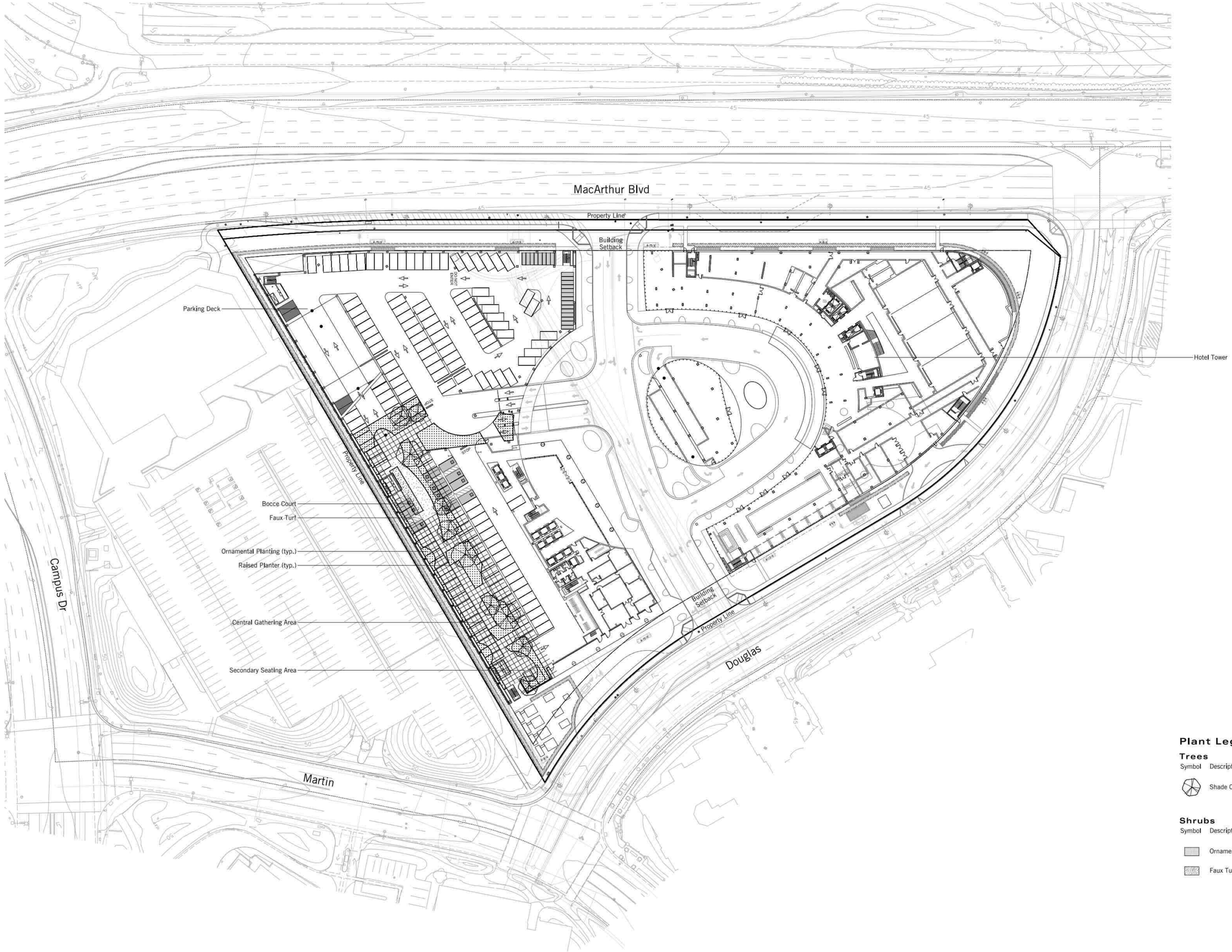
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SCALE 1" = 40'
PROJECT NO. PCF-1514
DATE 01/27/17
REV.

DRAWING NO.

MP-021

PEI COBB FREED & PARTNERS
Architects LLP



Plant Legend

Trees

Symbol	Description
	Shade Canopy Tree

Shrubs

Symbol	Description
	Ornamental Planting
	Faux Turf

0 20 40 80

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02	01/27/17	SUBMISSION No. 3

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
DECEMBER 1, 2016

STAMP

DRAWING TITLE

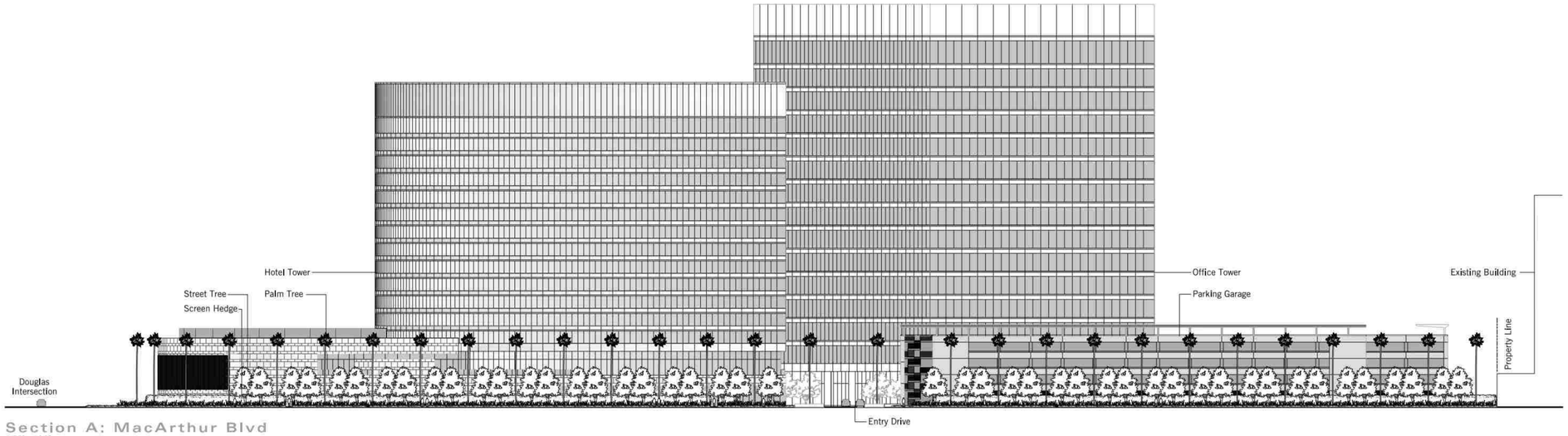
CONCEPTUAL LANDSCAPE PLAN - THIRD LEVEL

DRAWN	CHECKED
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
01/27/17	

DRAWING NO.

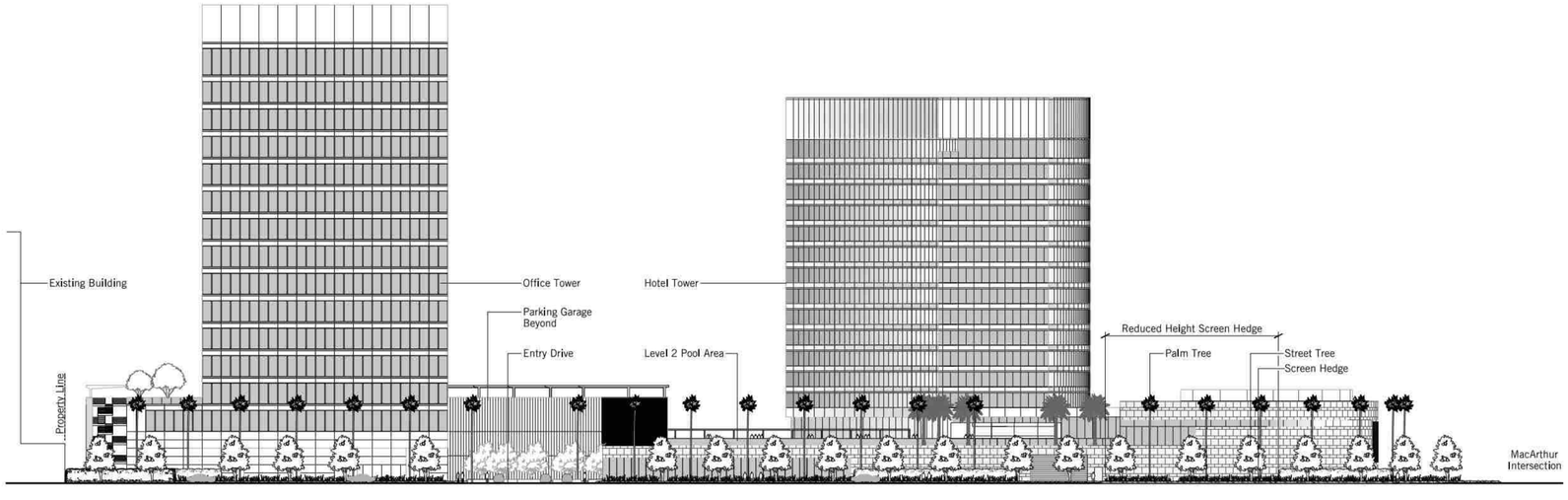
MP-022

PEI COBB FREED & PARTNERS
Architects LLP



Section A: MacArthur Blvd

1/32" = 1'-0"



Section B: Douglas

1/32" = 1'-0"

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No.	Date	Revision
00	05/12/16	SUBMISSION No. 1
01	12/01/16	SUBMISSION No. 2
02	01/27/17	SUBMISSION No. 3

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
DECEMBER 1, 2016

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DRAWING TITLE

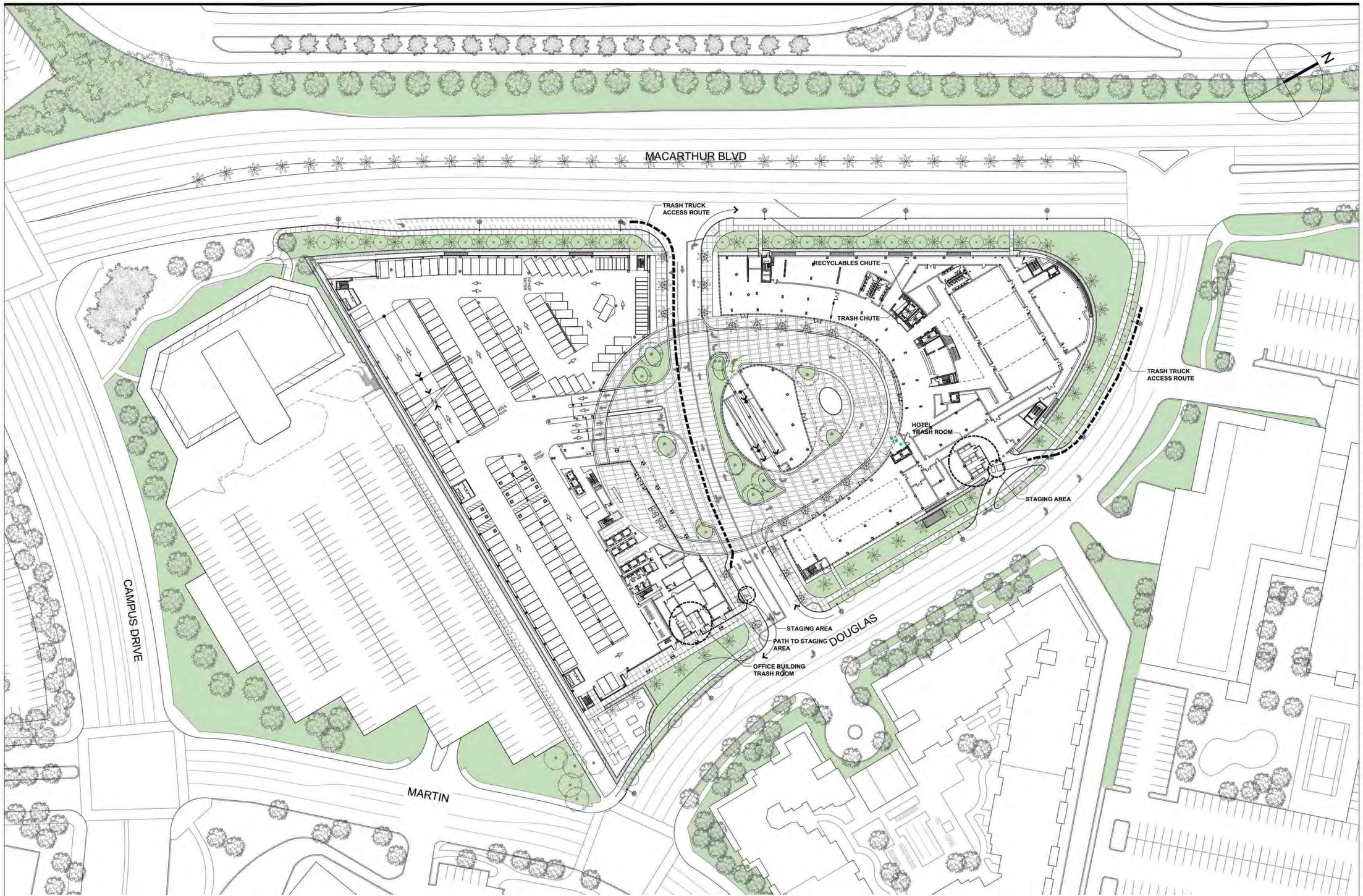
CONCEPTUAL LANDSCAPE ELEVATIONS

DRAWN	CHECKED
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
01/27/17	

DRAWING NO.

MP-023

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Architects LLP



GREEN WASTE

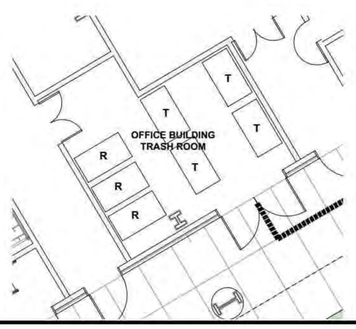
GREEN WASTE WILL BE COLLECTED BY THE LANDSCAPE CONTRACTOR DURING REGULAR MAINTANANCE, REMOVED FROM THE PROPERTY AND DEPOSITED IN A CITY OF IRVINE APPROVED COLLECTION FACILITY

OFFICE BUILDING

TRASH AND RECYCLABLES WILL BE COLLECTED IN BUILDING AND MOVED TO TRASH ROOM FOR DISPOSAL IN SEVEN (7) 3-YARD TRASH BINS; 21 YDS TOTAL. TRASH BINS WILL BE MOVED TO STAGING AREA BY BUILDING STAFF ON COLLECTION DAYS, ANTICIPATED TO BE EACH WORKDAY. TRUCKS SHALL ACCESS SITE FROM MACARTHUR BOULEVARD AND APPROACH THE STAGING AREA FROM THE WEST AND EMPTY TRASH BINS INTO TRUCK IN AN AREA CLEAR TO SKY.

T TRASH

R RECYCLABLES



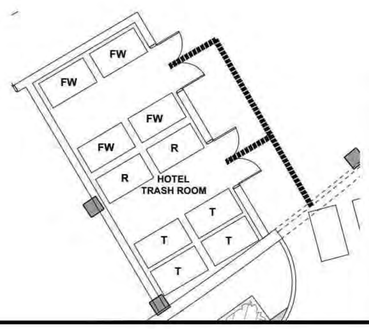
HOTEL

TRASH, RECYCLABLES AND FOOD WASTE WILL BE COLLECTED AT TRASH CHUTE, RECYCLABLES CHUTE AND BOH AREAS.
TRASH, RECYCLABLES AND FOOD WASTE WILL BE MOVED TO TRASH ROOM FOR DISPOSAL IN TEN (10) 3-YARD TRASH BINS; 30 YDS TOTAL. TRASH BINS WILL BE MOVED TO STAGING AREA BY BUILDING STAFF ON COLLECTION DAYS, TRASH TRUCK WILL APPROACH FROM SOUTHBOUND ON DOUGLAS AND EMPTY TRASH BINS INTO TRUCK IN AN AREA CLEAR TO SKY.

T TRASH

R RECYCLABLES

FW FOOD WASTE



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No.	Date	Revision
00	01/06/16	INITIAL SUBMISSION
01	03/08/16	SUBMISSION No. 2
02	05/12/16	SUBMISSION No. 3
03	12/01/16	SUBMISSION No. 4
04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

STAMP

DRAWING TITLE

WASTE MANAGEMENT PLAN

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
5/12/16	

DRAWING NO.

MP-030

PEI COBB FREED & PARTNERS
Architects LLP

OCFA ALTERNATE MATERIALS & METHODS LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92856-0086

SUBJECT: The Landmark, Irvine, CA
Alternate Materials and Methods for Fire Master Plan S.R. # 213694

PROJECT DESCRIPTION:
The project site is a parcel bounded by an office building on the west, MacArthur Boulevard, Douglas to the south.
The development is a 15-story office podium building along with a 15 story hotel building, both on a parking structure from basement thru second floor. The hotel site contains retail units at ground floor with amenities on the fourth floor. The project falls under OCFA 'Highrise' requirements.
A portion of the fire access route bridges over parking garage as shown on site plan, sheet 2 of this package. This access will be designed and constructed per requirements shown in OCFA Guideline B-09 under 'Bridges' paragraph. The project structural engineer will certify the construction will support a full assignment.

On behalf of The Landmark, we hereby submit a request for use of Alternate Materials and Methods (AM&M), per the 2013 California Fire Code. Our request relates to the 75' hose pull deficiency around the back of the 3-floor above grade non-combustible parking garage.

The following information is being provided to assist in your evaluation of this proposed AM&M.

A. Project information:
Development type: Hotel/Office Development

B. Code Sections for which the modification is requested:
CFC Section 104.9: Alternate Means and Methods
CFC Section 503.1.1: Fire lanes shall be provided within 150' of every portion of the perimeter of the building as measured along an approved route.
CFC Section 503.1.1, 503.2.2: Fire Lane setback

C. Hardship:
Our hardship is: Due to the site usage, there is a hose pull deficiency of 38' from each access point for a total of 75' at the back of the non-combustible parking structure. The structure will not have amenities. OCFA Guideline B-09 notes the hose pull reach may be extended to 300 feet for open parking garages if certain criteria are met. This structure meets all of those listed with the exception of one of the two stairway door locations being 60' from a fire access roadway, 20' greater than noted.

D. Proposed alternative fire protection measures:
- Wet stand pipes will be installed at all stairwells and along the rear of the non-combustible parking structure at the end of each 300' hose pull reach and at the mid-point. The standpipes will be tied into the building automatic fire sprinkler system.

The AM&M proposal and acceptance letter shall be copied onto the architectural, alarm, sprinkler, and standpipe plans submitted to the OCFA for review in addition to the architectural plans submitted to the OCFA. The architect/developer shall be responsible for rectifying any errors or omissions arising from failure to provide these documents on these submittals. It is our belief that the proposed alternate fire protection methods and modifications developed both enhance and protect the building and more importantly provide additional protection for fire personnel and the public.

Approval of this alternate methods and materials request is contingent upon acceptance of the design and installation of the fire walls and other construction features by the Building Department. This AM&M letter will be included on the architectural plans submitted to both the OCFA and City of Irvine as well as the sprinkler and alarm plans submitted to OCFA.

Accepted:

Fire Prevention Analyst
Orange County Fire Authority

Vahid Toosi, P.E. Fire Prevention
Orange County Fire Authority

☐ NO ADDITIONAL CONDITIONS OF APPROVAL REQUIRED.

☐ ADDITIONAL CONDITIONS OF APPROVAL APPLY. SEE ATTACHED LETTER.

BUILDING DATA

BUILDING (TYPE 1A)	SQUARE FOOTAGE	MATERIALS
BASEMENT PARKING LEVEL:	481,000 SF	CAST IN PLACE CONCRETE
PARKING GARAGE:	432,800 SF	PRECAST CONCRETE (LIKELY)
OFFICE TOWER:	448,200 SF	STRUCTURAL STEEL WITH UNITIZED CURTAIN WALL ENCLOSURE
HOTEL BUILDING:	323,415 SF	CAST IN PLACE CONCRETE WITH STONE CLADDING AND GLASS STOREFRONT
RETAIL BUILDING:	13,665 SF	STRUCTURE TBD, GLASS ENCLOSURE

A FIRE COMMAND CENTER SHALL BE CONSTRUCTED WITHIN THE HOTEL AND OFFICE TOWER. IT SHALL BE A MINIMUM OF 200 S.F. WITH MINIMUM DIMENSIONS OF 10 FEET WITH AN EXTERIOR ACCESS DOOR. THEY SHALL CONTAIN EQUIPMENT AS STATED IN OCFA GUIDELINE H-01.

PARKING ENFORCEMENT LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA. 92602-0125

Re: The Landmark, Irvine, CA.
OCFA Service Request Number 213694 Parking Enforcement Plan

The fire lane parking enforcement plan for the above referenced project is stated as follows:

All fire lanes within project shall be maintained and In no event shall parking be permitted along any portion of a street or drive that required fire lanes or any area designated as a fire lane for turn-around or drive through purposes.

Site Management shall adopt reasonable rules and regulations regarding the parking of vehicles along the streets, roads and or drives within the project that are not in conflict with applicable law.

In furtherance thereof, Site Management, through its officers, committees and agents will establish the "parking" and "no parking" areas within the property in accordance with Section 22658.2 of the California Vehicle Code and OCFA Guideline B-09. The law shall be enforced through such rules and regulations by all lawful means, including, written warnings, citing, levying fines and towing vehicles in violation.

Site Management will contract with a certified patrol and towing company to remove vehicles that violate no parking restrictions. First time violators will receive a written warning and with subsequent violations, the vehicle shall be subject to towing. The vehicle owner shall be responsible for all costs incurred in remedying such violation, including without limitation towing cost, citations and legal fees.

COMBUSTIBLE CONSTRUCTION LETTER

January 16, 2017

Planning and Development Services Section
Orange County Fire Authority
1 Fire Authority Road
Irvine, CA. 92602-0125

Subject: Combustible Construction Letter OCFA Service Request Number 213694, The Landmark, Irvine, CA.

The purpose of this letter is to notify you that The Landmark development shall install all required paved fire access roads that meet OCFA access requirements per the approved plans. All fire hydrants and water supply for firefighting purposes shall be installed per the approved plans and shall meet all fire flows requirements. prior to any combustible construction materials being delivered for construction.

FIRE AUTHORITY NOTES

1. OCFA site inspections are required for this project. Please schedule all field Inspections at least 48 hours in advance. Inspections canceled after 1 p.m. on the day before the scheduled date will be subject to a re-Inspection fee. Call OCFA Inspection Scheduling at (714) 573-6150.
2. A lumber drop Inspection shall be performed prior to bringing combustible materials (or combustible fixtures and finishes for structures of non-combustible construction). All-weather access roads capable of supporting 68,000 lbs., topped with asphalt, concrete, or equivalent shall be in place and hydrants operational at time of lumber drop Inspection.
3. For projects with fuel modification, a vegetation clearance Inspection is required prior to a lumber drop Inspection. Use the fuel modification plan service request number to schedule the vegetation clearance Inspection.
4. Phased installation of fire access roads requires additional inspections not covered by the fees paid at plan submittal. Contact Inspection Scheduling to arrange for additional inspections that may be needed and any fees that may be due.
5. An original approved, signed, wet-stamped CFA fire master plan shall be available on-site at time of Inspection.
6. Access roads and hydrants shall be maintained and remain clear of obstructions at all times during and after construction. Areas where parking is not permitted shall be clearly identified at all times. Obstruction of fire lanes and hydrants may result in cancellation or suspension of Inspections.
7. Temporary fuel tanks of 60 or more gallons shall be reviewed, inspected, and permitted by the OCFA prior to use.
8. The project address shall be clearly posted and visible from the public road during construction.
9. All gates in construction fencing shall be equipped with either a Knox or breakaway padlock.
10. Buildings of four or more stories shall be provided with stairs and a standpipe before reaching 40 feet in height.
11. Fire lane widths shall be measured from top face of the curb to top face of the curb for fire lanes with standard curbs and gutters and from flow-line to flow-line for fire lanes with modified curb designs (e.g., rolled, ramped, etc). The developer is responsible to verify that all approved public works or grading department street improvement plans or precise grading plans conform to the minimum street width measurements per the approved OCFA fire master plan and standards identified in OCFA Guideline B-09 for all portions of the fire access roads.
12. Permanent, temporary, and phased emergency access roads shall be designed and maintained to support an Imposed load of 68,000 lbs. and surfaced to provide all-weather driving capabilities.
13. Fire lane signs and red curbs shall meet the specifications shown in OCFA Guideline B-09 and shall be installed as described therein. Additional fire lane markings may be required at the time of Inspection depending on field conditions.
14. All fire hydrants shall have a "Blue Reflective Pavement Marker" indicating their location per the OCFA standard. On private property markers are to be maintained in good condition by the property owner.
15. Address numbers shall be located and be of a color and size so as to be plainly visible and legible from the roadway from which the building is addressed in accordance with OCFA Guideline B-09. Wayfinding signs, when required by the local AHJ, shall comply with the standards of that agency. When wayfinding signs are also required by the OCFA, they may be designed to local AHJ requirements provided that such standards facilitate location of structures, suites, and dwelling units by emergency personnel.
16. Access gates shall be approved prior to installation and shall be in compliance with Chapter 5 of the CFC and OCFA guidelines.
17. Approved access walkways shall be provided to all required openings and all rescue windows.
18. Vegetation shall be selected and maintained in such a manner as to allow immediate access to all hydrants, valves, fire department connections, pull stations, extinguishers, sprinkler risers, alarm control panels, rescue windows, and other devices or areas used for firefighting purposes. Vegetation or building features shall not obstruct address numbers or inhibit the functioning of alarm bells, horns, or strobes.
19. Dumpsters and trash containers larger than 1.5 cubic yards shall not be stored in buildings or placed within 5 feet of combustible walls, openings or combustible roof eave lines unless protected by an approved sprinkler system.
20. Any future modification to the approved Fire Master Plan or approved site plan, including but not limited to road width, grade, speed humps, turning radii, gates or other obstructions, shall require review, Inspection, and approval by the OCFA.
21. Approval of this plan shall not be construed as approval of any Information or project conditions other than those items and requirements Identified in OCFA Guideline B-09 and related portions of the 2013 CFC and CBC. This project may be subject to additional requirements not stated herein upon examination of actual site and project conditions or disclosure of additional information.

PROJECT-SPECIFIC REQUIREMENTS

22. An underground piping plan is required for the Installation of an automatic fire sprinkler system or for a private fire hydrant system. A separate plan submittal is required.
23. An architectural plan is required to be submitted to the OCFA for review and approval for projects containing A, C, E, F, H, I, L, and R-4 occupancies. A plan may also be required for R-1 and R-2 occupancies over two stories or those utilizing sprinklers or fire walls to increase the maximum building size allowed--see OCFA Info Bulletin 02-13.
24. An automatic fire sprinkler system shall be Installed In accordance with applicable codes and local ordinances, amendments, and guidelines. Sprinkler systems, other than those listed in CFC 903.4, shall be monitored by an approved central station. Separate plan submittals for the sprinkler and monitoring systems are required.
25. A fire alarm system shall be Installed In accordance with applicable codes and local ordinances, amendments, and guidelines. A separate plan submittal is required.

ADDITIONAL NOTES

26. Guideline H-01 Laddering/Staging area setbacks notes:
For buildings over 90 feet, the laddering areas shall be no less than 20 and no more than 40 feet from the facade.
Exception: When approved by the fire code official, designated laddering areas are not required provided than the nearest edge of the fire lane is located between 20 and 40 feet from the structure along the entire length of at least two sides of the building, one of which is the longest side of the structure, or for at least 50% of the perimeter of the structure, whichever is greater. An unobstructed minimum 26 foot wide fire lane shall be provided; parking and other obstructions shall not intrude into this clear width.
27. Guideline B-09 page 6, item 2 'exception' allows 300 foot hose pull reach for open parking garages protected throughout with an NFPA 13 sprinkler system.
28. The Landmark project that consists of office, hotel and retail is a privately owned site that will be maintained by the current owner. There is no association responsible for any portion of the site maintenance. In the event that either the office building or hotel is sold, the new owner(s) would be required to continue the site maintenance.

DEFERRED SUBMITTALS

Portions of the project that are deferred shall be subject to the codes, standards and other applicable requirements in force on the date that the deferred plan is submitted to OCFA.

Architectural
- Chemicals (for pool)
- Generator (for fuel tank >60 gallons)
- Battery Systems (>50 gallons)
- Sprinkler/Monitoring system
- Standpipe System
- Underground System: Serving sprinklers and private hydrants
- Alarm System

ELEVATED ROADWAY SURFACE NOTE AND CODES

A LETTER, WET-STAMPED AND SIGNED BY THE PROJECT REGISTERED ENGINEER, SHALL BE PROVIDED ON THE PLANS CERTIFYING THAT ANY NEW ROADWAY MEETS OCFA 68,000-POUND, ALL-WEATHER REQUIREMENT. THE ELEVATED SURFACES WITHIN THE PROJECT SITE WHICH ARE A PART OF ANY ACCESS ROADWAYS SHALL BE A MINIMUM OF 20' IN WIDTH AND DESIGNED AND CONSTRUCTED TO ACCOMMODATE A TOTAL WEIGHT OF 68,000 POUNDS. APPARATUS WEIGHT IS DISTRIBUTED AS 46,000 POUNDS ON TANDEM REAR AXLES AND 22,000 POUNDS ON THE FRONT AXLE, CFC 503.2.6

2016 California Fire Code Section 503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges where required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces that are not designed for such use, approved barriers, approved signs or both shall be installed and maintained where required by the fire code official.

NOTE: HB-17 stands for AASHTO's publication entitled, "Standard Specifications for Highway Bridges" 17th Edition. Research shows that the most recent edition of the "Standard Specifications for Highway Bridges" is the 17th edition and it was published in 2002. AASHTO has created the document titled "LRFD Bridge Design Specifications" which is now in its 3rd Edition (2010) with interim changes published for 2010 through 2016 to provide additional design criteria to bridges and elevated surfaces. Project will provide proof of compliance on the plans in form of a signed letter by the project engineer.

STRUCTURAL ENGINEER LOADING REPORT

NABIH YOUSSEF ASSOCIATES
STRUCTURAL ENGINEERS

January 16, 2017

Orange County Fire Authority
Fire Prevention Bureau
Planning & Development Services:
1 Fire Authority Road
Irvine, CA 92602

Re: The Landmark – Slab Design for Fire Vehicle Loading -- *WO # 16000.01*

The purpose of this letter is to present the results of our investigation into the effects of the fire vehicle loading requirements per the Orange County Fire Authority (OFCA) Guideline B-09 on the design of the Level 1 slab in the driveway areas between the Office Tower and Hotel of the Landmark project. We understand that the OFCA has some concern regarding the ability of the slab to support the weight of fire vehicles. The purpose of this study is to show that the 14" thick slab indicated in the Schematic Design set can be designed to support the prescribed loading and to propose a simplified method for this design using uniform loading. (The actual slab design and detailing will be completed in the Design Development and Construction Document phases of the project.)

Truck Loading per California Building

It is not uncommon for structures to be designed for fire vehicle access. Often, fire lanes will occur over portions of subterranean parking structures, since such structures often extend beyond the footprint of the above-grade building. It is common structural engineering practice to design such slabs for a live load of 250 psf which is the prescribed loading for "sidewalks, vehicular driveways and yards subject to trucking" per Item 29 in Table 1607.1 of the 2013 California Building Code. (See Figure 1).

Fire Vehicle Loads per OCFA Guideline B-09

Fire Master Plans for Commercial & Residential Development Guideline B-09 (shown in Figure 2) published by the OCFA prescribes that "bridges" supporting a fire access road "shall be designed and constructed to accommodate a total weight of 68,000 pounds" distributed as 46,000 lb. on the tandem rear axle and 22,000 lbs. on the front axle. (Note that although this document refers to bridges, buildings can also be designed for such loading where necessary to support a fire access road.)

Guideline B-09 does not prescribe, a specific distribution for these loads. For the purpose of this investigation, the Emergency Vehicle Size and Weight Regulation Guideline published by the International Association of Fire Chiefs (IAFC) was therefore consulted. The axle weights per Guideline B-09 fall within the range of axle weights given for the "Aerial Ladder – Tandem Rear Axle" shown on page 9 of this document. (See Figure 3.) Therefore, the dimensions given for this vehicle were used to develop a distribution of the loads as shown in Figure 4. The 46,000 lb. tandem rear axle load is divided into two 23,000 lb (i.e. 23 kip) loads spaced 4 feet apart.

For this investigation, the effect of these loads on the slab design is compared to the effect to the 250 psf uniform loading for trucking per the CBC.

Driveway Layout of the Landmark Level 1 Slab

Figure 5 shows the portion of the ground floor between the office tower and the hotel of the Landmark project. The area of the driveways requiring fire vehicle access is highlighted. Per the Schematic Design set, this area is supported by a 14 inch thick reinforced concrete slab. The column spacing varies, but the maximum spacing is 31'-6" in one direction and 30'-6" in the other direction. Note that the slab thickness indicated in the Schematic Design drawings was determined based on comparison with the slab thicknesses used on other projects with similar spans and similar loads. The required slab thickness will verified during the Design Development phase and the reinforcing layout will be detailed during the Construction Document Phase of the project.

The purpose of this investigation is not to present a final slab design based on the exact column layout of the project, but rather to confirm that a reinforced concrete slab of the same thickness and similar column spacing as shown in the Landmark Schematic Design set can support to fire vehicle loading and to propose a simplified method for this design using uniform loading. To facilitate this study, a simplified column layout has been analyzed under various loading conditions.

Slab Analysis Model under 250 PSF Uniform Live Load

Figure 6 shows the simplified slab layout that has been analyzed for this study. The analysis has been performed using the finite element analysis program SAFE which has been developed specifically for reinforced concrete slab design and will be used for all reinforced concrete slab design on the is project. The analysis model includes three bays of 31'-6" in one direction and 30'-6" in the other direction, matching the maximum column span in the driveway area of the Landmark project. At the perimeter of the analysis model, the slab cantilevers about 40% of the typical bay span, which approximates a continuous slab condition.

In addition to the self weight of the slab, a superimposed dead load of 110 psf has been applied as shown in Figure 7. This represents the weight of an 8" concrete topping slab over the 14" structural slab plus an additional 10 psf to represent loads suspended from below. (The exact loading for the Landmark project has not been set, but these are conservative estimates.) This superimposed lading has been used in all models for this study.

For the base model in this study, a uniform live load of 250 psf (the live load for trucking per the CBC) as shown in Figure 8. The resulting required slab reinforcing in each direction is shown in Figures 9 and 10. The reinforcing is reported as square inches per foot of slab width and is calculated separately for column strips and middle strips in each bay per American Concrete Institute code requirements (ACI 318-14).

Slab Analysis for Single Vehicle at Middle Strip

Figure 11 shows the slab analysis model for a single vehicle with the rear tandem axle centered on a bay to maximize the required reinforcing in the middle strip. The point loads shown on Figure 12 represent the wheel loads spaced 9' apart. (Each wheel load is half the axle load shown in Figure 4.) In addition to these point loads representing the fire vehicle, a uniform load of 50 psf has been applied to the slab, except within the footprint of the vehicle as shown in Figure 13. This is a conservative estimate of the weight of other vehicle, people, etc. that could be located around the truck. (This load exceeds the 40 psf live load required for parking garages per the CBC.) Also note that Guideline B-09 prescribes bridges be designed for a "total load of 68,000 lbs." The guideline does not prescribe that this load be combined with any other live loads.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 13 and 14. Comparing these figures to Figures 9 and 10, it is found that a single fire vehicle with the rear tandem axle located at the center of the bay (plus 50 psf live load elsewhere) does not govern at any location over the required reinforcing for a uniform load of 250 psf.

Slab Analysis for Two Vehicles at Middle Strip

Guideline B-09 does not explicitly require the design of bridges for multiple fire vehicles. However, in practice, a structure may be required to support multiple vehicles in an emergency. For the purposes of this study, we have investigated the effect of two vehicles side-by side with a clear space of 4' between them. Although it is possible that more than two vehicles could be located on the structure, it is unlikely that they would be located closely enough (i.e. in one bay or adjacent bays) to significantly affect the slab design. (Due to the footprint of the vehicle extending beyond the axles, the most critical layout for multiple vehicles is side by side rather than end to end and it is unlikely that there would be three vehicles side by side by side.) Also note that the effect of the 50 psf uniform load applied in addition to the point loads will account for additional fire vehicle that are located further way.

Figure 16 shows the slab analysis model for two vehicles with the rear tandem axles centered on a bay to maximize the required reinforcing in the middle strip. The point loads shown on Figure 17 represent the two vehicles spaced 4' apart. The additional uniform load of 50 psf is shown in Figure 18.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 18 and 20. Comparing these figures to Figures 9 and 10, it is found that the two fire vehicles with the rear tandem axle located at the center of the bay (plus 50 psf live load elsewhere) governs only at one location over the required reinforcing for a uniform load of 250 psf. The required north-south direction bottom reinforcing at the middle strip is 13% greater than for the 250 psf load case.

Slab Analysis for Two Vehicles at Column Strip

Figure 20 shows the slab analysis model for two vehicles with the rear tandem axles centered at mid bay in one direction and on a column in the other direction. This layout is intended to maximize the required reinforcing in the column strip. The point loads for this case are shown in Figure 22. The additional uniform load of 50 psf is shown in Figure 23.

The required slab reinforcing in each direction resulting from the loads described above is shown in Figures 24 and 25. Comparing these figures to Figures 9 and 10, it is found that the two fire vehicles with the rear tandem axle located at the column strip (plus 50 psf live load elsewhere) governs only at one location over the required reinforcing for a uniform load of 250 psf. The required north-south direction bottom reinforcing at the column strip is 3% greater than for the 250 psf load case.

Slab Analysis Model under 300 PSF Uniform Live Load

The various load configurations investigated in the study resulting in a worst case increase in reinforcing of 13% over the 250 psf load case. This is a fairly moderate increase. Since it is much simpler to analyze the slab under a uniform load rather an point loads (which would need to be separately analyzed in multiple configurations in multiple bays, we propose increasing the uniform load case of 250 psf (for trucking per the CBC) to 300 psf to account for the loading requirements per Guideline B-09.

The slab analysis under a 300 psf uniform load (as shown in Figure 26) results in the required reinforcing shown in Figures 27 and 28. In comparing these figures to those for the various load configurations investigated in this study, it is found that the 300 psf load case governs over the various other load configurations except for one condition. For two vehicles in the middle strip, the bottom reinforcing at the middle strip is 2% greater than for the 300 psf load. This is a very minor difference.

Conclusions

Based on the results of the various slab analyses performed for this study, the 14" reinforced concrete slab indicated in the Schematic Design drawings for the Landmark project will be adequate to support the fire vehicle loading prescribed by OCFA Guideline B-09. The reinforcing required based on this loading (assuming two side by side vehicles) exceeds that required for a 250 psf uniform load (per CBC for trucking) by only 13% at the center of the bay. Increasing the uniform load to 300 psf reduces this difference to only 2%.

The final slab analysis, design and detailing for the project will be completed during the Construction Documents phase of the project based on the actual column layout and other specific conditions that have not been accounted for in the analyses performed for this study. However, in our judgment, a uniform live load of 300 psf will be adequate to capture the effect of fire vehicle loading in the driveway areas of the ground floor slab based on the results of this study. Note that the 2% difference noted above is small considering the safety factors involved in reinforced concrete design. For instance, the design load combination is 1.2D + 1.6L which means the required strength (i.e. required area of reinforcement) is based on a 60% increase in the live loads. Thus, the 306 psf applied service live load becomes 489 psf in the analysis for strength design.

Please let us know if you have questions regarding this matter.

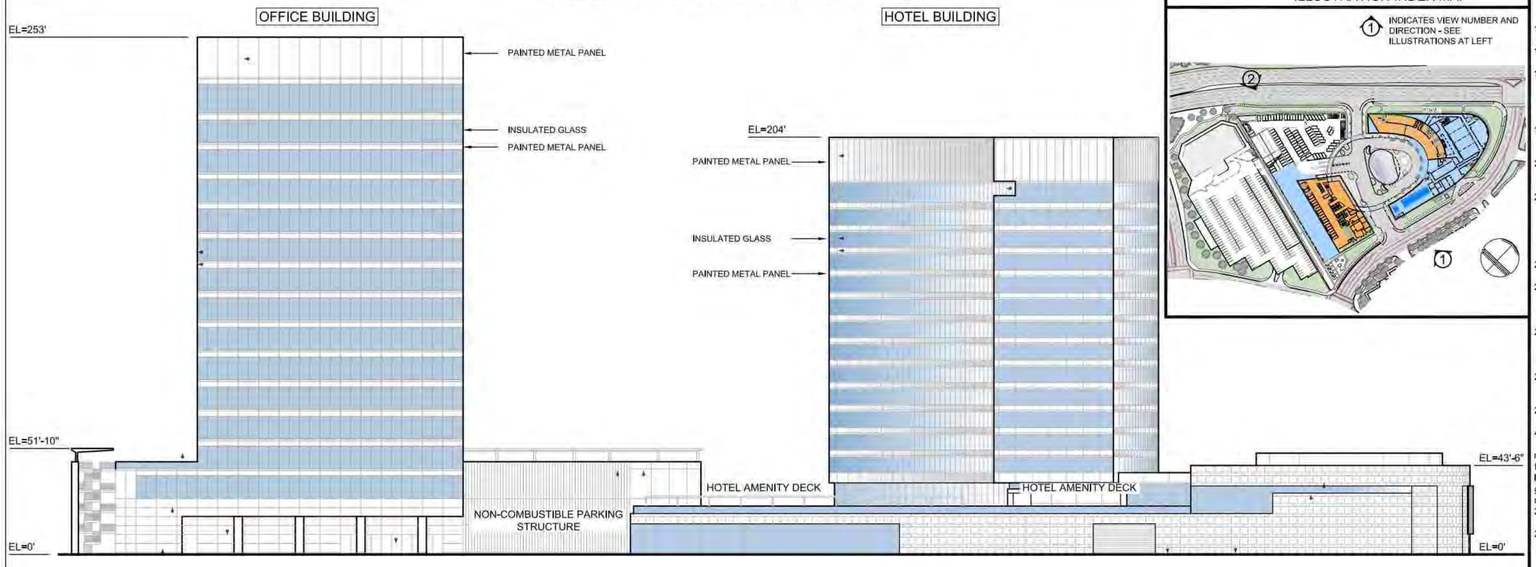
Sincerely,

NABIH YOUSSEF & ASSOCIATES

Nabih Youssef, S.E., FASCE
President

① VIEW FROM DOUGLAS FACING NORTH

ILLUSTRATIONS PROVIDED BY PEI COBB FREED & PARTNERS, ARCHITECTS LLP



② VIEW FROM MAC ARTHUR BOULEVARD FACING SOUTH

ILLUSTRATIONS PROVIDED BY PEI COBB FREED & PARTNERS, ARCHITECTS LLP

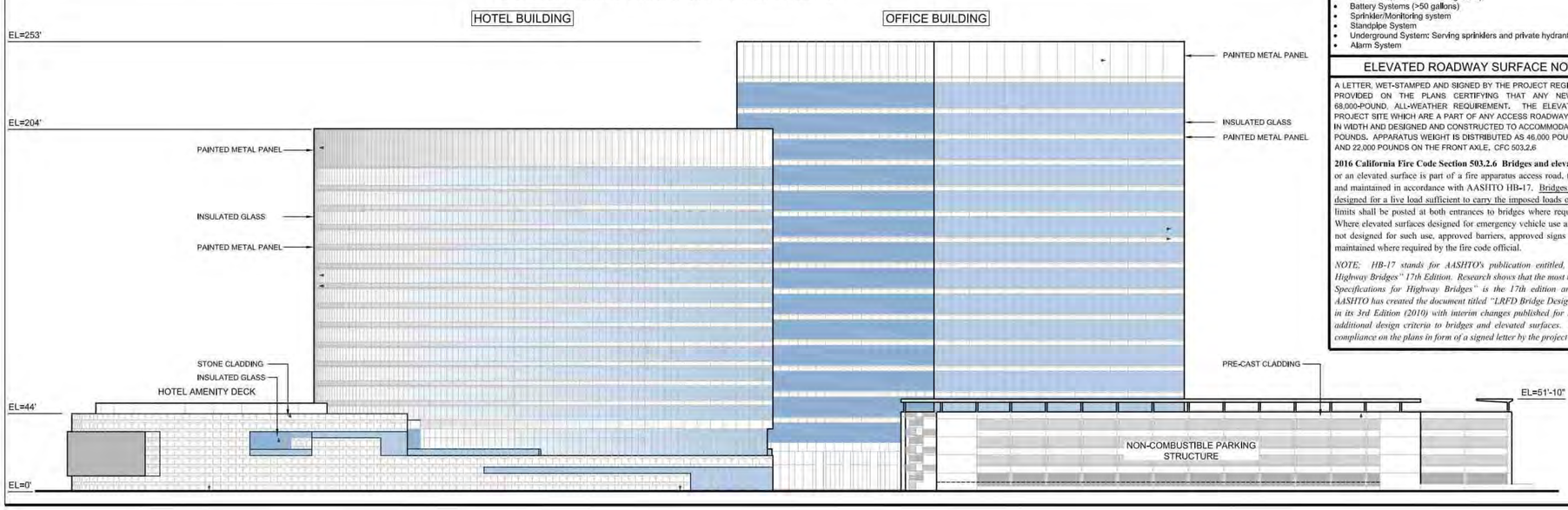


ILLUSTRATION INDEX MAP

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04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

STAMP

DRAWING TITLE

FIRE MASTER PLAN NOTES, DETAILS, SECTIONS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
No Scale	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

FM-01

PEI COBB FREED & PARTNERS
Architects LLP

NORTH

0 30' 60'

(IN FEET)
1 inch = 30 ft.

MACARTHUR BOULEVARD
EXISTING

EXISTING OFFICE BUILDING

EXISTING PARKING STRUCTURE -NOT A PART-

5-STORY NON-COMBUSTIBLE PARKING STRUCTURE

19-STORY OFFICE BUILDING

5-STORY NON-COMBUSTIBLE PARKING STRUCTURE BELOW

3RD FLOOR OUTDOOR TERRACE

15-STORY HOTEL TOWER

2-STORY RESTAURANT / RETAIL

2ND FLOOR COURTYARD

3RD FLOOR AMENITY DECK

2ND FLOOR POOL BAR/ RESTROOM

2ND FLOOR AMENITY DECK

ALL WEATHER SURFACE

4" DROP CURB

ROLLED CURB

REINFORCED SIDEWALK

PRIMARY DDC / FDC: SERVES ENTIRE PROJECT SYSTEMS (ALL ADDRESSES)

LIMITS OF PARKING STRUCTURE

75' MINIMUM LADDERING AREA

FCC

FCC STAGING 16' X 40'

VALET DROP-OFF

VERTICAL CLEARANCE

ARMORED MEDIAN

BELOW GRADE PARKING STRUCTURE -SEE ARCHITECTURAL & STRUCTURAL PLANS FOR OCFA VEHICULAR ACCESS REQUIREMENTS- SEE STRUCTURAL ENGINEER'S REPORT

LOADING/UNLOADING -NOT A PART OF FIRE ACCESS-

SECONDARY DDC / FDC

EXISTING POSTED "NO PARKING ENTIRE ROAD"

DOUGLAS
EXISTING

MARTIN COURT
EXISTING

EXIST FH

PROP PUB FH

PROP PRIV FH

CLK

ROOF

DO NOT ENTER

STOP

30' HOSE PULL

300' HOSE PULL

LEGEND

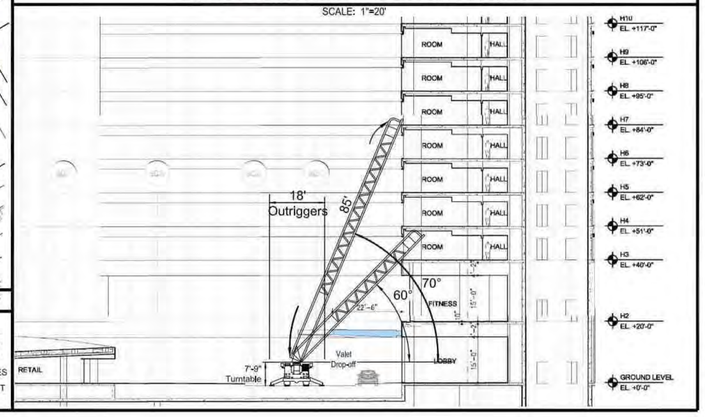
FCC	FIRE COMMAND CENTER ROOM		AERIAL TRUCK ACCESS TO TOWER / AT GRADE STAGING
E	ELEVATOR		AERIAL TRUCK ACCESS TO TOWER / ON DECK STAGING
CLK	CLICK 2 ENTER GATE ACCESS		150' HOSE PULL TO EXTERIOR PORTIONS OF BUILDING
ROOF	STAIRWAY WITH ROOF ACCESS		300' HOSE PULL AT NON-COMBUSTIBLE SPRINKLERED GARAGE - SEE FIRE NOTE 1 UNDER 'ADDITIONAL NOTES', SHEET 1
	BUILDING IDENTIFICATION LOCATIONS - 6" MIN. TALL LETTERING - APPROXIMATE LOCATION SHOWN - SEE SIGNAGE PACKAGE FOR FINAL DESIGN		OUT OF HOSE PULL ACCESS AS PART OF AM & M REQUEST
EXIST FH	EXISTING PUBLIC FIRE HYDRANT		PAINTED RED CURB PER DETAIL AND OCFA GUIDELINES
PROP PUB FH	PROPOSED PUBLIC FIRE HYDRANT CHROME OR BRASS FINISH	KNOX	KEY SWITCH OR SUB-KEYED KNOX LOCK WITH 3-SETS OF KEYS
PROP PRIV FH	PROPOSED PRIVATE FIRE HYDRANT CHROME OR BRASS FINISH	1	INDICATES ILLUSTRATION VIEW NUMBER AND DIRECTION - SEE ILLUSTRATIONS ON SHEET MP-040
	INDICATES BLUE REFLECTIVE FIRE HYDRANT MARKER. MARKER SHALL BE PLACED ON HYDRANT SIDE OF CENTERLINE OF STREET		INDICATES PAVED FIRE ACCESS
SP	WET STAND PIPE		INDICATES PAVED FIRE ACCESS ON DECK OF PARKING STRUCTURE

CONSTRUCTION NOTES

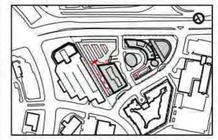
1. INSTALL FIRE LANE ENTRY SIGN PER DETAIL ON SHEET 1 AND OCFA GUIDELINES
2. INSTALL SUB-KEYED KNOX BOX WITH 3-SETS OF KEYS PER OCFA GUIDELINES
3. INSTALL KNOX KEY SWITCH PER OCFA GUIDELINES
4. PAINT CURB RED 15' ON EITHER SIDE OF HYDRANT AS SHOWN PER OCFA GUIDELINES

AERIAL LADDER SECTION AT HOTEL PORTE COCHERE

SCALE: 1"=20'



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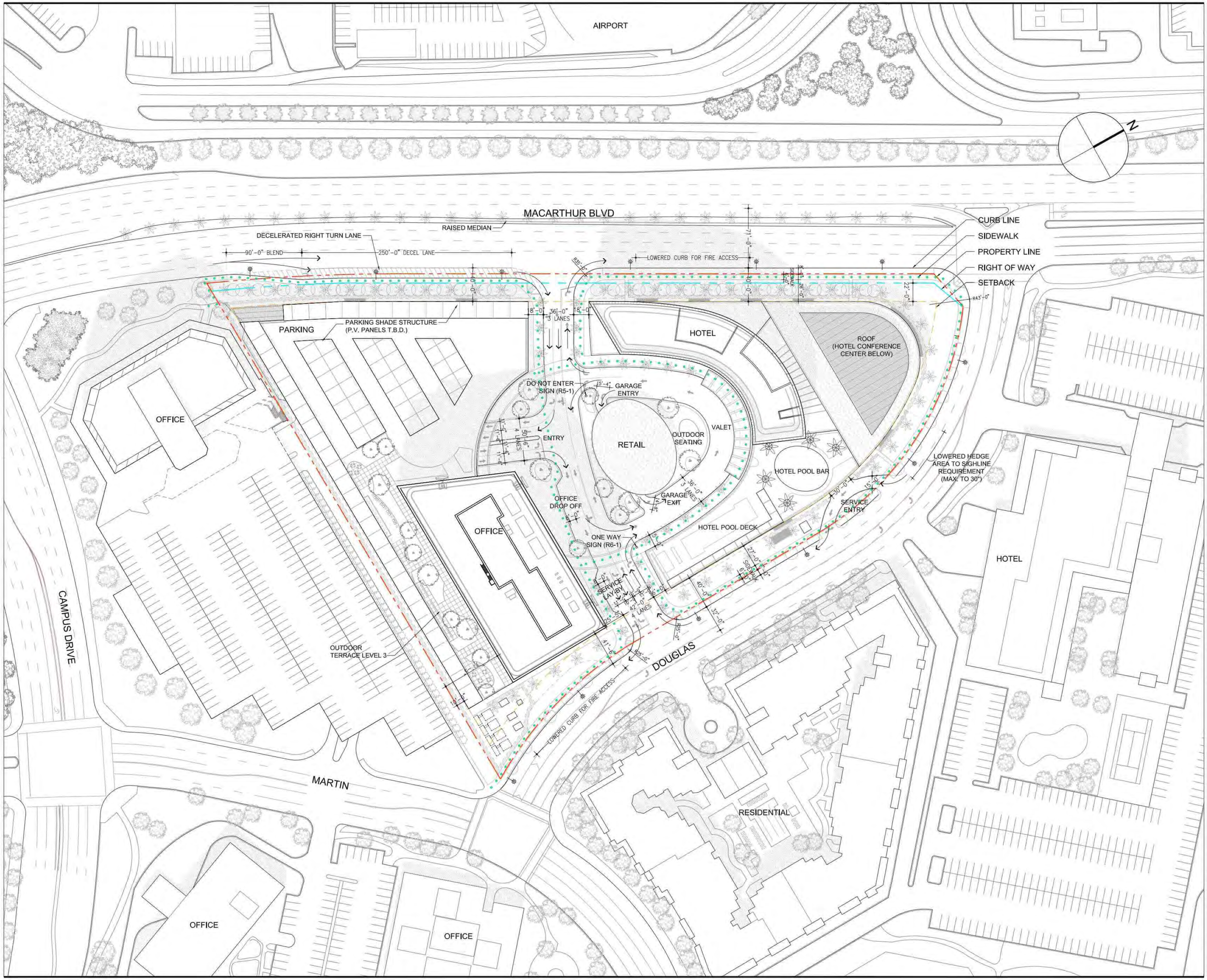
FIRE MASTER PLAN
SITE PLAN,
AERIAL LADDER SECTION

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
SCALE: 1"=30'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

FM-02

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MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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SITE PLAN

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-100

PEI COBB FREED & PARTNERS
Architects LLP

DEVELOPMENT STANDARDS

Planning Area 36 Irvine Business Complex
Zoning District 5,1 IBC Multi - Use
General Plan Designation: Urban and Industrial

SITE SIZE	7.03 ACRES	306,352 SF
SITE COVERAGE		167,782 SF
		54.76%
OFFICE GROSS SQUARE FOOTAGE		448,200 SF
HOTEL GROSS SQUARE FOOTAGE		323,415 SF
RETAIL GROSS SQUARE FOOTAGE		13,665 SF
TOTAL GROSS SQUARE FOOTAGE		785,280 SF

SETBACKS	SETBACK FROM STREET CURB
MACARTHUR BLVD.	40'-0"
DOUGLAS	40'-0"
BUILDING HEIGHT	
OFFICE BUILDING	253'-0"
HOTEL BUILDING	204'-0"

LANDSCAPE SUMMARY

Total Area (Site Size):

306,352 SF = 7.03 Acres

Total Landscape Area

Green Space:	69,789 SF = 1.6 Acres
Hardscape:	76,550 SF = 1.75 Acres
Total:	146,339 SF = 3.35 Acres

Total Landscape Area:

44.7%

PARKING SUMMARY

Parking Structure Exterior Dimensions: Varies as shown on drawings

LEVEL	GSF (sq. ft.)
B1	288,400
1	88,100
2	88,100
3	88,100
4	88,100
Stalls - Total 5	88,100
TOTAL BUILDING	728,900

1. GSF (Gross Square Footage) = Area includes mechanical rooms, electrical rooms, bike storage, storage room, bathrooms, office.

Provided Spaces

	GARAGE	SURFACE LOT	TOTAL
Accessible Stalls	34	0	34
Compact Stalls	12	0	12
Standard Stalls	714	0	714
Long Term Stalls	1,307	0	1,307
	2,067	0	2,067
Motorcycle Stalls	22	0	22
Spaces - Total	2,089		2,089

105 Bicycles Required - 110 Provided
Fuel Efficient/Carpool Stalls: 8% of total = 168 min. stalls provided

Office - Required Spaces

Spaces (4 / 1,000 for first 250,000 GSF)	1,000
Spaces (2 / 1,000 after first 250,000 GSF)	397
	1,397

Restaurant / Retail - Required Spaces

Spaces (1 / 75 GSF)	183

Hotel - Required Spaces

Spaces (.88 per room)	340

1. Garage is 6 Levels total (1 basement level, 1 on-grade level, & 4 above grade levels).
2. Based on GSF.

Total Required Spaces:	1,920
Total Spaces Provided:	2,089

OFFICE TOWER SUMMARY

LEVEL	GSF (sq. ft.)
Lobby / Service 01	12,500
Office 02	16,900
Office 03	31,700
Office 04	31,700
Office 05	31,700
Office 06	31,700
Office 07	31,700
Office 08	31,700
Office 09	31,700
Office 10	31,700
Office 11	31,700
Office 12	31,700
Office 13	31,700
Office 14	31,700
Office 15	31,700
Mechanical PH	6,700
TOTAL BUILDING	448,200

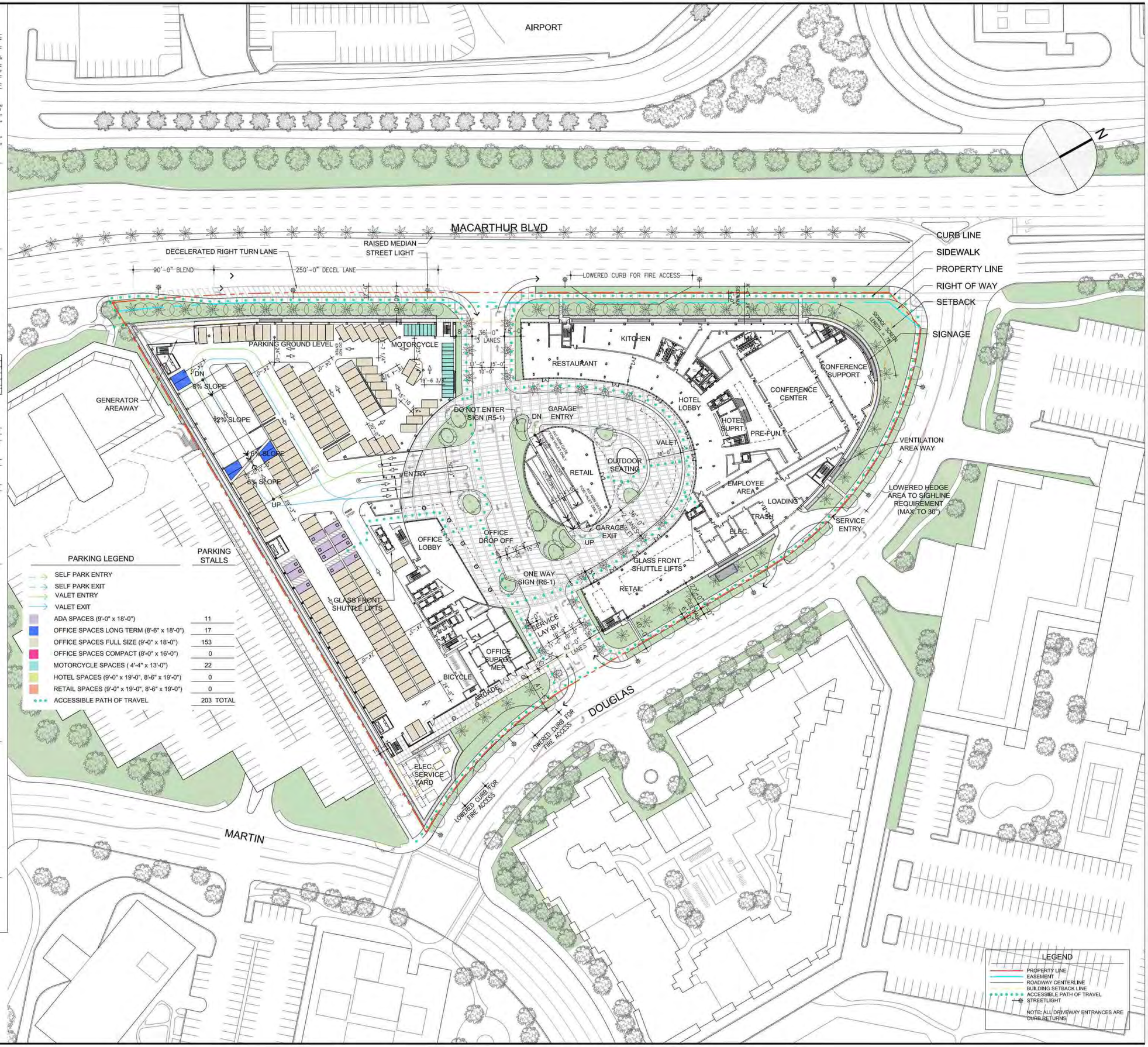
HOTEL SUMMARY

LEVEL	GSF (sq. ft.)
Lobby / Meeting 01	50,223
Amnity. / Mtg. 02	34,091
Guest Room 03	17,601
Guest Room 04	17,601
Guest Room 05	17,601
Guest Room 06	17,601
Guest Room 07	17,601
Guest Room 08	17,601
Guest Room 09	17,601
Guest Room 10	17,601
Guest Room 11	17,601
Guest Room 12	17,601
Guest Room 13	17,601
Guest Room 14	17,601
Guest Room 15	17,601
G.R. / Mech. 16	8,377
TOTAL BUILDING	323,415

COMMERCIAL RETAIL

LEVEL	GSF (sq. ft.)
Retail RESTAURANT 01	13,665

1. GSF (Gross Square Footage) = Includes: Area taken from interior face of exterior walls.



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No.	Date	Revision
00	01/06/16	INITIAL SUBMISSION
01	03/08/16	SUBMISSION No. 2
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MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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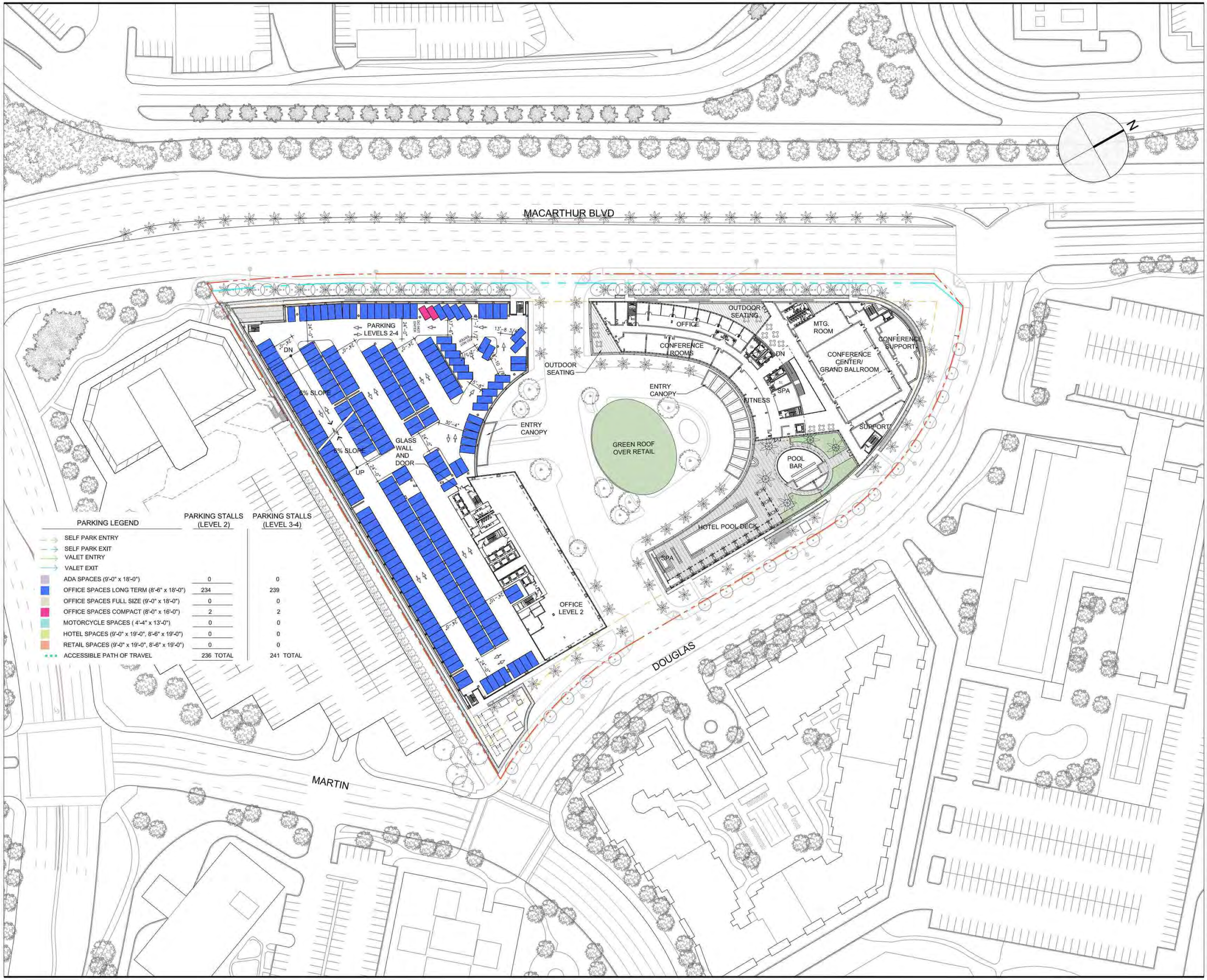
HOTEL, OFFICE, PARKING GROUND LEVEL FLOOR PLANS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-101

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PARKING LEGEND	PARKING STALLS (LEVEL 2)	PARKING STALLS (LEVEL 3-4)
SELF PARK ENTRY		
SELF PARK EXIT		
VALET ENTRY		
VALET EXIT		
ADA SPACES (9'-0" x 18'-0")	0	0
OFFICE SPACES LONG TERM (8'-6" x 18'-0")	234	239
OFFICE SPACES FULL SIZE (9'-0" x 18'-0")	0	0
OFFICE SPACES COMPACT (8'-0" x 16'-0")	2	2
MOTORCYCLE SPACES (4'-4" x 13'-0")	0	0
HOTEL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	0	0
RETAIL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	0	0
ACCESSIBLE PATH OF TRAVEL	236 TOTAL	241 TOTAL

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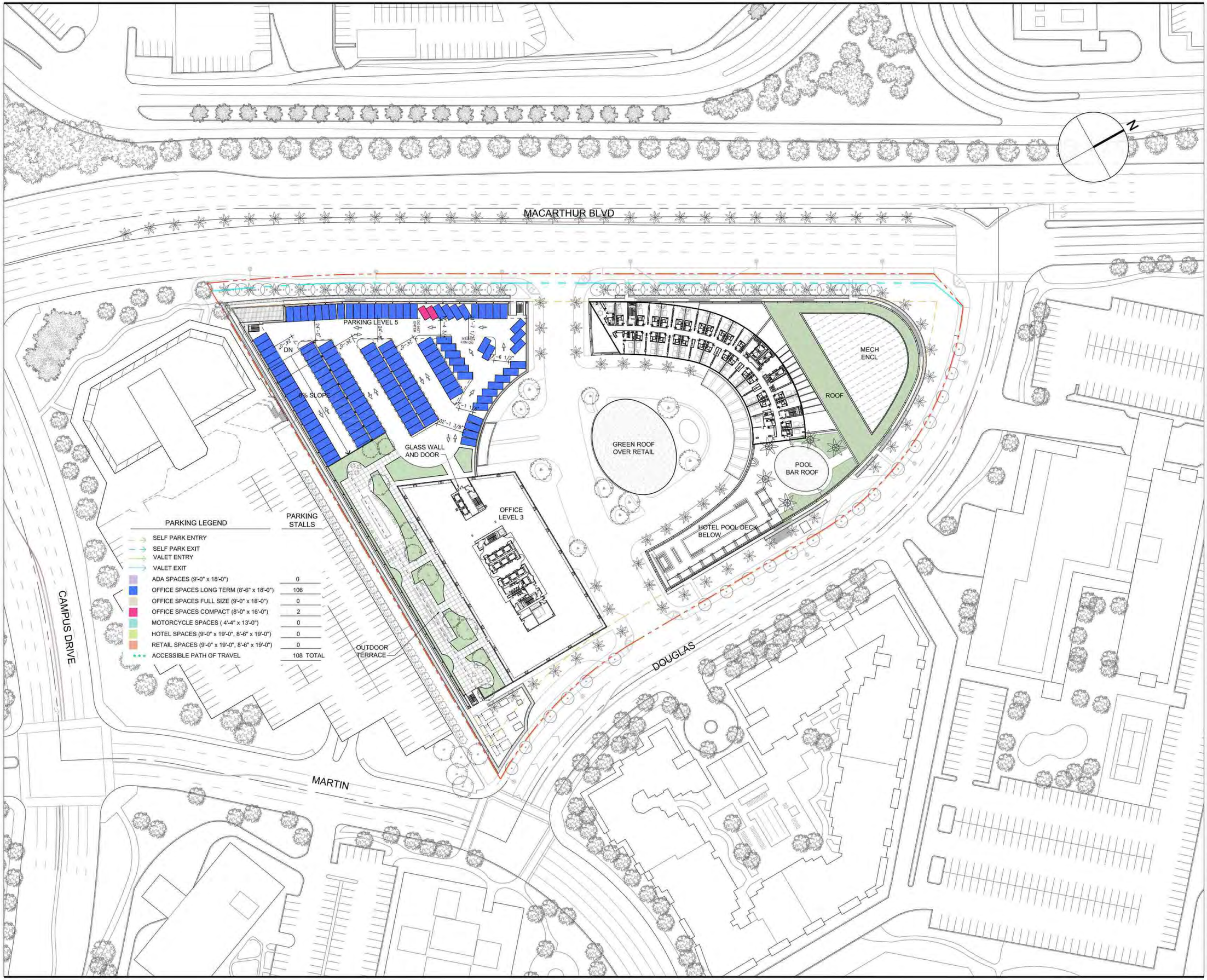
HOTEL AND OFFICE LEVEL 2 PARKING LEVELS 2-4 FLOOR PLANS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-102

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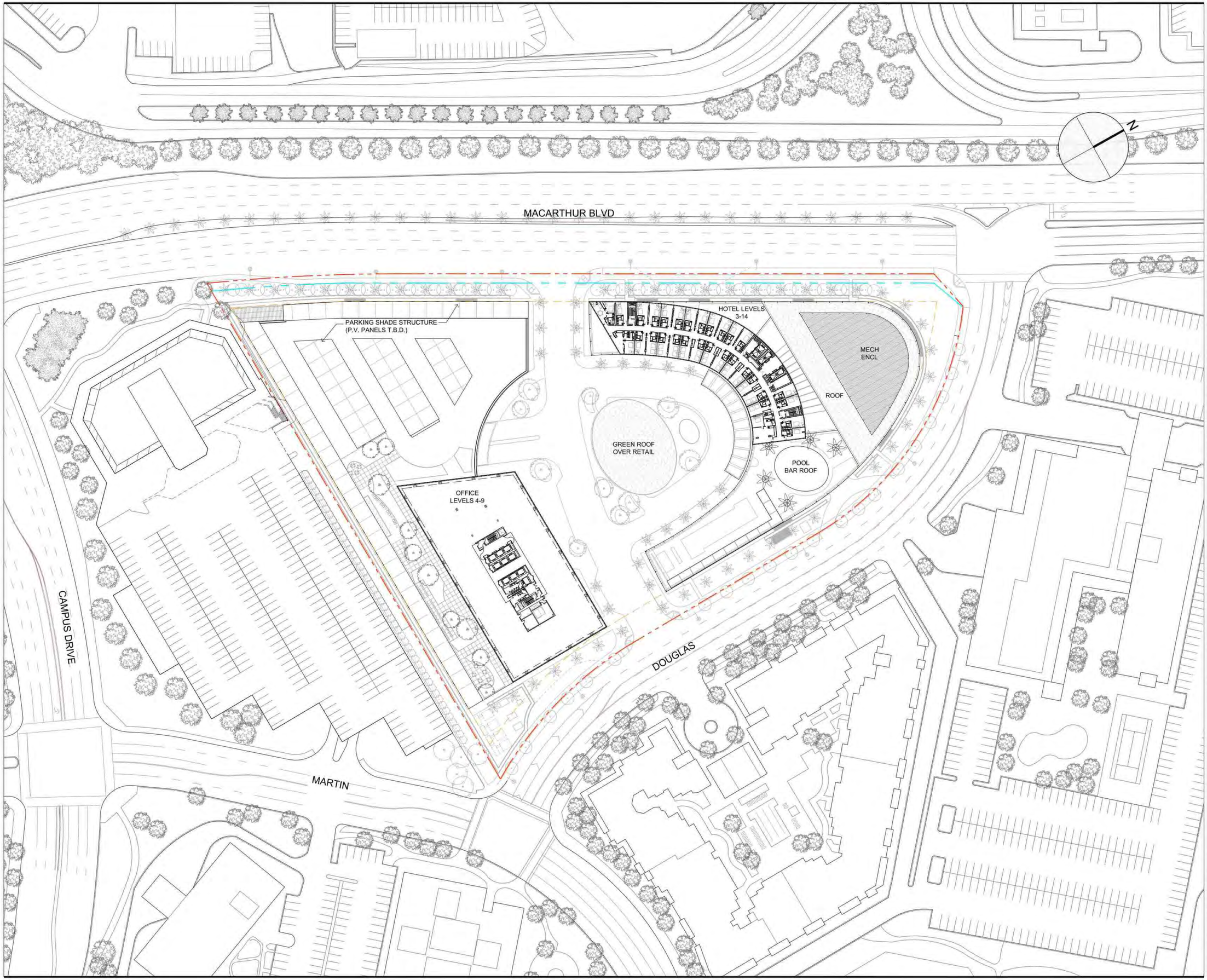
HOTEL AND OFFICE LEVEL 3
PARKING LEVEL 5
FLOOR PLANS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-103

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Case # : 00659728-PMPC
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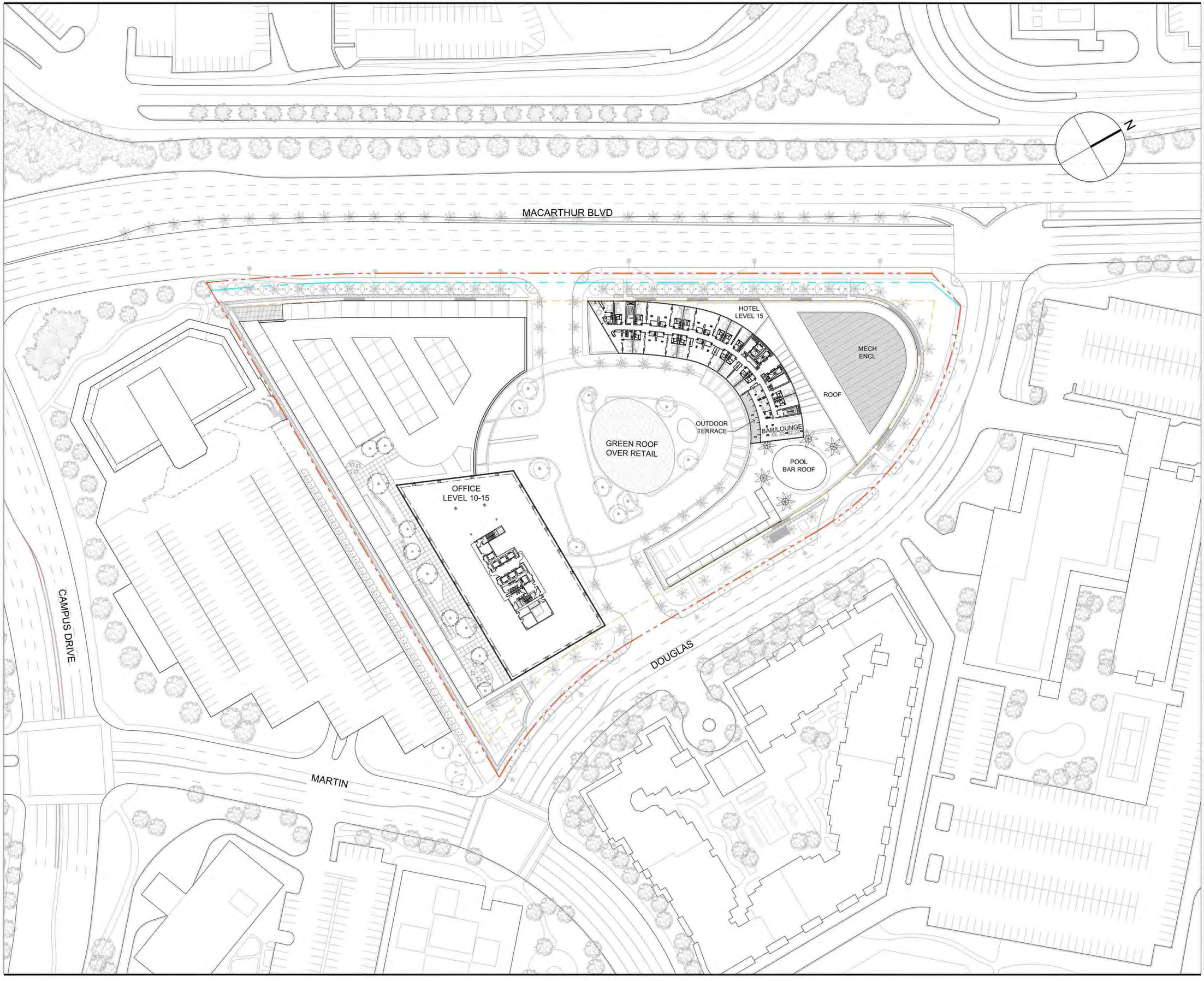
HOTEL AND OFFICE TYPICAL LOWER LEVEL FLOOR PLANS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-104

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HOTEL AND OFFICE PENTHOUSE AND UPPER LEVEL FLOOR PLANS

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-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-105

PEI COBB FREED & PARTNERS
Architects LLP



PARKING LEGEND	PARKING STALLS
SELF PARK ENTRY	
SELF PARK EXIT	
VALET ENTRY	
VALET EXIT	
ADA SPACES (9'-0" x 18'-0")	23
OFFICE SPACES LONG TERM (8'-6" x 18'-0")	224
OFFICE SPACES FULL SIZE (9'-0" x 18'-0")	0
OFFICE SPACES COMPACT (8'-0" x 16'-0")	2
MOTORCYCLE SPACES (4'-4" x 13'-0")	0
HOTEL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	153
RETAIL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	90
ACCESSIBLE PATH OF TRAVEL	492 TOTAL

LEVEL B1

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No.	Date	Revision
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MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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PARKING BASEMENT LEVEL 1 PLAN

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1" = 40'	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-106

PEI COBB FREED & PARTNERS
Architects LLP



N

PARKING LEGEND	PARKING STALLS
SELF PARK ENTRY	
SELF PARK EXIT	
VALET ENTRY	
VALET EXIT	
ADA SPACES (9'-0" x 18'-0")	0
OFFICE SPACES LONG TERM (8'-6" x 18'-0")	277
OFFICE SPACES FULL SIZE (9'-0" x 18'-0")	0
OFFICE SPACES COMPACT (8'-0" x 16'-0")	2
MOTORCYCLE SPACES (4'-4" x 13'-0")	0
HOTEL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	196
RETAIL SPACES (9'-0" x 19'-0", 8'-6" x 19'-0")	93
ACCESSIBLE PATH OF TRAVEL	568 TOTAL

PARKING SUMMARY

B2	568 (24 TANDEM / VALET ONLY)
B1	492 (14 TANDEM / VALET ONLY)
GROUND	203
SECOND	236
THIRD	241
FOURTH	241
TOP	108
TOTAL	2, 089

NOT INCLUDED IN COUNT
-BICYCLE
-AUXILIARY SPACES FOR TOWERS
-REFINED TOWERS STRUCTURE
-LATERAL STRUCTURE FOR SHORT SPAN PARKING

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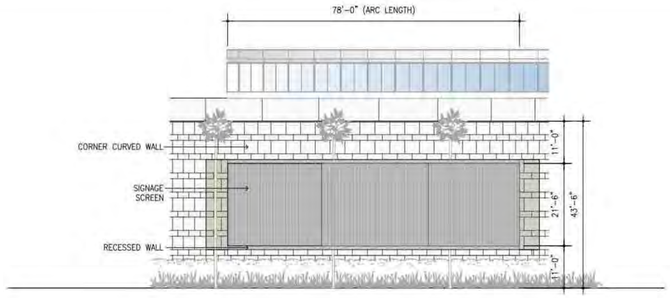
PARKING BASEMENT LEVEL 2 PLAN

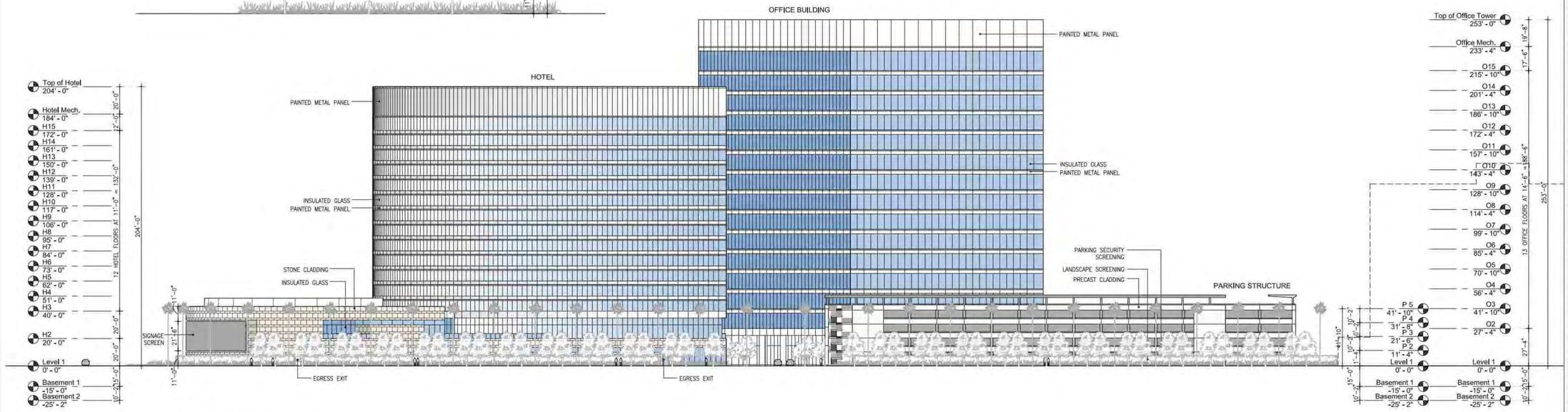
DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
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DATE	REV.
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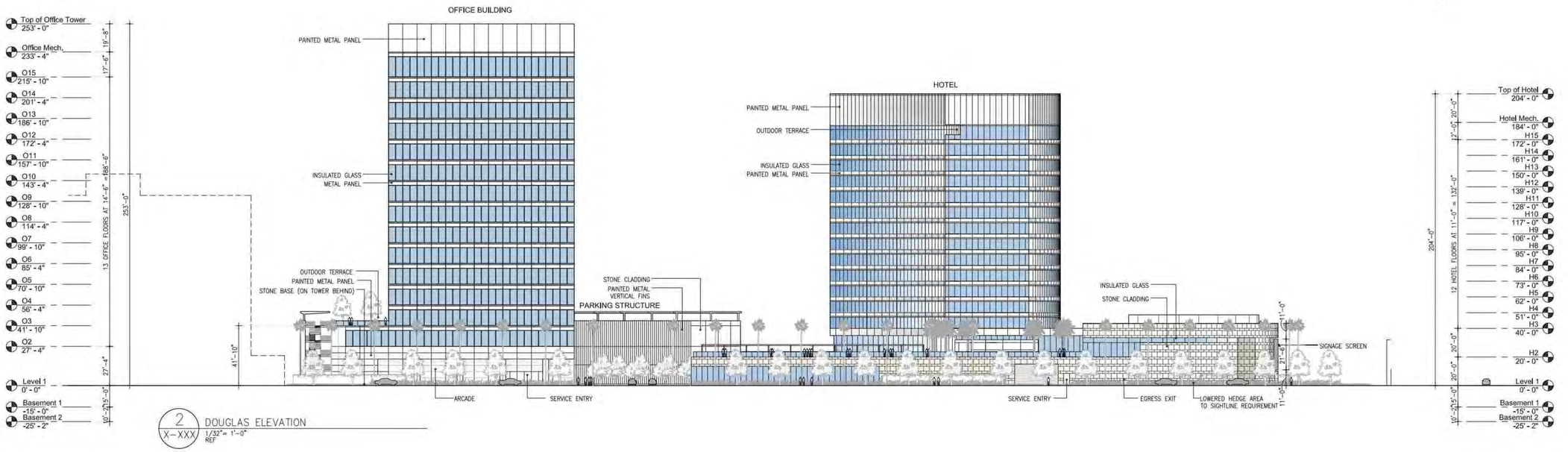
MP-107

PEI COBB FREED & PARTNERS
Architects LLP





1 X-XXX MACARTHUR ELEVATION
1/32"= 1'-0"
REF



2 X-XXX DOUGLAS ELEVATION
1/32"= 1'-0"
REF

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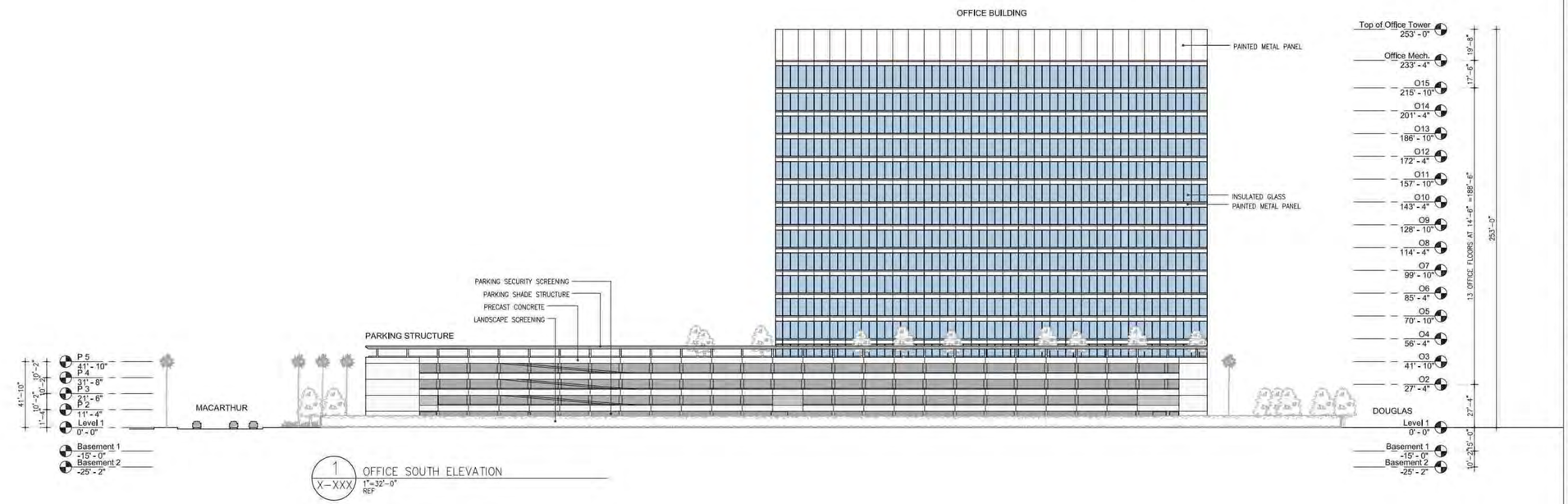
BUILDING ELEVATIONS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
1/32"=1'-0"	PCF-1514
DATE	REV.
12/1/16	

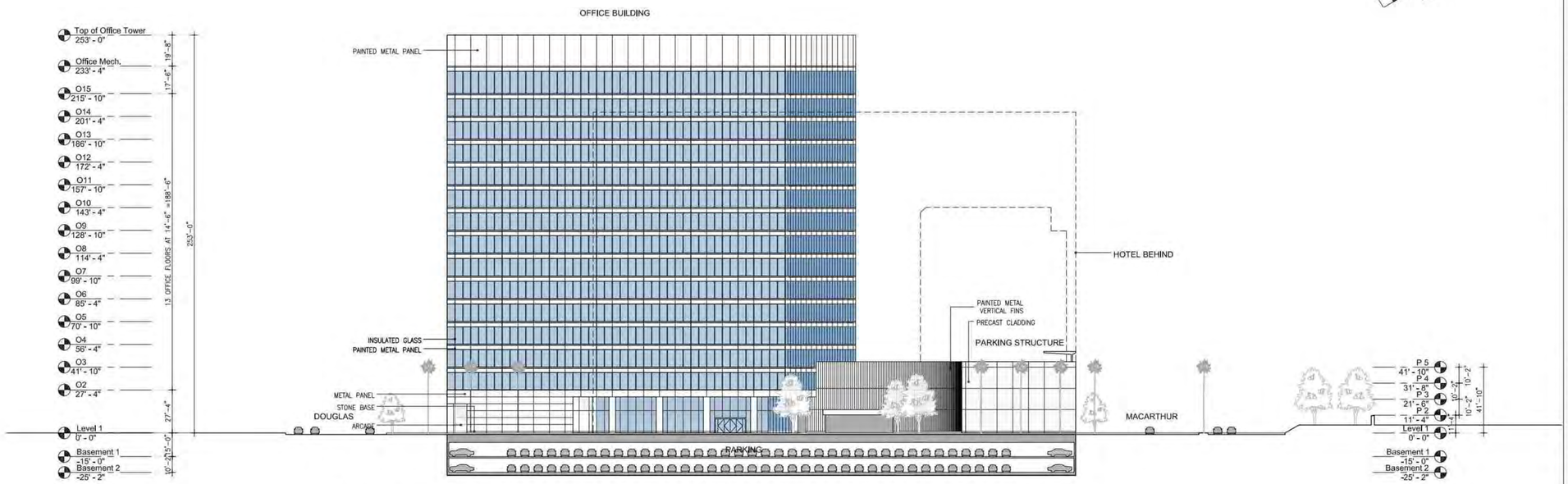
DRAWING NO.

MP-120

PEI COBB FREED & PARTNERS
Architects LLP



1 X-XXX OFFICE SOUTH ELEVATION
1"=32'-0"
REF



2 X-XXX OFFICE NORTH ELEVATION
1"=32'-0"
REF

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01	03/08/16	SUBMISSION No. 2
02	05/12/16	SUBMISSION No. 3
03	12/01/16	SUBMISSION No. 4
04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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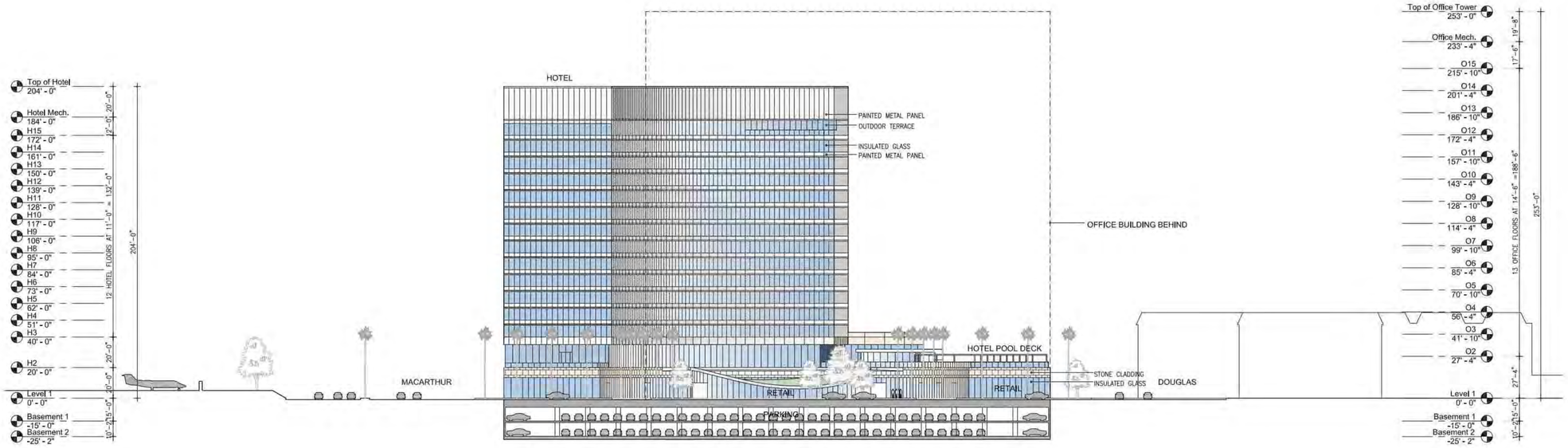
BUILDING ELEVATIONS

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SCALE	PROJECT NO.
1/32"=1'-0"	PCF-1514
DATE	REV.
12/1/16	

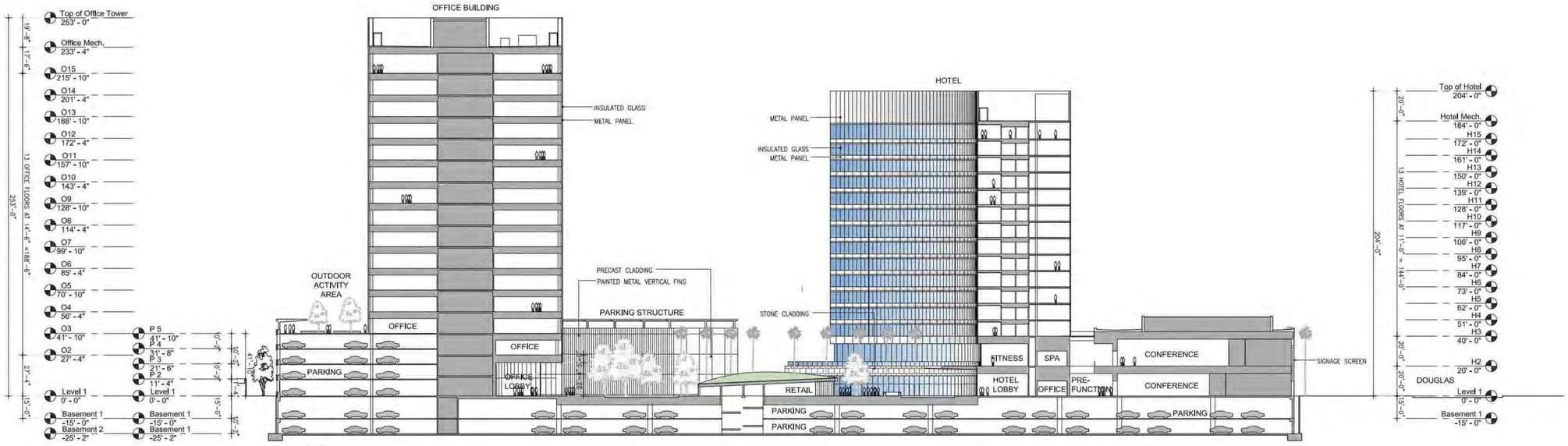
DRAWING NO.

MP-121

PEI COBB FREED & PARTNERS
Architects LLP



1 X-XXX HOTEL SOUTH ELEVATION
1"=32'-0"
REF



2 X-XXX SECTION
1"=32'-0"
REF

THE LANDMARK
IRVINE, CA



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No.	Date	Revision
00	01/06/16	INITIAL SUBMISSION
01	03/08/16	SUBMISSION No. 2
02	05/12/16	SUBMISSION No. 3
03	12/01/16	SUBMISSION No. 4
04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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SITE SECTION

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-	-
SCALE	PROJECT NO.
1/32"=1'-0"	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-122

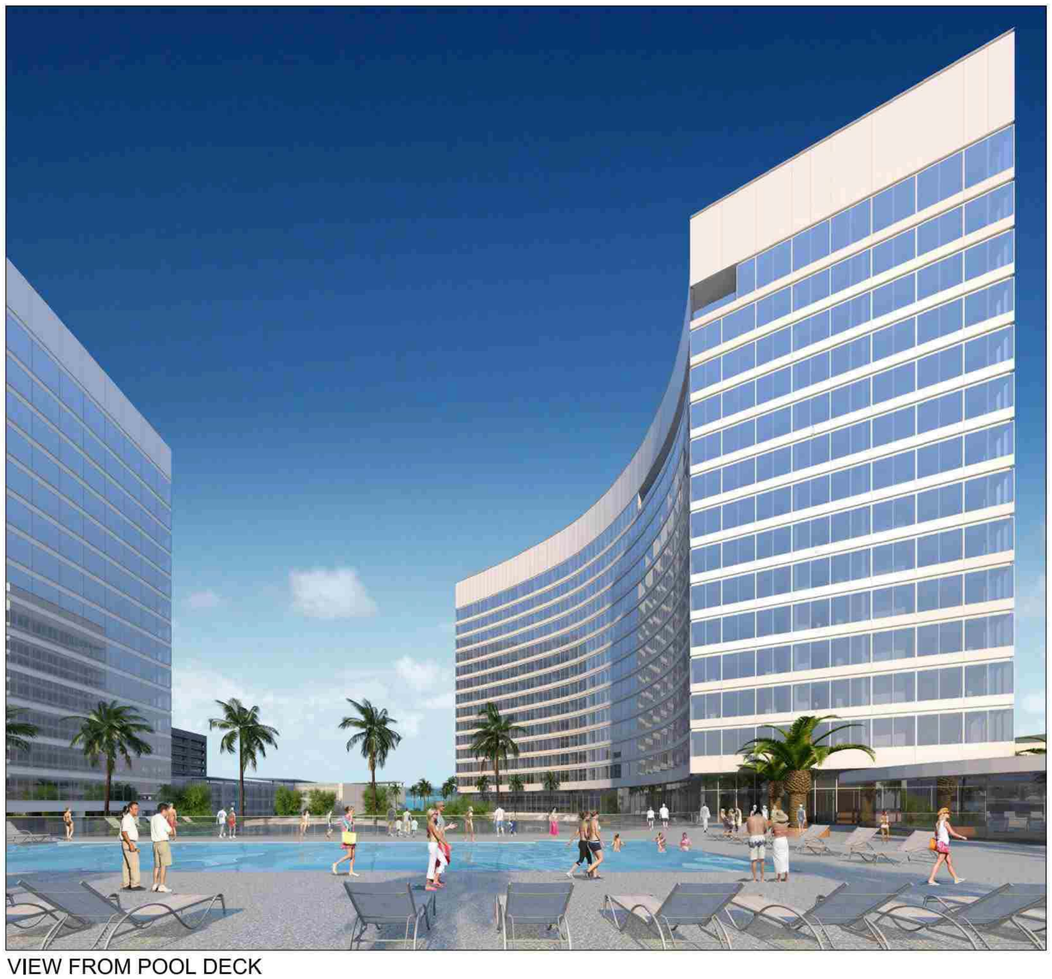
PEI COBB FREED & PARTNERS
Architects LLP



VIEW AT CORNER OF MACARTHUR AND DOUGLAS



VIEW FROM CENTRAL PLAZA



VIEW FROM POOL DECK



VIEW TOWARD OFFICE AND PARKING ENTRY

THE LANDMARK
IRVINE, CA



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No.	Date	Revision
00	01/06/16	INITIAL SUBMISSION
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03	12/01/16	SUBMISSION No. 4
04	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

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PERSPECTIVE VIEWS

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SCALE	PROJECT NO.
	PCF-1514
DATE	REV.
12/1/16	

DRAWING NO.

MP-130

PEI COBB FREED & PARTNERS
Architects LLP



VIEW FROM SOUTH WEST OF PROJECT



VIEW FROM PROPOSED PARK AT INTERSECTION OF MARTIN AND DOUGLAS

THE LANDMARK
IRVINE, CA



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No.	Date	Revision
00	05/12/16	SUBMISSION No. 3
01	12/01/16	SUBMISSION No. 4
02	01/27/17	SUBMISSION No. 5

MASTER PLAN SUBMITTAL
Case # : 00659728-PMPC
JANUARY 27, 2017

STAMP

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PERSPECTIVE VIEWS

DRAWN	CHECKED
-	-
SCALE	PROJECT NO.
	PCF-1514
DATE	REV.
12/1/16	1

DRAWING NO.

MP-131

PEI COBB FREED & PARTNERS
Architects LLP

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BERKELEY
CARLSBAD
FRESNO
PALM SPRINGS
PT. RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

November 29, 2016

Ms. Stephanie Frady
Community Development Department
City of Irvine
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92623-9575

Subject: 18872, 18912, and 18952 MacArthur Boulevard (The Landmark) Mixed-Use Project (Case File No. 00659728-PMPC): Hotel Parking Study

Dear Ms. Frady:

LSA Associates, Inc. (LSA) has prepared the following hotel parking study for The Landmark Project at 18872, 18912, and 18952 MacArthur Boulevard in the Irvine Business Complex (IBC) area of the City of Irvine (City). The proposed mixed-use project consists of a 386-room hotel, 448,200 square feet (sf) of office use, and 16,545 sf of restaurant use.

Based on City comments on the Master Plan for the proposed project, a parking study is required. Zoning Ordinance Section 4-3-4 states that for any use for which there is not an established parking generation rate, a parking study shall be required. Because Zoning Ordinance Section 4-3-4 does not include a parking generation rate for hotels, a parking study is necessary to assess the proposed number of hotel parking spaces to be provided on site.

It should be noted that the 448,200 sf of office use and 16,545 sf of restaurant use proposed on site will parked per Zoning Ordinance requirements (i.e., 1 space per 250 sf of office use up to 250,000 sf, 1 space per 500 sf of office use greater than 250,000 sf, and 1 space per 75 sf of restaurant use). As such, 1,397 spaces will be provided for the 448,200 sf of office use (i.e., 1,000 spaces for 250,000 sf and 397 spaces for 198,200 sf) and 221 spaces will be provided for the 16,545 sf of restaurant use. A total parking supply of 2,089 spaces is proposed on site for the office, restaurant, and hotel uses.

Per discussions with City staff, the approved parking rate for a similar hotel may be applied to the proposed hotel if a suitable match is identified. Based on LSA's research of parking studies that have been processed and approved by the City, the Irvine Spectrum Marriott Hotel was identified as a hotel product similar to the proposed hotel. The 209,817 sf, 14-story Irvine Spectrum Marriott Hotel includes 252 rooms, 7,691 sf of meeting space, and 4,687 sf of retail/restaurant amenities. The 12,378 sf of accessory (meeting and retail/restaurant) space is approximately 6 percent of the total hotel square footage. The approved parking rate for the Irvine Spectrum Marriott Hotel is 0.88 space per room. The approved Irvine Spectrum Marriott Hotel Parking Analysis (Case No. 00632547-PMPC) (Pirzadeh & Associates, Inc., July 27, 2015) is provided as an attachment to this parking study.

The proposed hotel is a 323,415 sf, 14-story, 386-room hotel. The hotel will be located on the northerly portion of the project site, directly south of the intersection of MacArthur Boulevard/Douglas. The proposed hotel will include approximately 21,445 sf of meeting/conference space (8,127 sf on the ground level and 13,318 sf on the second level) and 5,043 sf of restaurant/bar area on the ground level, and 2,631

PC ATTACHMENT 4 TO PC REPORT DATED 6/15/17

sf of fitness/spa area on the second level. The 29,119 sf of accessory (meeting/conference, retail/restaurant, and fitness/spa) space is approximately 9 percent of the total hotel square footage. The meeting/conference space, restaurant/bar area, and fitness/spa area will facilitate business meetings and provide amenities and services for hotel guests. It is anticipated that the majority of guests staying at the hotel will be travelers conducting business in the IBC area. The site is conveniently located within walking distance of the John Wayne Airport, office complexes, and corporate headquarters.

The proposed hotel will have 340 parking spaces within the 2,089-space parking structure that will also serve the proposed office use (1,397 required spaces) and restaurant use (221 required spaces). The hotel parking supply equates to 0.88 space per room, consistent with the approved Irvine Spectrum Marriott Hotel. Parking at the proposed hotel will be by valet service only. All overnight hotel guests will have to utilize valet service to park their vehicles. This will eliminate potential vehicle conflicts with self-park patrons of the proposed office and restaurant uses. The valet pick-up/drop-off area is adjacent to the main entry of the hotel. A single 24-foot-wide lane provides one-way, counterclockwise circulation, which will allow hotel guests and visitors to pull into the valet area without impacting internal circulation. The valet pick-up/drop-off area will provide approximately 300 ft of vehicle stacking distance.

The valet service will operate consistent with Zoning Ordinance Section 4-8-1 (Valet Parking Operation Standards). Valet service will allow for stacked parking spaces to be accommodated on site without encroaching into any required fire lanes. Stacked spaces are not included in the on-site parking supply since they are not recognized in the Zoning Ordinance; however they can be utilized through controlled valet operations. Implementation of valet service will allow for parking management practices that increase parking capacity and efficiency when compared to self-park arrangements.

A hotel shuttle will provide transportation for guests to and from John Wayne Airport. Orange County Transit Authority (OCTA) transit facilities are located within one city block and Irvine Shuttle (iShuttle) stops are located within two city blocks of the project site. Bus stops at the northwest and southeast corners of MacArthur Boulevard/Campus Drive and northeast and southeast corners of Martin/Campus Drive are accessible via existing pedestrian sidewalks along the project frontage and the crosswalks at the adjacent signalized intersections. The project site is located less than 5 miles from the Tustin Metrolink Station, which provides access to regional rail service via Metrolink and Amtrak. In addition, hotel guests may use private taxis and informal taxi services such as Uber and Lyft to get to and from the hotel. These various forms of transportation could decrease the hotel parking demand.

The project applicant will explore the possibility of utilizing spaces at adjacent sites that have surplus parking spaces in order to secure overflow parking for rare occasions when the hotel parking demand is anticipated to exceed the on-site parking supply. These special events are not typical of the proposed hotel operations as advanced planning is required. The hotel operator will track occupancies/vacancies and schedule reservations/cancelations. As a result, the hotel operator will be able to manage both typical day-to-day operations and special events to ensure adequate parking will be provided at all times.

The goal of a hotel is to be 100 percent occupied. However, as noted in the 2015 CBRE Hotels Statistics and Trends of Rooms in Orange County table (attached), on average, a hotel in the vicinity of the John Wayne Airport is approximately 80 percent occupied between the months of January and November. In December, the occupancy decreases to below 72 percent. As such, on a typical day, the hotel rooms and parking spaces will be at least 20 percent vacant.

As previously described, the Irvine Spectrum Marriott Hotel has an approved parking rate of 0.88 space per room. Based on surveyed data, parking demand studies conducted and approved for hotels within the City, and other parking documents such as the Institute of Transportation Engineers (ITE) Parking

Generation and the CBRE Hotels Statistics and Trends of Rooms in Orange County, the parking demand for this type of hotel is less than 1 space per room. Valet service and stacked parking could increase parking capacity and efficiency within the parking structure. In addition, the forecast hotel parking demand could be reduced with implementation of shuttle service and utilization of existing transit and alternative transportation. Therefore, the proposed parking rate of 0.88 space per room, or 340 parking spaces, is adequate for the proposed hotel parking demand.

Furthermore, a shared parking analysis consistent with the methodology presented in the Urban Land Institute (ULI) Shared Parking, 2nd Edition (2005) was conducted to determine whether the proposed parking supply of 2,089 spaces is adequate for the project. The parking demand for the hotel is based on the approved 0.88 space per room rate for the Irvine Spectrum Marriott Hotel. The Zoning Ordinance parking rates of 1 space per 250 sf of office use up to 250,000 sf, 1 space per 500 sf of office use greater than 250,000 sf, and 1 space per 75 sf of restaurant use have been used. The hourly parking utilization for each use is based on the ULI Shared Parking. The results of the shared parking analysis are shown in Table A (attached).

As shown Table A, the peak parking demand would be 1,745 spaces with a parking surplus of 344 spaces at 2:00 p.m. During this time, the hotel spaces are 60 percent utilized (204 spaces), the office spaces are 100 percent utilized (1,397 spaces), and the restaurant spaces are 65 percent utilized (144 spaces). With a 2,089-space parking structure serving the proposed project, adequate parking will be provided on site for the hotel, office, and restaurant uses.

If you have any questions, please call me at (949) 553-0666.

Sincerely,

LSA ASSOCIATES, INC.

Dean Arizabal

Dean Arizabal
Associate

Attachments: Table A: Shared Parking Analysis
Irvine Spectrum Marriott Hotel Parking Analysis (Case No. 00632547-PMPC)
2015 CBRE Hotels Statistics and Trends of Rooms in Orange County Table

cc: Sean Cao, Great Far East

Table A: Weekday Shared Parking Analysis

	Business Hotel[1,2]		Office (up to 250,000 SF)[1]		Office (greater than 250,000 SF)[1]		Fine/Casual Dining Restaurant[1]		Total SF[3]:
	size = 386 rooms		size = 250,000 SF		size = 199,900 SF		size = 16,545 SF		466,445
	0.88 space/ 1 room		1 space/ 250 SF		1 space/ 500 SF		1 space/ 75 SF		
	demand = 340 spaces		demand = 1,000 spaces		demand = 400 spaces		demand = 221 spaces		Spaces
Time	**% utilization**	**spaces**	**% utilization**	**spaces**	**% utilization**	**spaces**	**% utilization**	**spaces**	**Utilized**
6:00 AM	95%	323	3%	30	3%	12	0%	0	365
7:00 AM	90%	306	30%	300	30%	120	0%	0	726
8:00 AM	80%	272	75%	750	75%	300	0%	0	1,322
9:00 AM	70%	238	95%	950	95%	380	0%	0	1,568
10:00 AM	60%	204	100%	1,000	100%	400	15%	34	1,638
11:00 AM	60%	204	100%	1,000	100%	400	40%	89	1,693
12:00 PM	55%	187	90%	900	90%	360	75%	166	1,613
1:00 PM	55%	187	90%	900	90%	360	75%	166	1,613
2:00 PM	60%	204	100%	1,000	100%	400	65%	144	1,748
3:00 PM	60%	204	100%	1,000	100%	400	40%	89	1,693
4:00 PM	65%	221	90%	900	90%	360	50%	111	1,592
5:00 PM	70%	238	50%	500	50%	200	75%	166	1,104
6:00 PM	75%	255	25%	250	25%	100	95%	210	815
7:00 PM	75%	255	10%	100	10%	40	100%	221	616
8:00 PM	80%	272	7%	70	7%	28	100%	221	591
9:00 PM	85%	289	3%	30	3%	12	100%	221	552
10:00 PM	95%	323	1%	10	1%	4	95%	210	547
							Peak Parking Demand		***1,748***
							Proposed Parking Supply		***2,089***
							Parking Surplus / (Deficit)		***341***

Notes:

[1] Parking demand is based on the City's parking rates and parking utilization is based on the ULI Shared Parking, 2nd Edition.

[2] Proposed parking rate of 0.88 space per room (consistent with the approved Irvine Spectrum Marriott Hotel).

[3] Total square footage does not include the hotel(s).

SF = square feet

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July 27, 2015

Mr. Joel Belding
Principal Planner
City of Irvine
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P.O. Box 19575
Irvine, CA 92623-9575

Subject: Irvine Spectrum Marriott Hotel, Spectrum 1 (Planning Area 33)
Parking Analysis - Second Submittal, Case No. 00632547-PMPC

Dear Mr. Belding:

Pursuant to your request, this technical letter is intended to address the parking demand at the subject hotel in Irvine Spectrum Center.

Proposed Project

The proposed project is a new 209,817 square foot, 252-room, 14-story Marriott Hotel. The project will be located on the northerly portion of Lot 104 in Planning Area 33, Irvine Spectrum Center (Spectrum 1) – Parcel 2 of PM 2012-161. The proposed hotel will include 12,378 square feet of accessory meeting facility and other accessory guest amenities. It is anticipated that the guests staying at the hotel will be mostly business travelers conducting business in the Irvine Spectrum area. The site is conveniently located within walking distance of Irvine Spectrum Center and many offices and corporate headquarters (i.e., Mazda and Taco Bell Corporate Headquarters) which are directly across the street on Gateway.

The accessory meeting rooms (7,691 square feet) and guest retail/café amenities (4,687 square feet), that comprise approximately six (6) percent of the hotel's total square footage, will facilitate business meetings and provide services for the hotel guests. Hotel shuttles will be available for transporting guests to and from John Wayne Airport, Irvine Multimodal Station and other major venues. Additionally, existing OCTA Transit and Spectrum Shuttle services will be available to the hotel guests and employees. Bus stops for these services are located on Irvine Center Drive and Alton Parkway within very short walking distance from the site. The bus stop at the northeast corner of Irvine Center Drive and Gateway is located approximately 250-feet from the hotel site and can be accessed using the on-site sidewalk system that connects to the public sidewalk network. The intersection of Irvine Center Drive and Gateway is signalized and has existing pedestrian crosswalks.

Site Parking

Parking at the site is by valet service only. All guests and visitors to the site will have to valet their vehicles. The proposed hotel will have 223 marked parking spaces (150 standard spaces, 66 tandem spaces, 7 accessible spaces). As stated earlier, all on site parking will be handled by valet service. This type of parking operation will allow for implementing parking management practices which would increase parking capacity in excess of marked spaces by at least 30 additional spots. The marked supply of parking would equate to 0.88 spaces per room ratio which is at the high end of industry standard and documented parking demand rate for this type of hotel.

The valet operation is consistent with the requirements of Section 4-8-1 of the Zoning Code that pertains to valet operation standards. The proposed Marriott Hotel will be 100-percent valet parking and will utilize four (4) parking control gates to be used by employees only. All guests will arrive at the main entry off Gateway and then the valet attendants will park and recall the vehicles as needed. Hotel guest and visitors will not have access to the on-site circulation or parking spaces beyond the gate locations.

The valet operation loading area is adjacent to the main entry to the hotel. Hotel guests and visitors will access the staging area via Gateway at Driveway 2. The approach to the staging area is one-way operation that will flow counterclockwise. There are three (3) lanes in the arrival area that will provide in excess of 350-feet of stacking area. None of the valet parking spaces encroach into the required fire lane.

Based on data presented in several Parking Demand Studies conducted for hotels in Irvine which have been reviewed and approved by the City the typical parking demand for this type of facility is well below one (1) space per room. The documented rate varies from 0.5 to 1 space per room with an average rate of about 0.65 spaces per room. Additionally, when shuttle services and other modes of travel are available for hotel guests the parking demand is further reduced by at least 10 percent. Data presented in the 4th Edition of Parking Generation published by Institute of Transportation Engineers (ITE) shows the average peak period parking demand to be 0.66 vehicles (spaces) per occupied room. Applying the typical 10 percent reduction for availability of shuttle services this peak demand would be reduced to 0.59 spaces per occupied room. Therefore, the proposed hotel with 252 rooms is expected to generate a demand of about 149 parking spaces which is much lower than the proposed 223 marked spaces. Furthermore, the valet operation will easily increase the parking supply to over 1 space per room.

Marriot Corporation has not established a parking rate for this type of facility. However, the typical rate for its sites is around 0.8 spaces per room. The proposed hotel's 0.88 spaces per room will exceed this typical parking rate.

Conclusions

Based on data presented in several parking demand studies for similar facilities in the City of Irvine and data presented in the ITE Parking Generation manual, the proposed 252 room hotel with 223 marked parking spaces will have more than adequate parking to accommodate the expected demand for this facility. The valet service and the availability of shuttle and transit services at this site and the close proximity of the hotel to businesses, shopping and entertainment venues will further reduce the anticipated parking demand at this facility.

Please call me if you have any questions regarding the proposed hotel or the information presented in this letter.

Sincerely,



Peter K. Pirzadeh, P.E.
Principal

Copy via email: Stacy Tran, City of Irvine
Anthony Wrzosek, RDOD

PAI 5805(3)-SpectrumMarriot2-07272015-JBelding-2ndSub.ParkingDemand-ltr.psk

Statistics And Trends Of Rooms Business In Orange County
CBRE Hotels

BY LOCATION	AVERAGE DAILY RATE			OCCUPANCY PERCENT			REVPAR		
	2015	2014	VAR	2015	2014	VAR	2015	2014	VAR
MONTH OF DECEMBER 2015									
ANAHEIM	$181.52	$173.41	4.7%	79.74%	79.45%	0.4%	$144.75	$137.78	5.1%
COSTA MESA	$125.88	$117.70	6.9%	70.65%	73.55%	-3.9%	$88.93	$86.57	2.7%
ORANGE COUNTY AIRPORT	$119.78	$116.77	2.6%	71.50%	68.22%	4.8%	$85.63	$79.67	7.5%
NORTH ORANGE COUNTY	$104.36	$97.91	6.6%	76.67%	78.23%	-2.0%	$80.02	$76.59	4.5%
SOUTH ORANGE COUNTY	$201.70	$193.79	4.1%	61.14%	64.33%	-5.0%	$123.31	$124.67	-1.1%
NEWPORT BEACH	$229.78	$229.81	0.0%	67.46%	62.05%	8.7%	$155.01	$142.59	8.7%
HUNTINGTON BEACH	$207.08	$201.79	2.6%	64.60%	61.36%	5.3%	$133.78	$123.81	8.0%
OVERALL AVERAGE	**$167.92**	**$161.30**	**4.1%**	**73.74%**	**73.13%**	**0.8%**	**$123.83**	**$117.96**	**5.0%**

	AVERAGE DAILY RATE			OCCUPANCY PERCENT			REVPAR		
	2015	2014	VAR	2015	2014	VAR	2015	2014	VAR
JANUARY TO DECEMBER 2015									
ANAHEIM	$180.75	$168.85	7.0%	81.27%	79.43%	2.3%	$146.89	$134.11	9.5%
COSTA MESA	$136.89	$129.12	6.0%	79.73%	81.09%	-1.7%	$109.14	$104.70	4.2%
ORANGE COUNTY AIRPORT	$133.61	$125.70	6.3%	79.65%	75.47%	5.5%	$106.42	$94.87	12.2%
NORTH ORANGE COUNTY	$109.51	$101.42	8.0%	82.90%	81.34%	1.9%	$90.78	$82.50	10.0%
SOUTH ORANGE COUNTY	$238.53	$228.25	4.5%	76.87%	76.18%	0.9%	$183.36	$173.87	5.5%
NEWPORT BEACH	$250.83	$244.37	2.6%	78.58%	75.57%	4.0%	$197.10	$184.67	6.7%
HUNTINGTON BEACH	$249.01	$243.73	2.2%	81.96%	81.79%	0.2%	$204.08	$199.34	2.4%
OVERALL AVERAGE	**$178.81**	**$169.17**	**5.7%**	**80.32%**	**78.37%**	**2.5%**	**$143.61**	**$132.58**	**8.3%**

ATTACHMENT 5

THE LANDMARK

Addendum to the IBC Vision Plan and Mixed Use Overlay Zoning Code EIR

DISTRIBUTED TO THE PLANNING COMMISSION ONLY

Copy available to review in the
Irvine Community Development Department

Contact Stephanie Frady
at
949-724-6375
or
sfrady@cityofirvine.org

PLANNING COMMISSION RESOLUTION NO. 17-3615

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF IRVINE, CALIFORNIA, APPROVING COMMERCIAL MASTER PLAN 00659728-PMPC TO DEVELOP THE LANDMARK, A 15-STORY, 386-ROOM HOTEL, A 15-STORY OFFICE BUILDING AND GROUND-LEVEL RETAIL/RESTAURANT SPACE, LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX), CONTINGENT ON THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA OVERRULING THE DETERMINATION OF THE AIRPORT LAND USE COMMISSION OF THE COUNTY OF ORANGE THAT THE PROPOSED PROJECT IS NOT CONSISTENT WITH THE 2008 JOHN WAYNE AIRPORT ENVIRONS LAND USE PLAN; FILED BY GREAT FAR EAST LLC

WHEREAS, an application for Commercial Master Plan 00659728-PMPC has been filed by Great Far East LLC to allow for the development of The Landmark, a mixed use commercial development which includes a 15-story, 386-room hotel, a 15-story office building, ground level restaurant/retail space and a combination subterranean garage/parking structure containing 2,089 parking spaces, located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36, the Irvine Business Complex (IBC); and

WHEREAS, the underlying land of the subject Commercial Master Plan has a General Plan land use designation of Urban and Industrial, and a zoning designation of 5.1 Multi-use; and

WHEREAS, the proposed Commercial Master Plan conforms with the City of Irvine General Plan and the Irvine Zoning Ordinance; and

WHEREAS, pursuant to the IBC Database, the project site currently has a budget of 1,122 AM, 1,321 PM and 13,638 average daily trip (ADT) development intensity values (DIVs), which is adequate to support the project, as proposed; and

WHEREAS, an Access Study was completed for the proposed project which analyzed the access points along Douglas and MacArthur Boulevard and potential impacts to the surrounding circulation system; and

WHEREAS, the proposed Commercial Master Plan is considered to be a "project" as defined by the California Environmental Quality Act (CEQA); and

WHEREAS, in July 2010, the IBC Vision Plan Program Environmental Impact Report (SCH No. 2007011024) (“IBC EIR”) was prepared and certified by the City Council

as adequate; and

WHEREAS, on April 20, 2017, the Airport Land Use Commission (ALUC) for Orange County considered the proposed project. When a development project is subject to the Airport Environs Land Use Plan (AELUP) due to its close proximity to John Wayne Airport, State law requires the ALUC to make a determination on whether the proposed land use is consistent with its regulations and restrictions. At their meeting, the ALUC voted unanimously to find the proposed project is inconsistent with the AELUP. As such, the City of Irvine's City Council would need to make a determination to override the ALUC decision prior to the proposed project being approved; and

WHEREAS, due to the inconsistency finding made by the ALUC, the Planning Commission's approval of the subject Commercial Master Plan is contingent on a City Council determination to override the decision of the ALUC pursuant to Section 21676 of the California Public Utilities Code; and

WHEREAS, on May 31, 2017, notice of a Planning Commission public hearing was posted at the project site and at all City-designated posting locations; and were mailed to all property owners and occupants within 500 feet of the project site; and

WHEREAS, the Planning Commission of the City of Irvine has considered information presented by the Community Development Department, the applicant, and other interested parties at a public hearing on June 15, 2017.

NOW, THEREFORE, the Planning Commission of the City of Irvine DOES HEREBY RESOLVE as follows:

SECTION 1. The Recitals above are true and correct and incorporated herein by this reference.

SECTION 2. An Addendum to the IBC EIR has been prepared pursuant to Section 15164 of the CEQA Guidelines, and concluded that the proposed project will not have a significant effect on the environment.

SECTION 3. Pursuant to Section 15162 of the CEQA Guidelines, the following has been determined:

1. There are no substantial changes to the project that will require major revisions to the IBC EIR due to new, significant environmental effects or a substantial increase in the severity of impacts identified in the IBC EIR.

2. Substantial changes have not occurred in the circumstances under which the project is being undertaken that will require major revisions of the IBC EIR to disclose new, significant environmental effects or a substantial increase in the severity of the impacts identified in the IBC EIR.

3. There is no new information of substantial importance, not known and could not have been known with the exercise of reasonable diligence at the time the IBC EIR was certified, that shows any of the following:

    a. The project will have any new significant effects not discussed in the IBC EIR;
    b. Significant effects previously examined will be substantially more severe than shown in the IBC EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the IBC EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

SECTION 4. Pursuant to Section 15168 of the CEQA Guidelines, this project is covered by the previously certified IBC EIR (SCH No. 2007011024) and the June 2017 Addendum, which serves as the EIR for the proposed project. The effects of the project were examined in the Program EIR, and all feasible mitigation measures and alternatives developed in the Program EIR are incorporated into this project.

SECTION 5. Pursuant to Fish and Game Code Section 711.4(c), all required Fish and Game filing fees shall be paid subsequent to certification of the Final EIR.

SECTION 6. The findings required by State law regarding justification of Citywide, village-wide, and project specific development fees for public facilities as a result of this project approval have been met as follows:

A. Citywide fees for public facilities are collected in conjunction with the issuance of building permits for development projects and consist of the following:

    1. Foothill Transportation Corridor Area / San Joaquin Transportation Corridor Area of Benefit Charges.
    2. Development surcharge fees to recover wear and tear costs from construction site traffic.
    3. A systems development charge.

B. Resolutions have been adopted by the Irvine City Council which establishes the connection between the development projects and the public improvements based on the following nexus:

    1. The area of benefit charges for the Foothill Transportation Corridor Area/San Joaquin Transportation Corridor are based on the assumption that future state and federal revenues are projected to be inadequate to construct said transportation corridors in a timely manner; and that future development

should pay a share of the cost of implementing new transportation corridors to ensure that the transportation system will be adequate to serve said development and that this share of the corridor costs should be proportional to the traffic generated by the development.

2. The impact of construction vehicles using City streets causes wear and tear which significantly reduces the life of the surface of City streets beyond normally expected use and the cost of impacted wear and tear on City streets should be borne by the development projects which create the impact. The wearing surface on City streets is reduced by 50 percent by commercial/industrial construction traffic which causes significant increases on City maintenance costs.
3. The implementation of a systems development charge provides a predictable and equitable funding source for capital improvements by requiring development projects to "buy into" the pre-existing City infrastructure so that the impact of new growth on existing improvements will be borne equitably by new development.

C. All of the Citywide fees identified in this section are based on this project's proportional share of the cost of the improvement as identified in the appropriate City Council resolution.

D. The following nexus between the project specific public facilities and the development project have been identified:

1. The purposes of the fees have been identified.
2. There is a reasonable relationship between the need for public facilities and the type of development for which the fee is imposed.
3. There is a reasonable relationship between the amount of the fees and the costs of the public facilities attributable to the development on which the fee is based.

E. The development of The Landmark Project creates the need for circulation system improvements to accommodate traffic generated by the project. The public and private facilities identified previously are needed to support this development, are justified since the development of this type impacts the amount distribution of traffic on surrounding streets, or are agreed to by the applicant. The circulation improvements described above have been identified in the April 5, 2017 Access Study prepared by LSA for the proposed project.

SECTION 7. The findings required to be made for the approval of a Commercial Master Plan, as set forth by Section 2-17-7 of the Irvine Zoning Ordinance, are hereby made as follows:

A. The proposed Master Plan is consistent with the City's General Plan.

The project site is designated for Urban and Industrial development pursuant to the City's General Plan Land Use Element. The Urban and Industrial designation allows for offices, industry, and support commercial, mixed with high-density housing, and a variety of activities. Typical uses are professional/medical offices, industrial manufacturing, research and development, support service retail, restaurants, multifamily housing and hotel/motels. The IBC Element of the General Plan outlines the framework for future development of the IBC as a mixed-use community. The Master Plan proposes the development of a 15-story, 386-room hotel, a 15-story office building and ground level restaurant/retail space, all of which are all compatible with Urban and Industrial neighborhood. Therefore, the proposed Master Plan is consistent with the City's General Plan.

B. The proposed Master Plan is consistent with the City's zoning ordinance.

The subject site has a zoning designation of 5.1 IBC Multi-use, which allows for hotel, office and retail uses. Within the IBC, the overall amount of development allowed is regulated by the development intensity value (DIV) budget assigned to each parcel. For the subject project site, there exists a cumulative DIV budget of 1,122 AM, 1,321 PM and 13,638 daily DIVs. The proposed project requires only 779 AM, 976 PM and 11,180 daily DIVs, which is entirely covered by the site's budget. Therefore, the project conforms to the allowed density for the subject site.

Additionally, the Master Plan meets site size, site coverage, landscape requirements, setbacks and all other applicable requirements of the Irvine Zoning Ordinance. Therefore, it has been determined that the Master Plan is consistent with the Irvine Zoning Ordinance.

C. The proposed Master Plan is in the best interests of the public health, safety and welfare of the community.

The Master Plan provides a mix of commercial uses on the project site, including hotel, office and retail/restaurant. Construction of all improvements and facilities associated with the proposed project will be in accordance with City standards and under City inspection. As stated in Sections 1 and 2 of this resolution, an Addendum to the approved IBC EIR (SCH No. 200071014) was completed for the proposed project and serves as its Program EIR. The Addendum determined that no further environmental impacts would result from the proposed project, and, therefore, it is in compliance with CEQA. It has been determined that the Master Plan is in the best interests of the health, safety, and welfare of the community.

D. The proposed Master Plan complies with all applicable requirements set forth within Division 8 pertaining to the dedication of permanent open space through a phased dedication implementation program for affected planning areas and zoning districts.

The proposed Master Plan complies with all requirements set forth within Section

8-5 of the Irvine Zoning Ordinance in that the permanent open space area (192 acres within Preservation Area N) associated with the development of PA 36 was previously dedicated.

E. If the proposed Master Plan affects land located within the coastal zone, the proposed Master Plan will comply with the provisions of the land use plan of the certified local coastal program.

   The project site is not located in the coastal zone; therefore, this finding is not applicable.

F. In Planning Area 30, the proposed Master Plan provides for compatibility between existing and future uses within the City of Irvine, to the extent those uses are known.

   The project site is not located in Planning Area 30; therefore, this finding is not applicable.

SECTION 8. The findings required to be made for the approval of a Conditional Use Permit for the hotel use, as set forth by Section 2-9-7 of the Irvine Zoning Ordinance, are hereby made as follows:

A. The proposed location of the conditional use is in accord with the objectives of Chapter 1-1 of the Zoning Ordinance and the purpose of the zoning district in which the site is located.

   The project site is located within the 5.1 IBC Multi-use Zone. The location of the proposed hotel is in accord with the objectives of Section 1-1 of the Irvine Zoning Ordinance. The hotel use within the IBC area of the City supplements the regional employment destination by providing accommodations for business travelers, thereby serving existing businesses in the area. It also provides accommodations for visitors to the City and provides event space to serve both businesses and residents.

B. The proposed conditional use will not be detrimental to the public health, safety or welfare, or be materially injurious to properties or improvements in the vicinity.

   This project will add a use already found within the local area and has been designed in a manner to be fully self-contained with services and all required parking located on-site so as to not adversely impact adjacent sites.

C. The proposed conditional use is compatible with existing uses and future uses to the extent those uses are known, and will comply with each of the applicable provisions of the zoning ordinance, except for approved variances and/or administrative relief per Chapters 2-2 and 2-37.

The proposed hotel will provide temporary lodging in the IBC area and will complement the range of existing adjacent and nearby uses. The project complies with all applicable development standards; there are no variances or administrative relief proposed.

D. If the proposed conditional use permit affects land located within the coastal zone, the proposed conditional use will comply with the provisions of the land use plan of the certified local coastal program.

   The project site is not located in the coastal zone; therefore, this finding is not applicable.

E. Based upon information available at the time of approval, adequate utilities, access roads, drainage, and other necessary facilities exist or will be provided to serve the proposed use.

   The site is fully urbanized and adequately service by wet and dry utilities, roads and emergency access.

SECTION 9. That the Secretary to the Planning Commission of the City of Irvine shall certify to the passage and adoption of this Resolution and enter it into the book of original Resolutions.

NOW, THEREFORE, based on the above findings and contingent on the Irvine City Council approving an override of the ALUC's inconsistency finding, the Planning Commission of the City of Irvine DOES HEREBY APPROVE COMMERCIAL MASTER PLAN 00659728-PMPC, subject to the following conditions:

PRIOR TO THE ISSUANCE OF PRELIMINARY OR PRECISE GRADING PERMITS

Standard Condition 2.5 (modified) ARCHAEOLOGIST/PALEONTOLOGIST RETAINED (PPP 4-1)

Prior to the issuance of the first preliminary or precise grading permits for each planning area, and for any subsequent permit involving excavation to increased depth, the applicant shall provide letters documenting retention of an archaeologist and a paleontologist for the project. The letters shall state that the applicant has retained these individuals, and that the consultants will be on call during all grading and other significant ground-disturbing activities. These consultants shall be selected from the roll of qualified archaeologists and paleontologists maintained by the County of Orange. The archaeologist and/or paleontologist shall meet with Community Development staff, and shall submit written recommendations specifying procedures for cultural/scientific resource surveillance. These recommendations shall be reviewed and approved by the Director of Community Development prior to issuance of the grading permit and prior to any surface disturbance on the project site.

Should any cultural/scientific resources be discovered, no further grading shall occur in

the area of the discovery until the Director of Community Development is satisfied that adequate provisions are in place to protect these resources. Unanticipated discoveries shall be evaluated for significance by an Orange County Certified Professional Archaeologist/Paleontologist. If significance criteria are met, then the project shall be required to perform data recovery, professional identification, radiocarbon dates, and other special studies; submit materials to a museum for permanent curation; and provide a comprehensive final report including catalog with museum numbers. Persons performing this work shall be Orange County Certified Professional Archaeologists/ Paleontologists.

Standard Condition 2.6 (modified) SITE SPECIFIC GEOTECHNICAL STUDY (PPP 5-3)

In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, detailed geotechnical investigation reports for each Rough Grading Plan shall be submitted to further evaluate faults, subsidence, slope stability, settlement, foundations, grading constraints, liquefaction potential, issues related to shallow groundwater, and other soil engineering design conditions and provide site specific recommendations to mitigate these issues/hazards. The geotechnical reports shall be prepared and signed/stamped by a Registered Civil Engineer specializing in geotechnical engineering and a Certified Engineering Geologist. The City of Irvine Geotechnical Engineer/Engineering Geologist shall review the rough grading plan to ensure conformance with recommendations contained in the reports.

Standard Condition 2.7 GROUNDWATER SURVEY (PPP 7-2)

Prior to the issuance of precise grading permits, the applicant shall submit to the Chief Building Official a groundwater survey of the entire site. The analysis shall be prepared by a licensed geotechnical engineer versed in groundwater analysis and shall include the following information and analysis:

a. Potential for perched groundwater intrusion into the shallow groundwater zone upon build-out.
b. Analysis for relief of groundwater buildup and properties of soil materials on-site.
c. Impact of groundwater potential on building and structural foundations.
d. Proposed mitigation to avoid potential for groundwater intrusion within five (5) feet of the bottom of the footings.

Standard Condition 2.12 WATER QUALITY – NOTICE OF INTENT (PPP 7-3)

Prior to the issuance of preliminary or precise grading permits for a project that will result in soil disturbance of one (1) or more acres of land, the applicant shall provide the Chief Building Official with evidence that a Notice of Intent (NOI) has been filed with the State Water Resources Control Board. Such evidence shall consist of a copy of the NOI stamped by the State Water Resources Control Board or the Regional Water Quality Control Board, or a letter from either agency stating that the NOI has been filed.

Standard Condition 2.13 WATER QUALITY MANAGEMENT PLAN (PPP 7-4)

Prior to the issuance of precise grading permits, the applicant shall submit to the Chief Building Official for review and approval, a Water Quality Management Plan (WQMP). The WQMP shall identify the Best Management Practices (BMPs) that will be used on the site to control predictable pollutant runoff.

Standard Condition 2.24 DEMOLITION WASTE RECYCLING

Prior to the issuance of grading permits for a project that involves the demolition of an asphalt or concrete parking lot on site, the applicant shall submit a waste management plan demonstrating compliance with the requirements of Title 6, Division 7 of the City of Irvine Municipal Code relating to recycling and diversion of demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City-authorized waste haulers.

Standard Condition 2.25 DIGITAL FILES - AUTOCAD

Prior to the issuance of a grading permit, the design engineer shall submit the drawings in DXF or AutoCAD .dwg file to the City.

Condition 2.26 OCFA PLANS (PPP 6-3)

Prior to Orange County Fire Authority (OCFA) issuance of a precise grading permit, the applicant shall submit a Fire Master Plan (Service Code PR145) for review and approval. Irrevocable reciprocal access easements for emergency access purposes to the benefit of the City/County shall be recorded concurrently with the final map or, where no final map is required, prior to approval of the Fire Master Plan.

Condition 2.27 PRE-CONSTRUCTION MEETING

Before commencement of construction, the applicant or responsible party shall attend a pre-construction meeting with an OCFA inspector. Call OCFA Inspection Scheduling at 714-573-6150 at least five days in advance of the start of construction to schedule and pay for the preconstruction meeting.

Condition 2.28 SECURED FIRE PROTECTION AGREEMENT (PPP 11-2)

Prior to the issuance of the first grading permit for the individual development within the IBC, the applicant shall have executed a Secured Fire Protection Agreement with the Orange County Fire Authority.

Condition 2.29 ARCHITECTURAL COATINGS (PDF 2-9)

Prior to the issuance of grading permits and during construction activities, the applicant shall demonstrate that the construction contractor will use coatings and solvents with a volatile organic compound (VOC) content lower than required under Rule 1113 (i.e., Super Compliant Paints). All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency. The construction contractor shall also use precoated/natural colored building, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans.

Condition 2.30 SCAQMD RULE 201 – PERMIT TO CONSTRUCT (PPP 2-1)

The SCAQMD requires developers who build, install, or replace any equipment or agricultural permit unit, which may cause new emissions of or reduce, eliminate, or control emissions of air contaminants to obtain a permit to construct from the Executive Officer.

Condition 2.31 SCAQMD RULE 402 – NUISANCE ODORS (PPP 2-2)

Prior to issuance of grading permits, the project applicant shall incorporate the following note on the plan: The SCAQMD prohibits the discharge of any quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property to be emitted within the South Coast Air Basin (SoCAB).

Condition 2.32 SCAQMD RULE 403 – FUGITIVE DUST (PM_{10} AND $PM_{2.5}$) (PPP 2-3)

Prior to issuance of grading permits, the project applicant shall incorporate the following note on the plan: The SCAQMD prohibits any person to cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that: (a) the dust remains visible in the atmosphere beyond the property line of the emission source; or (b) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook) if the dust emission is the result of movement of a motorized vehicle.

Condition 2.33 SCAQMD RULE 1403 – ASBESTOS EMISSIONS FROM DEMOLITION/RENOVATION ACTIVITIES (PPP 2-4)

This rule specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

Condition 2.34 CONSTRUCTION EQUIPMENT (PDF 2-6)

Prior to the issuance of a grading permit, applicants for new developments in the Irvine Business Complex shall require that the construction contractor utilize off-road construction equipment that conforms to Tier 3 of the United States Environmental Protection Agency, or higher emissions standards for construction equipment over 50 horsepower that are commercially available. The construction contractor shall be made aware of this requirement prior to the start of construction activities. Use of commercially available Tier 3 or higher off-road equipment, or:

a. Year 2006 or newer construction equipment for engines rated equal to 175 horsepower (hp) and greater;
b. Year 2007 and newer construction equipment for engines rated equal to 100 hp but less than 175 hp; and
c. 2008 and newer construction equipment for engines rated equal to or greater than 50 hp.

The use of such equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site.

Condition 2.35 EQUIPMENT MAINTENANCE (PDF 2-7)

Prior to the issuance of a grading permit, the following note shall be placed on the plans: Applicants for new developments in the Irvine Business Complex shall require that the construction contractor to properly service and maintain construction equipment in accordance with the manufacturer's recommendations. Nonessential idling of construction equipment shall be restricted to 5 minutes or less in compliance with California Air Resources Board's Rule 2449.

Condition 2.36 DUST CONTROL PLAN (PDF 2-8)

Prior to the issuance of a grading permit, applicants for new developments in the Irvine Business Complex shall require that the construction contractor prepare a dust control plan and implement the following measures during ground-disturbing activities in

addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District Rule 403 to further reduce PM_{10} and $PM_{2.5}$ emissions. To assure compliance, the City shall verify compliance that these measures have been implemented during normal construction site inspections:

a. During all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering. This would achieve a minimum control efficiency for PM_{10} of 5 percent.
b. During all construction activities, the construction contractor shall sweep streets with Rule 1186 compliant PM_{10}-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.
c. During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and tarp materials with a fabric cover or other suitable means. This would achieve control efficiency for PM_{10} of 91 percent.
d. During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day. This would achieve emissions reduction control efficiency for PM_{10} of 61 percent.
e. During all construction activities, the construction contractor shall limit on-site vehicle speeds on unpaved roads to no more than 15 miles per hour. This would achieve control efficiency for PM_{10} of 57 percent.
f. The construction contractor shall apply chemical soil stabilizers to reduce wind erosion. This would achieve control efficiency of up to 80 percent.

Condition 2.37 GRADING CODE COMPLIANCE (PPP 5-2)

All grading operations and construction will be conducted in conformance with the applicable City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, the most recent version of the California Building Code, and consistent with the recommendations included in the most current geotechnical reports for the project area prepared by the engineer of record.

Condition 2.38 REGISTERED CIVIL ENGINEER (PPP 5-4)

In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, grading and earthwork shall be performed under the observation of a Registered Civil Engineer specializing in Geotechnical Engineering in order to achieve proper subgrade preparation, selection of satisfactory fill materials, placement and compaction of structural fill, stability of finished slopes, design of buttress fills, subdrain installation, and incorporation of data supplied by the engineering geologist.

Condition 2.39 CERTIFIED ENGINEERING GEOLOGIST (PPP 5-5)

In accordance with the City of Irvine Grading Code (Municipal Code Title 5, Division 10) and Grading Manual, grading and earthwork shall also be performed under the observation of a Certified Engineering Geologist to provide professional review and written approval of the adequacy of natural ground for receiving fills, the stability of cut slopes with respect to geological matters, and the need for subdrains or other groundwater drainage devices. The geologist shall geologically map the exposed earth units during grading to verify the anticipated conditions, and if necessary, provide findings to the geotechnical engineer for possible design modifications.

Condition 2.40 CONSTRUCTION AND DEMOLITION (C&D) DEBRIS RECYCLING AND REUSE (PPP 15-1)

The Construction and Demolition (C&D) ordinance requires that 1) all residential projects of more than one unit, 2) nonresidential developments on 5,000 square feet or larger, and 3) nonresidential demolition/renovations with more than 10,000 square feet of building recycle or reuse a minimum of 75 percent of concrete and asphalt and 50 percent of nonhazardous debris generated.

Condition 2.41 HYDROLOGY AND HYDRAULIC ANALYSIS (PPP 7-1)

Prior to the issuance of preliminary or precise grading permits, the applicant shall submit a hydrology and hydraulic analysis of the entire site. The analysis shall be prepared by a professional civil engineer versed in flood control analysis and shall include the following information and analysis:

a. Hydrology/hydraulic analysis of 100-year surface water elevation at the project site to determine building elevation or flood proofing elevation.
b. Analysis of existing and post-development peak 100-year storm flow rates, including mitigation measures to reduce peak flows to existing conditions.
c. An analysis demonstrating that the volume of water ponded on the site and stored underground in the drainage system outside of the building envelope in the proposed condition is greater than or equal to the corresponding volume in the existing condition. The water surface used to determine the ponded volume shall be based on the water surface in the major flood control facility that the site is tributary to.

Condition 2.42 VIBRATION-INTENSIVE CONSTRUCTION ACTIVITIES (PDF 9-1)

As described in the proposed zoning for the project, applicants for individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, occurring near sensitive receptors shall submit a noise vibration analysis prior to their application being deemed complete by the City. If construction-related vibration is determined to exceed the Federal Transit

Administration vibration-annoyance criteria of 78 VdB during the daytime, additional requirements, such as use of less vibration intensive equipment or construction techniques shall be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

Condition 2.43 NOISE SEPARATION (PDF 9-2)

Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

a. Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
b. Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
c. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
d. Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.

Condition 2.44 RECYCLING OF MATERIALS CREATED ONSITE

This project will result in new construction that will generate solid waste. Prior to the issuance of precise grading permits, the applicant shall show on the site plans the location of receptacle(s) to accumulate on-site-generated solid waste for recycling purposes. At the discretion of the Director of Community Development the developer of a nonresidential project may be permitted to contract with a waste recycler for offsite materials recovery. In this case the applicant must provide a letter verifying that recycling will be conducted off site in an acceptable manner.

Condition 2.45 SOLID WASTE RECYCLING (PPP 14-4)

This project will result in new construction that will generate solid waste. Prior to the issuance of precise grading permits, the applicant shall show on the site plans the location of receptacle(s) to accumulate on-site-generated solid waste for recycling purposes. At the discretion of the Director of Community Development the developer of a nonresidential project may be permitted to contract with a waste recycler for off-site materials recovery. In this case the applicant must provide a letter verifying that recycling will be conducted off site in an acceptable manner.

Condition 2.46 CONSTRUCTION WORKERS

Prior to the issuance of a grading permit, applicants for new developments in the Irvine Business Complex shall require that the construction contractor provide alternative transportation mode incentives, such as bus passes and/or carpooling for workers to and from the worksite on days that construction activities require 200 or more workers. These requirements shall be noted on the grading plan cover sheet.

Condition 2.47 IRWD RECYCLED WATER SYSTEM (PPP 14-1)

Prior to the issuance of a grading permit, applicants for new developments in the Irvine Business Complex shall incorporate the use of a recycled water system if available by Irvine Ranch Water District (IRWD). Irvine Ranch Water District (IRWD) will identify customers in a zone identified in the Plan ("the Plan" collectively refers to the Water Resources Master Plan, Sewer Master Plan, Natural Treatment System Master Plan, and addenda thereto) as an area capable of receiving service from the IRWD's recycled water system, and will determine the feasibility of providing recycled water service to these customers. IRWD will also review applications for new permits to determine the feasibility of providing recycled water service to these applicants. If recycled water service is determined by IRWD to be feasible, applicants for new water service shall be required to install on-site facilities to accommodate both potable water and recycled water service in accordance with these Rules and Regulations. IRWD may also require existing customers to retrofit existing on-site water service facilities to accommodate recycled water service. If IRWD does not require the use of recycled water service, the customer may obtain recycled water service upon request but only if IRWD has determined that recycled service to the customer is feasible and authorizes such use.

Condition 2.48 RECLAIMED WATER ON MASTER LANDSCAPED AREAS

If recycled water service is determined by IRWD to be feasible, applicants for new developments in the Irvine Business Complex shall use reclaimed water in all master landscaped areas. This will include master landscaped commercial, multifamily, common, roadways, and park areas. Master landscapes will also incorporate weather-based controllers and efficient irrigation system designs to reduce overwatering, combined with the application of a California-friendly landscape palette.

Condition 2.49 IRWD CONNECTION FEE (PPP 14-2)

Prior to the issuance of a grading permit, future project applicants in the Irvine Business Complex shall enter into agreement or agreements as necessary with IRWD to establish the appropriate financial fair share costs to be borne by the project proponent. Fair share costs may include, but are not limited to, those associated with the preparation of studies and infrastructure expansion necessary to analyze and serve the project.

Condition 2.50 FIRE FLOW ANALYSIS (PPP 14-3)

Prior to the issuance of a grading permit, in accordance with IRWD requirements, each redevelopment project in the Irvine Business Complex must provide a fire flow analysis. If the analysis identifies any deficiencies, the developer will be responsible for any water system improvements associated with the development project required to rectify the deficiencies and meet IRWD fire flow requirements.

Condition 2.51 TREE REMOVAL (PPP 3-2)

If any trees are removed, the Applicant shall carry out a tree survey and obtain a permit for their removal in accordance with the City's tree preservation ordinance (including 1:1 replacement).

Condition 2.52 ACCIDENTAL DISCOVERY (PPP 4-2)

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, one of the following steps shall be taken:

a. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Orange County Coroner is contacted to determine if the remains are prehistoric and that no investigation of the cause of death is required. If the coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission within 24 hours, and the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

b. Where the following conditions occur, the land owner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the property in a location not subject to further subsurface disturbance:

    i. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission;
    ii. The identified descendent fails to make a recommendation; or
    iii. The landowner or his/her authorized representative rejects the recommendation of the descendent, and mediation by the Native

American Heritage Commission fails to provide measures acceptable to the landowner (CEQA Guidelines Section 15064.5(e)).

PRIOR TO THE ISSUANCE OF BUILDING PERMITS

Standard Condition 3.3 (modified) DISCLOSURE STATEMENTS (PDF 6-2)

Prior to the issuance of building permits, the applicant shall submit to the Director of Community Development for review and approval a completed occupancy disclosure form for the project. The approved disclosure form, along with its attachments, shall be included as part of the room reservation literature for the project. The disclosure statement shall include information, current as of the date of submittal, with respect to each item marked with an "x" on the list below. The items marked "n/a" need not be included.

X a. Information on Noise resulting from aircraft and/or helicopter operations from John Wayne Airport.

X b. Reference to Emergency Preparedness information available on the City of Irvine website.

n/a c. Map of Special Flood Hazard Area information for areas subject to inundation.

n/a d. Notice that initial occupancy and any subsequent change in use or occupancy of any non-residential condominium space, requires the buyer or the new or existing occupant to apply to the Community Development Department and obtain approval by way of a of written zoning confirmation letter or obtain a building permit and obtain inspection approval for any necessary work to establish the use and/or occupancy consistent with that intended.

X e. Notice that the property owner shall be responsible for continuous maintenance of the emergency access equipment thus ensuring these systems will be operational at all times, as required by the Chief of Police.

n/a f. Notice that the property is located near and/or adjacent to private and/or public park(s) that may include recreational, field/court lighting, and other related improvements.

n/a g. Notice that the property is located near and/or adjacent to public open space land that may include trails, trailheads, parking facilities, and other related improvements and operations.

n/a h. Notice that the property is located near and/or adjacent to public trails and/or related improvements and operations.

Standard Condition 3.5 (modified) FINAL ACOUSTICAL REPORT (PPP 9-2 and PDF 9-4)

Prior to the issuance of building permits for each structure or tenant improvement other

than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall show that the development will be sound attenuated against present and projected noise levels, including roadway, aircraft, helicopter and railroad, to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures.

As described in the proposed zoning for the project, residential and active recreational areas shall be prohibited in the 65 dBA CNEL noise contour of the John Wayne Airport. In addition, as described in the proposed zoning for the project, prior to issuance of building permits, the project applicant for any project within the 60 dBA CNEL contour of the John Wayne Airport shall retain an acoustical engineer to prepare an acoustic analysis that identifies required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling) to achieve the 45 dBA CNEL interior noise standard of Title 21 and Title 24 of the California Building Code. In addition to the 24-hour interior noise standard, the acoustic report shall detail compliance with the City's interior noise standard of 55 dBA Lmax (10) for single-event noise generated by the loudest 10 percent of aircraft overflights at the John Wayne Airport. Parks within the 60 dBA CNEL noise contour shall include signage indicating their proximity to John Wayne Airport and related airport noise. The acoustic analysis shall be submitted to the Director of Community Development to ensure compliance.

Standard Condition 3.6 SITE LIGHTING REQUIREMENTS (PPP 1-2)

Prior to the issuance of building permits, the applicant shall demonstrate they have met the Irvine Uniform Security Code requirements for lighting by providing the below listed items for a complete review by the Police department. Failure to provide a complete lighting package will result in the delay of satisfaction of this condition.

a. Electrical plan showing light fixture locations, type of light fixture, height of light fixture, and point-by-point photometric lighting analysis overlaid on the landscape plan with a tree legend. The photometric plan should only show those fixtures used to meet the Irvine Uniform Security Code requirements.
b. Corresponding fixture cut-sheets (specifications) of those lights used to meet the Irvine Uniform Security Code.
c. Site plan demonstrating that landscaping shall not be planted so as to obscure required light levels.
d. Site plans that are full-scale and legible.

Standard Condition 3.7 SOLID WASTE RECYCLING

Prior to the issuance of building permits for a project that involves new construction or that involves the demolition or renovation of existing buildings on site, the applicant shall

comply with requirements of Title 6, Division 7 of the City of Irvine Municipal Code relating to recycling and diversion of construction and demolition waste as applicable to said project. Over the course of demolition or construction, the applicant shall ensure compliance with all code requirements related to the use of City-authorized waste haulers.

Standard Condition 3.17 EMERGENCY ACCESS PLAN

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers. Said plan shall be incorporated into the plan set approved for building permits.

Standard Condition 3.18 WAYFINDING (DIRECTIONAL) PLAN

Prior to the issuance of the first building permit, a Wayfinding (Directional) Plan including exterior building numbers, unit numbers, directional unit signs, and entrance directory shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits

Standard Condition 3.20 CONSTRUCTION SITE SECURITY PLAN

Prior to the issuance of the first building permit, a Construction Site Security Plan, per the Irvine Uniform Security Code, Section 5-9-521, shall be approved by the Chief of Police. Said plan shall be incorporated into the plan set approved for building permits.

Condition 3.27 OCFA PLANS

Prior to Orange County Fire Authority (OCFA) issuance of a building permit, the applicant shall submit for review and approval the following plans:

a. Architectural (Service Codes PR200-PR285)
b. Tanks Storing Hazardous Materials (Service Codes PR300-305)
c. Refrigeration and Vapor Detection/Alarm System (Service Codes PR340 and PR 500-520), if required by the Refrigeration Disclosure worksheet in OCFA Guideline G-02 or the California Fire or Mechanical Codes
d. Battery (Service Code PR375), for any system containing an aggregate quantity of electrolyte in excess of 50 gallons
e. Smoke Control Rational Analysis, Report and other required documentation (Service Codes PR380-PR382)
f. Emergency Responder Radio System Design (Service Code PR928). This submittal may be deferred when acceptable to the Building Department, but the required conduit must be installed prior to concealing interior construction.
g. Underground piping for private hydrants and fire sprinkler systems (Service Codes PR470-PR475)

Condition 3.28 FIRE PROTECTION ACCESS EASEMENTS (PPP 11-3)

Prior to the issuance of the first building permit, all fire protection access easements shall be approved by the Orange County Fire Authority and irrevocably dedicated in perpetuity to the City.

Condition 3.29 PARKING SURVEILLANCE CAMERA PLAN

Prior to the issuance of the first building permit, the applicant shall submit a Parking Surveillance Camera Plan showing color cameras capable of monitoring all public and tenant building entrances, capturing a picture of a person's face when entering/exiting the hotel. Provide cameras to view and record vehicles entering/exiting the garage, including views of license plates. Camera images are to be stored on a digital DVR for a minimum of 30 days.

Condition 3.30 BUILDING CODE COMPLIANCE (PPP 5-6)

Future buildings and structures (e.g., houses, retaining walls) shall be designed in accordance with the City of Irvine Building Code and the most recent Uniform Building Code and/or California Building Code. The concrete utilized shall take into account the corrosion and soluble sulfate soil conditions at the site. The structures shall be designed in accordance with the seismic parameters included in the UBC/CBC.

Condition 3.31 AIRPORT ENVIRONS LAND USE PLAN STANDARDS (PDF 6-1)

As described in the proposed zoning for the project, building height limitations, recordation of aviation easements, obstruction lighting and marking, and airport proximity disclosures and signage shall be provided consistent with the Airport Environs Land Use Plan for John Wayne Airport.

Condition 3.32 SCHOOLS FEE (PPP 11-6)

Pursuant to Government Code Sec. 65995, the individual applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; payment of the adopted fees would provide full and complete mitigation of school impacts. Alternatively, the applicant may enter into a school finance agreement with the school district(s) to address mitigation to school impacts in lieu of payment of developer fees. The agreement shall establish financing mechanisms for funding facilities to serve the students from the project. If the applicant and the affected school district(s) do not reach a mutually satisfying agreement, then project impacts would be subject to developer fees.

Condition 3.33 LIBRARY IMPACT FEE (PDF 11-3)

Prior to issuance of building permits, the applicant shall pay a Citywide library impact fee in the event this fee is adopted and in force.

Condition 3.34 IBC TRAFFIC IMPROVEMENT FEE (PPP 13-1)

Prior to the issuance of building permits, the applicant shall pay the IBC Traffic Improvement fees (Irvine City Council Resolution No. 11-13) effective at the time of permit issuance. A Development Fee program was established to fund area-wide circulation improvements within the IBC area. The improvements are required due to potential circulation impacts associated with buildout of the IBC area. Fees are assessed when there is new construction or when there is an increase in square footage within an existing building or the conversion of existing square footage to a more intensive use. The development fees collected are used strictly for circulation improvements right-of-way acquisition and transportation monitoring measures in the IBC area. Fees are calculated by multiplying the proposed square footage, dwelling unit or hotel room by the appropriate rate. The IBC Fees are included with any other applicable fees payable at the time the building permit is issued.

Condition 3.35 TOT AGREEMENT

Prior to the issuance of building permits, the applicant shall submit an agreement between the applicant and the City of Irvine describing implementation procedures for accepting transient occupancy tax (TOT). The agreement shall require hotel guests to check out of the hotel following a length of stay not to exceed 30 days. Guest(s) desiring a stay of longer than 30 days shall have the right of same day check-in to the hotel. Such agreement shall be reviewed by the City Attorney, approved by the Director of Community Development, and recorded by the Clerk Recorder, County of Orange.

Condition 3.36 RECYCLED MATERIALS (PDF 15-2)

Prior to the issuance of building permits, applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development or the Director of Public Works that the project uses recycled materials for at least 20 percent of construction materials. Recycled materials may include salvaged, reused, and recycled content materials. Recycled and/or salvaged building materials shall be shown on building plans and product cut sheets submitted to the City.

Condition 3.37 OUTDOOR LIGHTING (PPP 1-1)

Prior to the issuance of building permits, the applicant shall demonstrate that outdoor lighting is designed and installed so that all direct rays are confined to the site and adjacent properties are protected from glare as required by Chapter 3-16, *Lighting*, of

the Irvine Zoning Ordinance. The level of lighting on the site shall comply with the requirements of the City's Uniform Security Code.

Condition 3.38 2008 BUILDING AND ENERGY EFFICIENCY STANDARDS (CCR TITLE 24) (PPP 15-2)

Prior to the issuance of a building permit for residential, commercial, or office structures in the Irvine Business Complex, development plans for these structures shall be required to demonstrate that the project meets the 2008 Building and Energy Efficiency Standards. Commonly known as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2008 standards are approximately 15 percent more energy efficient than the 2005 Building and Energy Efficiency Standards. Plans submitted for building permits shall include written notes demonstrating compliance with the 2008 energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high R value) and radiant heat barriers, low-e window glazing, or double-paned windows

Condition 3.39 TITLE 24 CODE CYCLES: NET-ZERO BUILDINGS (PPP 15-3)

The California Public Utilities Commission adopted its Long-term Energy Efficiency Strategic Plan on September 18, 2008, presenting a roadmap for all new residential and commercial construction to achieve a zero-net energy standard. This Plan outlines the goal of reaching zero net energy in residential construction by 2020 and in commercial construction by 2030. Achieving this goal will require increased stringency in each code cycle of California's Energy Code (Title 24).

Condition 3.40 STATE ENERGY INSULATION STANDARDS (PPP 14-5)

The proposed project shall comply with all State Energy Insulation Standards and City of Irvine codes in effect at the time of application for building permits. (Commonly referred to as Title 24, these standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Title 24 covers the use of energy efficient building standards, including ventilation, insulation and construction and the use of energy saving appliances, conditioning systems, water heating, and lighting.) Plans submitted for building permits shall include written notes demonstrating compliance with energy standards and shall be reviewed and approved by the Public Utilities Department prior to issuance of building permits.

Condition 3.41 ULTRA-LOW-FLOW FIXTURES (PDF 15-10)

Prior to the issuance of building permits, applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that toilets, urinals, sinks, showers, and other water fixtures installed on-site are ultra-low-flow water fixtures that exceed the Uniform Plumbing Code. Examples are: 1.28 average gallons per flush high efficiency toilets, 2 gallon per minute (gpm) efficient bathroom faucets, 2.2 gpm efficient kitchen faucets, and 2.2 gpm efficient shower heads.

Condition 3.42 LANDSCAPING AND IRRIGATION SYSTEMS (PDF 15-11)

Prior to the issuance of building permits, applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that landscaping irrigation systems installed in the project are automated, high-efficient irrigation systems that reduce water use, such as an evapotranspiration "smart" weather-based irrigation controller, dual piping for recycled water, and bubbler irrigation; low-angle, low-flow spray heads; moisture sensors; and use of a California-friendly landscape palette. These features will make the project consistent with the intent of the California Water Conservation in Landscaping Act of 2006 (AB 1881), including provisions to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of water.

Condition 3.43 GREEN-POINT RATED DEVELOPMENT (PDF 15-14)

Prior to the issuance of building permits, applicants for new developments in the Irvine Business Complex shall submit evidence to the satisfaction of the Director of Community Development that proposed buildings are designed and construction to be GreenPoint Rated. GreenPoint Rated developments must achieve a minimum of 50 total points and meet the category-specific point thresholds as specified in the current GreenPoint Rated Builder Handbook. Developments that exceed this minimum are rewarded by a higher grade on their projects. The GreenPoint Rated program is updated every three years to coincide with changes to the California Building Energy Efficiency Standards.

Condition 3.44 BIKE RACKS

Prior to the issuance of building permits for the parking garage, the applicant shall demonstrate that bicycle racks are enclosed with a floor to ceiling fence and locked either with an access control system locking device or mechanical door lock (no padlocks).

PRIOR TO FINAL APPROVAL OF COMPLETED WORK AUTHORIZED BY GRADING PERMITS

Standard Condition 3.45 RECORD DRAWINGS – PDF & AUTOCAD

Prior to final approval of a grading, landscaping, or improvement permit, and following final inspection, the applicant shall submit to the City individual PDF files of the drawing and AutoCAD files. The permit number and the words "RECORD DRAWING" shall appear on all of the sheets.

PRIOR TO AUTHORIZATION TO USE, OCCUPY, AND/OR OPERATE

Standard Condition 4.9 EMERGENCY ACCESS INSPECTION

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the Orange County Fire Authority, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes and key switches as depicted on the approved plan.

Condition 4.12 PARKING SURVEILLANCE CAMERA PLAN INSPECTION

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and pass an inspection, to be performed by the Irvine Police Department, to ensure that the project complies with the Parking Surveillance Camera Plan. The inspector shall verify that the cameras capture and store the images of persons and vehicles when entering / exiting the facility.

Condition 4.13 TEMPORARY / FINAL OCCUPANCY INSPECTION

Prior to temporary or final authorization to use, occupy, and/or operate, all OCFA inspections shall be completed to the satisfaction of the OCFA inspector and be in substantial compliance with codes and standards applicable to the project and commensurate with the type of occupancy (temporary or final) requested. Inspections shall be scheduled at least two days in advance by calling OCFA Inspection Scheduling at 714-573-6150.

Condition 4.14 OCFA - HAZARDOUS MATERIALS DISCLOSURE

Prior to authorization to use, occupy, and/or operate, the facility manager or other qualified employee familiar with the chemicals used, handled, or stored at this facility shall complete and submit an OCFA Hazardous Materials Disclosure. The Hazardous Materials Disclosure is available at OCFA headquarters (1 Fire Authority Road, Irvine, CA) or on-line at www.ocfa.org. Contact OCFA Safety and Environmental Services at 714-573-6250 for more information.

Condition 4.15 OCFA – RADIO SYSTEM

Prior to authorization to use, occupy, and/or operate, an emergency responder digital radio system shall be provided in this structure. Refer to CFC 510 and the OCC/OCFA DAS/BDA guidelines (available at www.ocfa.org) for requirements. Evidence of compliance with emergency responder digital radio system design and performance criteria shall be provided.

Condition 4.16 NOISE DISCLOSURE (PDF 9-3)

As described in the proposed zoning for the project, prior to issuance of certificate of occupancy, the project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance.

Condition 4.17 HOTEL OPERATIONS PLAN

Prior to authorization to use, occupy, and/or operate, the applicant shall submit a Hotel Operations Plan to the Community Development Director for review. This plan shall include information pertaining to delivery hours, service of alcohol, types and frequency of special events, etc. Depending on the information presented in the plan, a modification to the approved entitlement or a new entitlement may be required.

MISCELLANEOUS

Standard Condition 6.1 DISCRETIONARY CASE CHARGES

The applicant is responsible for paying all charges related to the processing of this discretionary case application within 30 days of the issuance of the final invoice or prior to the issuance of building permits for this project, whichever occurs first. Failure to pay all charges shall result in delays in the issuance of required permits or may result in the revocation of the approval of this application.

Standard Condition 6.2 LEGAL ACTION – HOLD HARMLESS

In accordance with the provisions of Section 5-5-114 of the Irvine Municipal Code and Government Code Section 66474.9, the applicant shall defend, indemnify, and hold harmless the City of Irvine and its agents, officers, and employees from and against any claim, action, or proceeding against the City agency or its agents, officers, or employees to attack, set aside, void, or annul an approval by the City, including, without limitation, an action by an advisory agency, appeal board, or legislative body concerning this discretionary approval. This defense and indemnification shall include the payment of all legal costs incurred on behalf of the City in connection with the application, and the defense of any claim, action or proceeding challenging the approval. The City will promptly notify the applicant of any claim, action, or proceeding and will cooperate fully in

the defense.

In the event a legal challenge to the discretionary approval is successful, and an award of attorney fees is made to the challenger, the applicant shall be responsible to pay the full amount of such an award.

Condition 6.19 GREENWASTE (REUSED / RECYCLED)

The applicant shall incorporate drought-tolerant, low-waste generating plants into any planned landscaping at the property pursuant to Section 5-7-101 of the Irvine Municipal Code. In addition, the applicant should be encouraged to recycle and compost all generated greenwaste in keeping with the City's Zero Waste Resolution 07-95 and state law.

Condition 6.20 KNOX BOX

The applicant shall provide for emergency access at all public and tenant building entrances by installing a Knox Box or Knox keyswitch, depending upon whether it is a mechanical (box) or electronic lock (keyswitch).

Condition 6.21 ELEVATOR CABS AND LOBBIES

All elevators proposed at the project site shall comply with Section 5-9-518 of the Irvine Security Code. Elevator cabs and lobbies, if enclosed, shall be constructed of glazing, the maximum amount allowed by the Uniform Building Code.

Condition 6.22 UNIFORM SECURITY CODE (PPP 11-5)

The project applicant shall comply with all applicable requirements of the City of Irvine Uniform Security Code.

Condition 6.23 OCFA PLANS

Prior to concealing interior construction, the applicant shall submit to OCFA for review and approval the following plans:

a. Fire Alarm System (Service Codes PR500-PR520)
b. Fire Sprinkler System (Service Codes PR400-PR465)
c. Hood and Duct Extinguishing System (Service Code PR335)

Condition 6.24 OCFA COMPLIANCE (PPP 11-1)

Every project applicant shall comply with all applicable Orange County Fire Authority codes, ordinances, and standard conditions regarding fire prevention and suppression measures relating to water improvement plans, fire hydrants, automatic fire extinguishing

systems, fire access, access gates, combustible construction, water availability, and fire sprinkler systems.

Condition 6.25 MATERIAL RECOVERY

To reduce waste generated in the IBC and encourage recycling of solid wastes, the Orange County Integrated Waste Management Department operates material recovery facilities to recycle glass, plastic, cans, junk mail, paper, cardboard, green waste (e.g., grass, weeds, leaves, branches, yard trimmings, and scrap wood), and scrap metal. Future employees, residents, and customers would participate in these programs. On-site recycling facilities will be required for all commercial, retail, industrial, and multifamily residential developments.

Condition 6.26 UNDERGROUND STORAGE TANKS (PPP 6-1)

If any underground storage tanks (USTs) are encountered during site grading and excavation activities, they shall be removed in accordance with the existing standards and regulations of, and oversight by, the Orange County Health Care Agency (OCHCA), based on compliance authority granted through the California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations. The process for UST removal is detailed in the OCHCA's "Underground Storage Tanks: The Basics." Soil samples from areas where storage tanks have been removed or where soil contamination is suspected shall be analyzed for hydrocarbons including gasoline and diesel in accordance with procedures set forth by OCHCA. If hydrocarbons are identified in the soil, the appropriate response/remedial measures will be implemented as directed by OCHCA with support review from the RWQCB until all specified requirements are satisfied and a Tank Closure Letter is issued. Any aboveground storage tank (AST) in existence at the commencement of site development shall be removed in accordance with all applicable regulations under the oversight of Orange County Fire Authority. Compliance requirements relative to the removal/closure of storage tanks are set forth through the California Health and Safety Code, Sections 25280 through 25299.

Condition 6.27 LEAD EXPOSURE (PPP 6-2)

During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

Condition 6.28 LEAD-BASED PAINT
(PPP 6-4)

Federal law requires compliance with Rule 29 of the Code of Federal Regulations (CFR) Part 1926. Prior to site demolition activities, building materials shall be carefully assessed for the presence of lead-based paint, and its removal, where necessary, must comply with state and federal regulations, including Occupational Safety and Health Administration (OSHA) 29 CFR Part 1926. The OSHA rule establishes standards for occupational health and environmental controls for lead exposure. The standard also includes requirements addressing exposure assessment, methods of compliance, respiratory protection, protective clothing and equipment, hygiene facilities and practices, medical surveillance, medical removal protection, employee information and training, signs, recordkeeping, and observation of monitoring. Furthermore, the requirements of California Code of Regulations, Title 17, Division 1, Chapter 8, identify procedures that must be followed for accreditation, certification, and work practices for lead-based paint and lead hazards. Section 36100 thereof specifically sets forth requirements for lead-based paint abatement in public and residential buildings.

Condition 6.29 ASBESTOS
(PPP 6-5)

Prior to site demolition activities, building materials must be carefully assessed for the presence of asbestos-containing materials (ACM), and removal of this material, where necessary, must comply with state and federal regulations, including SCAQMD Rule 1403, which specifies work practices with the goal of minimizing asbestos emissions during building demolition and renovation activities, including the removal and associated disturbance of ACMs. The requirements for demolition and renovation activities include asbestos surveying; notification; ACM removal procedures and time schedules; ACM handling and cleanup procedures; and storage, disposal, and landfill disposal requirements for asbestos-containing waste materials.

Condition 6.30 HAZARDOUS WASTE
(PPP 6-6)

During site decommissioning and demolition activities, hazardous wastes must be managed in accordance with the requirements of Title 22, Division 4.5 of the California Code of Regulations. Title 22 sets forth the requirements with which hazardous-waste generators, transporters, and owners or operators of treatment, storage, or disposal facilities must comply. These regulations include the requirements for packaging, storage, labeling, reporting, and general management of hazardous waste prior to shipment. In addition, the regulations identify standards applicable to transporters of hazardous waste such as the requirements for transporting shipments of hazardous waste, manifesting, vehicle registration, and emergency accidental discharges during transportation.

Condition 6.31 COMPLIANCE WITH TITLE 8 (PPP 6-7)

During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

Condition 6.32 SOIL CONTAMINATION (PPP 6-8)

Evidence of soil and/or groundwater contamination (e.g., chemical odors, staining) unrelated to above/underground storage tank releases may be encountered during site development. The appropriate agency (e.g., OCHCA, DTSC, or the Regional Water Quality Board) shall be notified if these conditions are encountered during construction or grading activities. With their oversight, an environmental site assessment would be completed and a determination shall be made as to whether a cleanup is required. Cleanup activities would be consistent with all applicable State and local rules, regulations, and laws. A cleanup would not be considered complete until confirmatory samples of soil and/or groundwater reveal levels of contamination below the standards established by the oversight agency. Alternatively, a risk assessment may be prepared for the site to determine that there are no human or environmental risks associated with leaving contamination below specific levels in place. Construction in the impacted area shall not proceed until a “no further action” clearance letter or similar determination is issued by the oversight agency, or until a land use covenant is implemented.

Condition 6.33 DEMOLITION OF HAZARDOUS MATERIALS (PDF 6-3)

As described in the proposed zoning code related to hazardous material standards, individual development sites may have existing facilities, such as underground storage tanks, transformers or clarifiers, that contain hazardous materials. To mitigate any hazardous materials-related impacts related to these facilities, the project applicant shall submit a Site Assessment prior to the City deeming the development application complete. If hazardous materials are identified during the site assessment, the appropriate response/remedial measures will be implement[ed] in accordance with the directives of the Orange County Fire Authority (OCFA), Orange County Health Care Agency (OCHCA) and/or the Regional Water Quality Control Board (RWQCB), as appropriate. If soils are encountered during site development that are suspected of being impacted by hazardous materials, work will be halted and site conditions will be evaluated by a qualified environmental professional. The results of the evaluation will be submitted to OCFA, OCHCA, and/or RWQCB, and the appropriate response/remedial measures will be implemented, as directed by OCFA, OCHCA, RWQCB, or other applicable oversight agencies, until all specified requirements of the oversight agencies are satisfied and a no-further-action status is attained.

Condition 6.34 LAND USE COMPATIBILITY (PDF 8-2)

As described in the proposed zoning code relating to compatibility with surrounding uses, the IBC mixed-use environment is an urbanized area, and land use compatibility issues are expected to occur. Therefore, applications for new residential and/or residential mixed-use development shall submit data, as determined by the Director of Community Development, for the City to evaluate compatibility with surrounding uses with respect to issues including, but not limited to: noise, odors, truck traffic and deliveries, hazardous materials handling/ storage, air emissions, and soil/groundwater contamination. Compatibility with adjacent uses shall be determined through consistency with local, state, and federal regulations including but not limited to the City of Irvine Municipal Code, South Coast Air Quality Management District, Orange County Fire Authority (OCFA), Orange County Health Care Agency (OCHCA) and/or the Regional Water Quality Control Board (RWQCB).

Condition 6.35 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (PDF 11-2)

Utilize the concepts of Crime Prevention through Environmental Design in the design and layout of any project to reduce criminal opportunity and calls for service, as specified in the proposed zoning code.

Condition 6.36 CLICK 2 ENTER (PDF 11-2)

A Click2Enter radio frequency access system shall be installed at any vehicle and pedestrian access point controlled by privacy gates within the project area.

Condition 6.37 COMPACT / MIXED-USE DEVELOPMENT (PDF 15-3)

The California Energy Commission (CEC) considers compact development forms beneficial for minimizing energy consumption that leads to greenhouse gas emissions. In fact, the CEC's report on the connections between land use and climate change identifies density as the project feature most predictive of the number of vehicle trips and vehicle miles traveled (VMT) by project occupants. The project locates additional housing opportunities near major employment and transportation centers. On a regional basis, this Land Use PDF will reduce regional VMT.

Condition 6.38 HIGH RATE OF INTERNAL TRIP CAPTURE (PDF 15-4)

With the inclusion of a mix of land uses including office, commercial, industrial, and residential in the project area, the proposed project significantly reduces trips outside the project area. This reduces trip length and congestion on the local circulation system outside the project area.

Condition 6.39 URBAN INFILL NEAR MULTIPLE TRANSIT MODES (PDF 15-6)

The project would develop high-density housing in an area being served by at least two modes of transit. On March 31, 2008, The iShuttle, which is operated by the City of Irvine and designed for the IBC community, began operating. The shuttle allows residents and employees to have an alternative way to commute to jobs and locations throughout the IBC. The shuttle offers three routes to accommodate residents and employees traveling within the area and to and from the IBC (see Figure 4-2 [of the IBC Vision Plan EIR], The iShuttle Route). Route A connects the Tustin Metrolink Station to the John Wayne Airport via Von Karman Avenue. Route B connects the Tustin Metrolink Station to the heart of the IBC via Jamboree Road and Michelson Drive. Route C is a midday service in the busiest section of the IBC. Therefore, the project would facilitate walking and nonmotor travel to a greater extent than would be the case for similar development in outlying areas without extensive transit availability. In addition, the high-density development would include a greater number of potential residents that could use or engage in alternative modes of travel than in a lower density development on the project site.

Condition 6.40 CONTROL OF CONSTRUCTION HOURS (PPP 9-1)

Section 6-8-205(a), *Control of Construction Hours*, Irvine Municipal Code states: construction activities may occur between 7 a.m. and 7 p.m. Mondays through Fridays, and 9 a.m. and 6 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall lake impact upon the community into consideration. No construction activity will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.

Condition 6.41 HOTLINE FOR COMPLAINTS

During all construction activities, the applicant or developer shall provide a toll free hotline for complaints relating to the construction of the project. The hotline shall be staffed by a live operator who is able to immediately access a construction supervisor who is present at the project site. Prior to the issuance of grading permits, the applicant or developer shall post at least one highly visible sign along the frontage of the site informing the public of the availability of the hotline.

Condition 6.42 ACCESS STUDY RECOMMENDATIONS

The applicant shall be responsible for implementing the recommendations set forth in the April 5, 2017 Access Study by LSA completed for the proposed project. These project design features are specific to the design of the project driveways and the adjacent circulation system.

Condition 6.43 COMPLIANCE WITH ASSOCIATED APPROVALS

The conditions of approval and/or measures found within the following documents shall also apply to the approved Commercial Master Plan:

A. Subdivision Committee Resolution 17-1008, approving Vesting Tentative Parcel Map 2016-139 (File No. 00676670-PTP); and
B. Addendum to the IBC EIR dated June 2017.

PASSED AND ADOPTED by the Planning Commission of the City of Irvine at a regular meeting held on the 15th day of June 2017.

AYES: 0 COMMISSIONERS:

NOES: 0 COMMISSIONERS:

ABSENT: 0 COMMISSIONERS:

ABSTAIN: 0 COMMISSIONERS:

CHAIR OF THE PLANNING
COMMISSION FOR THE CITY OF IRVINE

SECRETARY OF THE PLANNING COMMISSION
FOR THE CITY OF IRVINE

Community Development
1 Civic Center Plaza, Irvine, CA 92606-5208
cityofirvine.org
949-724-6000

May 25, 2017

Kari A. Rigoni, Executive Officer
Airport Land Use Commission for Orange County
3160 Airway Avenue
Costa Mesa, CA 92626

Subject: **Notification of Override Hearing**
The Landmark Project (File 00659728-PMPC) located 18872, 18912 and 18952 MacArthur Blvd. in Planning Area 36 (Irvine Business Complex)

Dear Ms. Rigoni:

This letter serves as notification that the City of Irvine City Council intends to hold a hearing to consider an override of the ALUC findings that the subject project is inconsistent with the Airport Environs Land Use Plans (AELUPs) for John Wayne Airport and for Heliports. The City Council hearing will be held on July 11, 2017. This correspondence, therefore, is being delivered more than 45 days in advance of the hearing.

Draft findings for the override are attached for your consideration. For the City to consider your comments, please respond within 30 days of receipt of this letter (on or before Monday, June 26, 2017). A staff report will be prepared and transmitted to the City Council before the hearing. The staff report has not been prepared at this time; however, a copy will be provided to you electronically when it is finalized.

This advance notification letter has also been mailed to the Caltrans Aeronautics Program Office in Sacramento. If you have any questions or comments, please contact me at 949-724-6375 or via e-mail at sfrady@cityofirvine.org.

Sincerely,

STEPHANIE FRADY, AICP
Senior Planner

Attachment: Draft Findings

cc: Department of Transportation - Division of Aeronautics (MS 40, PO Box 942874, Sacramento, CA 94274-0001)
File: 00659728-PMPC

ec: Sean Cao, Great Far East (sean.cao@greatfareast.com)
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Tim Strader, Starpointe Ventures (tj@starpointeventures.com)
Mark Mispagel (mark@mispagellaw.com)
Lea Choum, Land Use Manager Facilities – JWA (LChoum@ocairp.com)
Tim Gehrich, Deputy Director of Community Development
Joel Belding, Principal Planner

ATTACHMENT 1
DRAFT FINDINGS

SECTION 1. The findings, required by Sections 21670 and 21676 of the Public Utilities Code to override the Airport Land Use Commission determination of inconsistency with the Airport Environs Land Use Plan (AELUP) for John Wayne Airport (JWA), are hereby made as follows:

A. It is in the public interest to (1) provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to (2) promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to (3) prevent the creation of new noise and safety problems.

(1) To provide for the orderly development of JWA and the area surrounding the airport, the Airport Land Use Commission (ALUC) adopted the 2008 AELUP on April 17, 2008. AELUP Section 2.1 sets forth specific standards and criteria for new development, which is based on the continuing operation of JWA as a commercial and general aviation airport. The AELUP standards/criteria guide development proposals to best provide for orderly development within the area surrounding JWA. Specific criteria for consideration include: Aircraft Noise, Safety Compatibility Zones and Building Height Restrictions.

The City's submittal package, dated April 3, 2017, prepared for the ALUC to aid in its review of the proposed Landmark Project, included a discussion of the AELUP standards which are technically met allowing the project to be consistent with the JWA AELUP. Specific compliance with Section 2.1 is described as follows:

a. Aircraft Noise – The Landmark Project is located within the 60 CNEL Contour. However, noise measures set forth in the 2008 IBC Vision Plan Environmental Impact Report will apply to The Landmark project. The measures are as follows:

I. Plans, Programs and Policies (PPP) 9-1 Control of Construction Hours: Construction activities occurring as part of the project shall be subject to the limitations and requirements of Section 6-8-205(a) of the Irvine Municipal Code which states that construction activities may occur between 7:00 AM and 7:00 PM Mondays through Fridays, and 9:00 AM and 6:00 PM on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles, and equipment that are making, or are involved with, material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City

shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity will be permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.

II. PPP 9-2 Acoustical Report: Prior to the issuance of building permits for each structure or tenant improvement other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall show that the development will be sound attenuated against present and projected noise levels, including roadway, aircraft, helicopter and railroad, to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures.

III. Project Design Feature (PDF) 9-2: Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

i. Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
ii. Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
iii. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
iv. Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.

IV. PDF 9-3: As described in the proposed zoning for the project, prior to issuance of certificate of occupancy, the project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are provided to all future tenants pursuant to the City's Noise Ordinance.

V. PDF 9-4: As described in the proposed zoning for the project, residential and active recreational areas shall be prohibited in the 65 dBA CNEL noise contour of the John Wayne Airport. In addition, as described in the proposed zoning for the project, prior to issuance of building permits, the project applicant for any project within the 60 dBA CNEL contour of the John Wayne Airport shall retain an acoustical engineer to prepare an acoustic analysis that identifies required building acoustical improvements (e.g., sound transmission class rated windows, doors, and attic baffling) to achieve the 45 dBA CNEL interior noise standard of Title 21 and Title 24 of the California Building Code. In addition to the 24-hour interior noise standard, the acoustic report shall detail compliance with the City's interior noise standard of 55 dBA Lmax for single-event noise generated by the loudest 10 percent of aircraft overflights at the John Wayne Airport. Parks within the 60 dBA CNEL noise contour shall include signage indicating their proximity to John Wayne Airport and related airport noise. The acoustic analysis shall be submitted to the Director of Community Development to ensure compliance.

b. Safety Compatibility Zones – The Landmark Project is located outside of the JWA Runway Protection Zone as depicted in Appendix D of the AELUP. The ALUC has not adopted an Accident Potential Zone for this airport because none could be justified with available data.

c. Building Height Restrictions – The height of the office and hotel buildings proposed as part of The Landmark Project are below the airport building height restriction as evidenced by FAA Determinations of "No Hazard to Navigation" issued for the project on January 24 and March 10, 2017. The hotel building, at a height of 206 feet above ground level (AGL) / 253 feet above mean sea level (AMSL), and the office building, at a height of 253 feet AGL / 301 feet AMSL, were found to cause no hazard by the FAA.

Specifically, the FAA Determinations state that the Aeronautical Studies prepared for the proposed project:

> "considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact

> on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure[s] when combined with the impact of other existing or proposed structures. Th[ese] stud[ies] disclosed that the described structure[s] would have no substantial adverse effect on air navigation."

In addition to the proposed buildings on the project site, there are several other large buildings within the immediate vicinity. Within the JWA Safety Zone surrounding the airport, there are buildings up to 315 AMSL in height. The proposed Landmark Project would be consistent and compatible with other tall development in the vicinity.

Section 2.1.3 allows the ALUC to "utilize the results of an Aeronautical Study, conducted by the FAA pursuant to FAR Part 77.13, in order to determine if a structure will have an adverse effect on the airport or on aeronautical operations." As stated above, the Aeronautical Studies completed as part of the FAA Determinations for the proposed project found that the project would not have adverse impacts on air navigation.

Finally, the April 20th ALUC agenda report states that the hotel penetrates the 206 foot AMSL horizontal surface for JWA by 47 feet and the office building by 95 feet. There is a provision to allow such penetration, via a purchase of air rights from the County of Orange.

(2) The City of Irvine requires that all development proposals meet the City's noise standards of 45 dB CNEL for the interior of buildings classified as belonging to Noise Zone 1 in the Irvine Municipal Code (Section 6-8-204(A)(2)), which is consistent with the standards established to promote the overall goals and objectives of the California airport noise standards.

As discussed above, several measures related to noise impacts are identified for the proposed project. The project proponent will be tasked with demonstrating compliance with each measure prior to the issuance of building permits. Through implementation of the City's Noise Ordinance standards, the project will meet AELUP standards for California airport noise.

(3) The standards set forth in Section 2.1 of the AELUP were adopted to prevent the creation of new noise and safety problems within the vicinity of JWA. The Landmark Project complies with the standards/criteria established in Section 2.1 (Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions), as discussed previously. By requiring project adherence to the established standards in the AELUP, the City has taken measures to assure that risks to people and property on the ground, as well as to the occupants of aircraft, are held to a minimum.

B. It is the purpose of Chapter 3.5 of the State Aeronautics Act to (4) protect the public health, safety and welfare by ensuring the orderly expansion of airports and the (5) adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

(4) The AELUP is based upon the continuing operation of JWA as a commercial and general aviation airport facility. The ALUC's authority to formulate land use plans is embodied in the JWA AELUP, which includes criteria in Section 2.1 to protect the public health, safety and welfare by ensuring the orderly expansion of airports. The proposed Landmark Project meets the criteria set forth in AELUP Section 2.1 related to Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions, as discussed previously.

(5) The standards/criteria set forth in Section 2.1 of the AELUP were adopted by the ALUC to minimize the public's exposure to excessive noise and safety hazards. The proposed Landmark Project will be conditioned to require:

a. sound attenuation of noise impacts to meet City and California airport minimum standards,
b. "Notice of Airport in Vicinity" to future hotel guests and office tenants,
c. obstruction lighting and marking consistent with FAA Advisory Circular 70-7460-1,
d. outdoor signage depicting the presence of operating aircraft in public spaces on the project site, and
e. an encroachment permit from the County of Orange for construction activities which will pierce the horizontal surface limit for JWA, set at 206 feet AMSL.

C. Based upon these findings, the City Council does hereby override ALUC's decision finding that the Landmark Project is incompatible with the AELUP for JWA.

SECTION 2. The Airport Land Use Commission determined that the project is also inconsistent with the AELUP for Heliports. The Irvine City Council finds as follows:

A. The ALUC found the proposed Landmark Project to be inconsistent with Section 1.2 of the AELUP for Heliports. This section specifically states that the AELUP "intends to safeguard the general welfare of the inhabitants within the vicinities of heliports by reviewing proposed heliport sites to determine if the proposed site is compatible with adjacent existing or proposed uses."

As there are no heliports proposed as part of The Landmark Project, the City Council hereby finds that Section 1.2 of the AELUP for Heliports does not apply and, therefore, overrides this specific finding of inconsistency.

Furthermore, in the April 20, 2017 ALUC agenda report, it is stated that helicopter operations are part of JWA general aviation operations of the proposed project site. While it may be accurate that helicopters currently fly over the project site, there was no evidence provided to show that this is a specific flight path set for helicopters; they may pursue other routes should the project be constructed.

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S. #40
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Making Conservation a California Way of Life.

June 15, 2017

Ms. Stephanie Frady, AICP, Senior Planner
City of Irvine
Community Development
1 Civic Center Plaza
Irvine, CA 92606-5208

Dear Ms. Frady:

One of the goals of the California Department of Transportation (Caltrans), Division of Aeronautics (Division), is to assist cities, counties, and Airport Land Use Commissions (ALUC) in the development and implementation of policies that protect the safety and general welfare of their communities in which aeronautical activities take place. We encourage collaboration with our partners in the planning process and thank you for including us in the review of the proposed overrule of the Orange County ALUC for the John Wayne Airport (JWA).

On June 1, 2017, the Division received a notification letter from the city of Irvine (City) regarding a proposed overrule for the proposed Landmark Project (Project). The location of the proposed Project is 18872, 18912, and 18952 MacArthur Boulevard, Irvine, California.

On April 20, 2017, the proposed Project was found by the ALUC to be inconsistent with the current Airport Environs Land Use Plans (AELUP) for John Wayne Airport and for Heliports. Both of these AELUPs were amended in 2008. The proposed Project was primarily deemed inconsistent with the AELUP for JWA, sections 1.2 and 2.1.4, and the California Public Utilities Code (PUC), sections 21674 (a) and (b). This is due specifically to the proposed Project's construction of an office building at 301 feet Above Mean Sea Level (AMSL) and a hotel at 253 feet AMSL. Although the FAA concluded that these proposed buildings are an Obstruction but not a Hazard to Air Navigation, the ALUC recommends that the structures' heights be reduced to below 206 feet AMSL, including all rooftop equipment and/or architectural details. For the safe operation of General Aviation (GA) air traffic at JWA, the airspace above 206 feet AMSL needs to be reserved for air navigation. This is in accordance with the AELUP for JWA, section 2.1.3 pages 13-14:

> A Determination of No Hazard to Air Navigation does not automatically equate to a Consistency determination by the ALUC. The FAA may also conclude in their aeronautical study that a project is an Obstruction but not a Hazard to Air Navigation. The Commission may find a project Inconsistent based on an Obstruction determination. The commission may utilize criteria for protecting aircraft traffic patterns at individual airports which may differ from those contained in FAR Part 77, should evidence of health, welfare, or air safety surface sufficient to justify such an action.

ATTACHMENT 4 TO CC REPORT DATED 7/11/17

The Division has reviewed the proposed findings provided by the City and has **determined the findings are insufficient to warrant this proposed overrule.** Specifically, the findings are not consistent with the purposes of the statutes set forth in PUC, section 21670. These findings do not provide substantial evidence that the proposed Project will meet the requirements of PUC, section 21670(a) (1) and (2).

The Division agrees with the ALUC that the proposed Project is inconsistent with the current adopted AELUP for JWA. Specifically, the Division shares very serious concerns regarding safety due to the proposed heights of both the office building at 301 feet AMSL and the hotel at 253 feet AMSL. The Division agrees with both the ALUC and JWA (in a letter to the Orange County Planning Commission dated June 13, 2017) that although the FAA has concluded the proposed Project is an Obstruction but not a Hazard to Air Navigation, there are still significant risks associated with the proposed heights of the office building and hotel. Both the ALUC and JWA cited statistical data that the proposed office building and hotel would significantly penetrate the Federal Aviation Regulation Part 77 "imaginary Horizontal Surfaces" resulting in substantial safety risks due to the GA flight patterns at JWA. The Division also agrees with the ALUC and JWA that for the safe operation of GA air traffic, the airspace above 206 feet AMSL needs to be reserved for air navigation.

Please note: The Division comments are to be included in the public record of any decision to overrule the ALUC.

If you have questions or we may be of further assistance, please contact me at (916) 654-5203 or via email at tony.sordello@dot.ca.gov.

Sincerely,

Tony Sordello

TONY SORDELLO
Aviation Planner

c: Ms. Kari A. Rigoni, Executive Officer, Orange County Airport Land Use Commission, 3160 Airway Avenue, Costa Mesa, CA 92626-4608

AIRPORT LAND USE COMMISSION
FOR ORANGE COUNTY
3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

June 26, 2017

Stephanie Frady, Senior Planner
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5208

SUBJECT: Response to City of Irvine Intent to Overrule Inconsistency Determination for Landmark Project

Dear Ms. Frady:

We are in receipt of the City of Irvine's letter and Draft findings dated May 25, 2017 notifying the Airport Land Use Commission (ALUC) for Orange County of the City's intent to overrule the ALUC's Inconsistency determination on the Landmark Project. In accordance with Section 21676 of the California Public Utilities Code, the ALUC submits the following comments addressing the proposed overrule findings for the above-referenced project.

Background:

On April 20, 2017 the Airport Land Use Commission (ALUC) for Orange County found the proposed Landmark Project Inconsistent with the *Airport Environs Land Use Plans (AELUPs) for John Wayne Airport (JWA)* and *Heliports* based on the following:

1. That the proposed Landmark Project is Inconsistent with the *AELUP for JWA* per *AELUP* Sections 1.2 and 2.1.4, and PUC Section 21674 which state that the Commission is charged by PUC Section 21674(a) "to assist local agencies in ensuring compatible land uses in the vicinity of ...existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses," and PUC Section 21674(b) "to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety and welfare."

2. That the proposed Landmark Project is Inconsistent with the *AELUP for Heliports* per Section 1.2 which states that the *AELUP* seeks to protect the public from the adverse effects of aircraft noise, to ensure that sites are not proposed for locations where people

and facilities are concentrated, and to ensure that structures or activities in the area would not adversely affect the navigable airspace.

Comments on the City's Section 1A (c) Finding:

Section 1A(c) discusses building height restrictions and the Federal Aviation Administration (FAA) determination of No Hazard to Air Navigation for the proposed office building and hotel.

The ALUC did not concur with the FAA Determinations of No Hazard issued for the proposed project. As stated in Section 2.1.3 of the *AELUP for JWA*, a Determination of No Hazard to Air Navigation does not automatically equate to a Consistency determination by the ALUC. The FAA concluded in its aeronautical study that the proposed Landmark project is an Obstruction but not a Hazard to Air Navigation. The Commission may find a project Inconsistent based on an Obstruction determination and may utilize criteria for protecting aircraft traffic patterns at individual airports which may differ from those contained in Federal Aviation Regulation (FAR) Part 77, should evidence of health, welfare, or air safety surface sufficient to justify such an action and as noted below (*JWA AELUP* Section 2.1.3).

The project applicant has proposed a building height of 301 feet above mean sea level (AMSL) for the office tower. The proposed height would exceed obstruction standards of Title 14 of FAR Part 77, by 95 feet for the JWA horizontal surface of 206 feet AMSL. The hotel is proposed at 253 feet AMSL, and exceeds the FAR Part 77 obstruction standards for the JWA horizontal surface by 47 feet. The airspace above 206 feet AMSL is reserved for air navigation.

The City's finding also points out that the FAA determinations disclosed that the described structures would have no substantial adverse effect on air navigation. To demonstrate the potential impacts to air navigation and the safety concerns related to the proposed building heights we have included flight track information above the proposed project site. The exhibits (attached and provided by JWA) show general aviation (GA) operations for Saturday, December 10, 2016, as well as for Tuesday, March 28, 2017 and Saturday, April 1, 2017. The March and April operational fight tracks have corresponding print-outs listing each flight, the time of day and elevation above the proposed project site. On both days, there were flights flying low, between 305 feet and 500 feet. With the proposed building heights of 253 feet AMSL and 301 feet AMSL, the buildings will be in close proximity to airspace used by general aviation aircraft that fly within the general traffic pattern consistently throughout the day. The flight track information suggests it would be prudent to reduce the proposed project building heights. Building the proposed office building project to 301 feet AMSL and the proposed hotel to 253 feet AMSL may impact flight patterns for existing GA operations at JWA and potentially cause safety concerns for aircraft and structures within that airspace.

To ensure the safe operation of JWA, the ALUC recommends that the structure heights be reduced to below 206 feet AMSL, including all rooftop equipment and/or architectural details. For the safe operation of General Aviation air traffic, the airspace above 206 feet AMSL needs to be reserved for air navigation.

In a letter from the California Department of Transportation (Caltrans) Division of Aeronautics dated June 15, 2017 to the City of Irvine, it states:

> "The Division agrees with the ALUC that the proposed Project is inconsistent with the current adopted *AELUP for JWA*. Specifically, the Division shares very serious concerns regarding safety due to the proposed heights of both the office building at 301 feet AMSL and the hotel at 253 feet AMSL. The Division agrees with both the ALUC and JWA (in a letter to the City of Irvine Planning Commission dated June 13, 2017) that although the FAA has concluded that proposed Project is an Obstruction but not a Hazard to Air Navigation, there are still significant risks associated with the proposed heights of the office building and hotel. Both the ALUC and JWA cited statistical data that the proposed office building and hotel would significantly penetrate the FAR Part 77 imaginary horizontal surfaces resulting in substantial safety risks due to the GA flight patterns at JWA. The Division also agrees with the ALUC and JWA that for the safe operation of GA air traffic, the airspace above 206 feet AMSL needs to be reserved for air navigation."

Section 1A (c) also points out that there are several other large buildings surrounding the airport. Some buildings are 315 feet AMSL in height. The finding states that the Landmark Project would be consistent and compatible with other tall development in the vicinity. Please be aware that other tall buildings were found by the ALUC to be Inconsistent with the *AELUP for JWA*, but have gone through the overrule process and received local approvals in the past. Those approvals disregarded the JWA general aviation air traffic pattern, and in some cases caused approach/departure procedures for general aviation operations to be modified. The cumulative effect of more tall buildings may cause additional approach/departure modifications and lead to an unsafe operating environment for general aviation aircraft.

The City's findings also note that there is a provision to allow penetration of JWA airspace above 206 feet AMSL via a purchase of air rights from the County of Orange. Please be advised that any such proposal to purchase airspace may or may not be approved by the Orange County Board of Supervisors.

Comments on the City's Section 1B (4) Finding:

Section 1B (4) states that the proposed Landmark Project meets the criteria set forth in *AELUP* Section 2.1 related to Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions. The proposed project does not meet the criteria related to building height restrictions as set forth in *AELUP* Section 2.1.3. Page 14 of the *JWA AELUP* states that the Commission review of individual cases will be guided by FAA FAR Part 77. The proposed project penetrates the FAR Part 77 Obstruction Imaginary Surfaces for JWA. The horizontal surface for JWA is 206 feet AMSL. The airspace above 206 feet AMSL is reserved for air navigation. The proposed office and hotel uses surpass the horizontal surface by 95 feet and 47 feet respectively. To be consistent with the *AELUP* the structure heights should be reduced to below 206 feet AMSL.

In addition, per *JWA AELUP* Section 3.2.6, any object, which by reason of its height or location would interfere with the established, or planned, airport flight procedures, patterns, or navigational systems, is unacceptable to the Commission. As shown in the attached flight track exhibits, general aviation aircraft fly at 305 feet to 500 feet. Building the proposed project could interfere with the general aviation traffic pattern and cause safety concerns for aircraft and structures within that airspace.

Section 1B.(5)e. of the City's findings states that the project would be conditioned to require "an encroachment permit from the County of Orange for construction activities which will pierce the horizontal surface limit for JWA, set at 206 feet AMSL." As noted earlier, this project would require developer purchase of County airspace, not merely an encroachment permit.

Comments on Section 2A Finding:

The City's Section 2A finding discusses that the ALUC found the proposed Landmark Project to be inconsistent with Section 1.2 of the *AELUP for Heliports*. This section specifically states that the *AELUP* intends to safeguard the general welfare of the inhabitant within the vicinities of heliports by reviewing proposed heliport sites to determine if the proposed site is compatible with adjacent existing or proposed uses. Section 1.2 further goes on to say that,

> "Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that sites are not proposed for locations where people and facilities are concentrated, and to ensure that structures or activities in the area would not adversely affect the navigable airspace. The implementation of this plan will help forestall urban encroachment on heliports and will allow for their continued operation...[underlining added]"

The *AELUP for Heliports* does consider the placement of structures and activities and their impacts on navigable airspace and not just the siting of heliports themselves. When reviewing proposed development projects, the ALUC considers existing helicopter flight tracks and whether proposed developments would impact helicopter traffic patterns.

Additional Comments:

Please be advised that California Public Utilities Code Section 21678 states: "With respect to a publicly owned airport that a public agency does not operate, if the public agency pursuant to Section 21676, 21676.5, or 21677 overrules a commission's action or recommendation, the operator of the airport shall be immune from liability for damages to property or personal injury caused by or resulting directly or indirectly from the public agency's decision to overrule the commission's action or recommendation."

Also, please be advised that California Business & Professions Code Section 11010 requires the following statement to be included on sale/lease disclosure documents for developments within an ALUC's "Airport Influence Area:"

"NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (For example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you."

As stated in the *JWA AELUP*, the ALUC also has the responsibility to consider the broader perspective in matters affecting the public's well-being and the viability of public aviation facilities. The ALUC accomplishes these overall goals by applying its discretion to evaluate individual projects based upon a wide range of facts gathered through public testimony and Commissioners' knowledge, in addition to informative analysis provided by staff.

We urge the City Council of the City of Irvine to take all these comments into consideration in its deliberations prior to deciding whether to overrule the ALUC. Thank you for the opportunity to provide these comments.

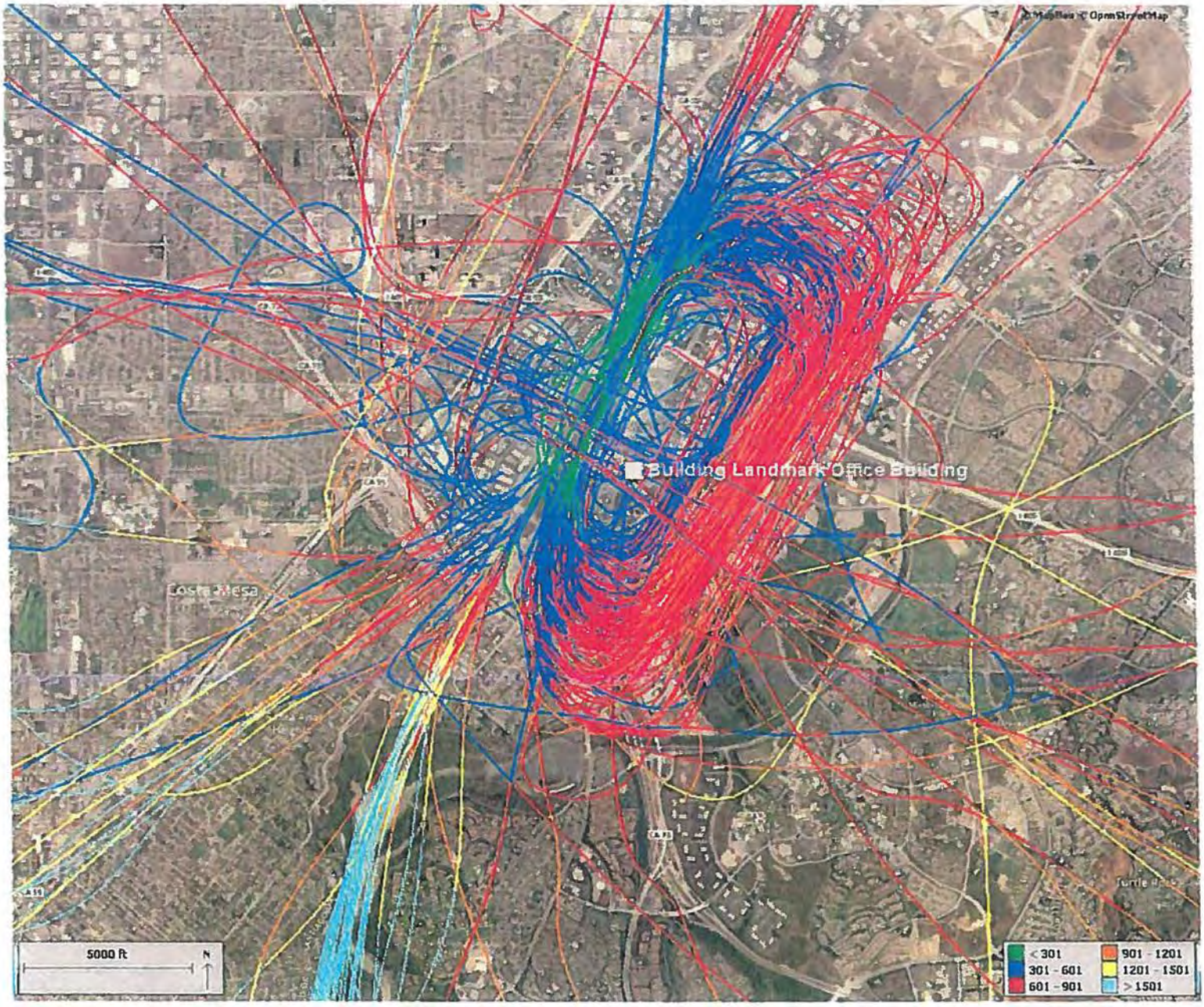
Sincerely,

Gerald A. Bresnahan
Chairman

Attached: Flight track information above proposed project site

cc: Members of the Airport Land Use Commission for Orange County
City of Irvine, Members of City Council
Barry R. Rondinella, Director, John Wayne Airport
Tony Sordello, Caltrans/Division of Aeronautics

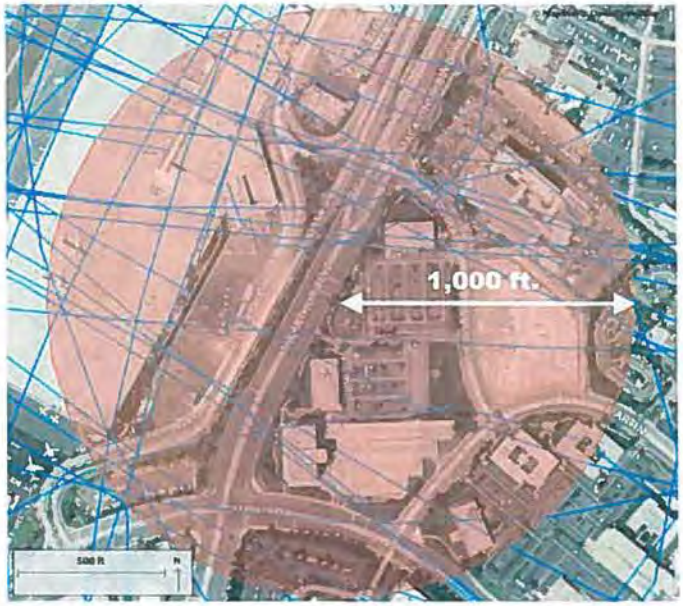
John Wayne Airport Access and Noise Office
JWA General Aviation Operations | Arrivals & Departures
Saturday, December 10, 2016 | Low Volume Day
Building Landmark Office Building



John Wayne Airport Access and Noise Office
JWA General Aviation Operations
Tuesday, March 28, 2017
Building Landmark Hotel







Building Landmark Hotel

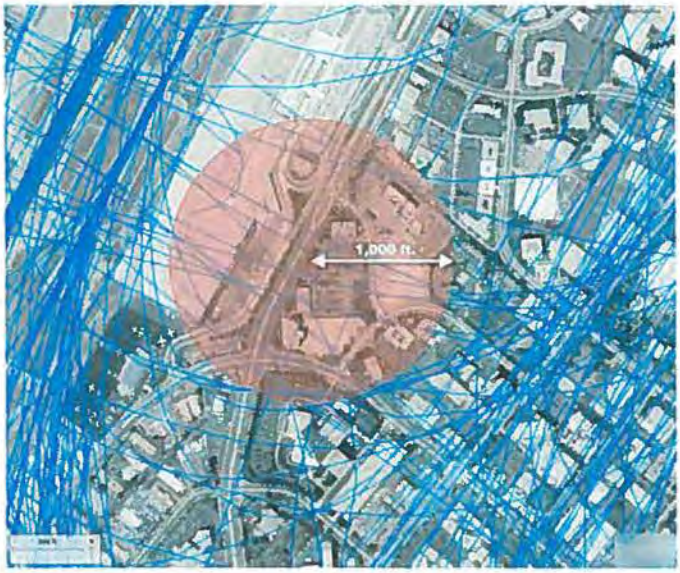
Flight Track & Altitude Analysis | March 28, 2017

Coordinates: Latitude: 33-40-25.17N | Longitude: 117-51-45.64W

Actual Date/Time	Flight No	Aircraft Type	Aircraft Category	Altitude (ft) MSL
3/28/2017 07:17	UNKNOWN	UNKN	UNKN	701
3/28/2017 08:32	PV8062H	R22	Heli	604
3/28/2017 09:29	UNKNOWN	UNKN	UNKN	701
3/28/2017 09:32	UNKNOWN	UNKN	UNKN	749
3/28/2017 09:39	UNKNOWN	UNKN	UNKN	463
3/28/2017 10:04	PV25FG	P68	Prop	1,103
3/28/2017 10:10	UNKNOWN	UNKN	UNKN	717
3/28/2017 11:03	PV25FG	P68	Prop	740
3/28/2017 11:28	UNKNOWN	UNKN	UNKN	502
3/28/2017 11:49	PV8062H	R22	Heli	899
3/28/2017 12:39	PV146SB	SR22	Prop	1,985
3/28/2017 13:01	UNKNOWN	C152	Prop	1,292
3/28/2017 13:07	UNKNOWN	UNKN	UNKN	599
3/28/2017 13:55	PV241BM	EVSS	UNKN	1,271
3/28/2017 14:37	UNKNOWN	UNKN	UNKN	667
3/28/2017 14:38	PV5364K	C172	Prop	1,279
3/28/2017 14:51	UNKNOWN	UNKN	UNKN	505
3/28/2017 15:52	UNKNOWN	UNKN	UNKN	628
3/28/2017 15:57	UNKNOWN	UNKN	UNKN	587
3/28/2017 16:09	UNKNOWN	UNKN	UNKN	683
3/28/2017 16:10	UNKNOWN	UNKN	UNKN	638
3/28/2017 16:52	UNKNOWN	UNKN	UNKN	494
3/28/2017 17:13	UNKNOWN	UNKN	UNKN	700
3/28/2017 17:36	PV42GH	HELO	Heli	317
3/28/2017 17:49	PV236MA	DA40	Prop	1,053
3/28/2017 18:12	PV143AL	XL2	UNKN	1,233
3/28/2017 18:21	PV84347	C172	Prop	1,407
3/28/2017 18:29	UNKNOWN	UNKN	UNKN	384
3/28/2017 19:32	UNKNOWN	UNKN	UNKN	631
3/28/2017 22:46	UNKNOWN	UNKN	UNKN	436

John Wayne Airport Access and Noise Office
JWA General Aviation Operations
Saturday, April 1, 2017
Building Landmark Hotel







Building Landmark Hotel

Flight Track & Altitude Analysis | April 1, 2017

Coordinates: Latitude: 33-40-25.17N | Longitude: 117-51-45.64W

Actual Date/Time	Flight No	Aircraft Type	Aircraft Category	Altitude (ft) MSL
4/1/2017 11:53	PV484HR	C182	Prop	846
4/1/2017 12:56	PV2NS	PA31	Prop	367
4/1/2017 14:28	PV148DW	C206	Prop	949
4/1/2017 15:55	PV7257P	C172	Prop	786
4/1/2017 12:17	PV9282Q	BE55	Prop	1,134
4/1/2017 08:37	PV98UA	P28A	Prop	925
4/1/2017 09:54	PV6832D	C175	Prop	1,096
4/1/2017 11:14	UNKNOWN	UNKN	UNKN	702
4/1/2017 11:32	PV184SD	AS50	Heli	804
4/1/2017 12:28	UNKNOWN	UNKN	UNKN	1,434
4/1/2017 12:09	UNKNOWN	UNKN	UNKN	937
4/1/2017 12:49	UNKNOWN	UNKN	UNKN	377
4/1/2017 13:14	PV4665B	C152	Prop	1,341
4/1/2017 13:30	PV535C	M20P	Prop	1,201
4/1/2017 13:37	PV901Z	PTS1	Prop	987
4/1/2017 13:37	UNKNOWN	UNKN	UNKN	384
4/1/2017 16:09	UNKNOWN	UNKN	UNKN	814
4/1/2017 16:44	PV204LP	BE33	Prop	1,180
4/1/2017 16:53	PV96808	C172	Prop	1,428
4/1/2017 17:00	UNKNOWN	UNKN	UNKN	305
4/1/2017 17:07	UNKNOWN	UNKN	UNKN	693
4/1/2017 17:16	PV313BC	J3	Prop	607
4/1/2017 17:32	UNKNOWN	UNKN	UNKN	462
4/1/2017 17:38	PV558CD	SR22	Prop	1,224
4/2/2017 00:54	PV184SD	AS50	Heli	499

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: JULY 25, 2017

TITLE: CITY COUNCIL OVERRIDE OF INCONSISTENCY DETERMINATION BY THE AIRPORT LAND USE COMMISSION OF ORANGE COUNTY

Director of Community Development

City Manager

RECOMMENDED ACTION

1. Receive staff report.
2. Reopen the public hearing, receive public input.
3. Close the public hearing.
4. City Council comments and questions.
5. ADOPT CITY COUNCIL RESOLUTION 17-XX – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING FINDINGS TO OVERRIDE THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY INCONSISTENCY DETERMINATION FOR THE LANDMARK PROJECT LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX); FILED BY GREAT FAR EAST, LLC

EXECUTIVE SUMMARY

On July 11, 2017, the City Council opened a public hearing related to a request by the applicant to override a decision made by the Airport Land Use Commission (ALUC) for Orange County on a proposed development project in the City (Attachment 1). Specifically, the ALUC found the project to be inconsistent with the Airport Environs Land Use Plan (ALEUP) for John Wayne Airport (JWA). The project is The Landmark, a mixed-use commercial development that includes a 15-story, 386-room hotel and a 15-story office building, located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36, the Irvine Business Complex (IBC).

The City Council was tasked to determine whether it finds that the proposed project is in compliance with the AELUP, thereby overriding the decision of the ALUC. For a project to be in compliance with the AELUP, it must be consistent with the orderly development of the public use airport and the area surrounding the airport so as to promote the overall goals and objectives of the California airport noise standards and to prevent the creation of new noise and safety problems. Based on the Federal Aviation

Administration's (FAA) determination, aviation flight data and projected mitigations, a determination can be made that The Landmark Project complies with the AELUP.

At the conclusion of the hearing, the Council voted to continue the item to the July 25 meeting, requesting more information and additional time to study the project.

An updated City Council Resolution is included as Attachment 5. Updates to the resolution include new recitals pertaining to the July 11 hearing as well as a correction to a letter referenced on page 7 of the resolution.

ANALYSIS

The ALUC for Orange County determined that the proposed project is inconsistent with the AELUP for JWA. The determination was based upon the fact that the hotel and office buildings exceed the horizontal surface for the airport, established at 206 feet above mean sea level (AMSL), and the daily tracks show that aircraft flew at elevations ranging from 305 to 1,428 feet AMSL, with an average height of 860 feet AMSL for the day surveyed. Therefore, in the opinion of the ALUC, the project poses a safety hazard.

Staff finds that there is substantial evidence on the record to support the requested override of the ALUC's finding of inconsistency.

1. The FAA's determination "considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure[s] when combined with the impact of other existing or proposed structures. Th[ese] stud[ies] disclosed that the described structure[s] would have no substantial adverse effect on air navigation."

2. The Irvine City Council and Planning Commission have reviewed the general aviation flight tracks that were provided in a letter from ALUC dated June 26, 2017. These diagrams show a limited number of general aviation aircraft (helicopters and propeller planes) that fly over the site based on a daily survey performed. The daily tracks show that aircraft flew at elevations ranging from 305 to 1,428 feet AMSL, with an average height of 860 feet AMSL for the day surveyed. The office building measures 301 feet AMSL, so the average flight path is at a substantially higher elevation than the project site. The flight tracks show that the flight path for general aviation aircraft using Runway 2 at JWA is located to the east, away from the project site. Additionally, the Landmark Project is not located within established flight paths associated with approach or departure from JWA.

3. In addition to the proposed buildings on the project site, there are several other large buildings within the immediate vicinity. Within the JWA Safety Zone surrounding the airport, there are buildings up to 315 AMSL in height. The proposed Landmark Project would be consistent and compatible with other tall structures in the vicinity that have not presented any hazards to flight operations.

4. Lastly, conditions of approval for the development will ensure that all potential noise impacts on the project are appropriately mitigated and a glare study for all potentially reflective elements of the project will be prepared as a further precaution and protection for commercial and general aviation. In addition to these conditions, Orange County Fire Authority (OCFA) has reviewed the proposed project for compliance with its requirements. OCFA has imposed a number of standard conditions, such as the provision of on-site fire protection access easements and providing an on-site emergency responder digital radio system to ensure adequate fire safety measures are in place.

At the July 11, 2017 public hearing, the City Council requested additional information:

A. Request for staff to provide the FAA Determinations of No Hazard to Air Navigation issued for the hotel and office buildings. These documents are included as Attachment 2. There are several documents for both the hotel and the office because each determination is based upon the exact height of each corner of the building.

B. Request for staff to provide the text of Public Utilities Code Sections 21670, 21676(b) and 21676.5, which address override procedures. This document is included as Attachment 3.

C. Clarification of the difference between an obstruction and a hazard. Staff provides the following response.

   Federal Regulation Title 14 Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace,* establishes standards for objects affecting navigable airspace. Part 77 includes the following definitions:

   An obstruction is any construction on, or alteration of, existing land use that: (1) exceeds 200 feet Above Ground Level (AGL) at its site; or (2) exceeds the height of "imaginary surfaces" which slope up to 20,000 feet beyond the nearest point on the nearest runway longer than 3,200 feet in actual length. The impacts of an obstruction can be satisfactorily mitigated through lighting and marking to ensure that pilots are adequately made aware of its existence. The FAA must be notified in advance of any new structure or alteration of existing structure that falls within those parameters.

A hazard is an obstruction that also impacts arrivals, departures or *en route* procedures; air traffic capacity and/or preexisting development plans at public use airports; and/or affects the operation or efficiency of navigational aids.

As the two buildings of The Landmark Project are considered obstructions, appropriate measures requiring lighting and marking per FAA Advisory Circular 70/7460-1, *Obstruction Marking and Lighting*, were previously applied to the project by the Planning Commission as a condition of approval for the Commercial Master Plan.

In addition to the requested information, the applicant has provided a summary of relevant statutes and court decisions related to federal preemption of Airport Land Use Commission safety concerns, which is included as Attachment 4.

Based upon the technical information and the FAA determinations, staff has determined that the override is justifiable and recommends the City Council approve the request based upon the substantial evidence that this project poses no safety hazards for JWA flight operations.

Correspondence

On July 20, 2017, staff received a follow-up letter from ALUC staff. This letter responds to a number of questions and comments made at the July 11 City Council hearing and is included as Attachment 6.

REPORT PREPARED BY: Stephanie Frady, Senior Planner

ATTACHMENTS

Attachment 1:	City Council Agenda Report Dated July 11, 2017 (without Attachment 5)
Attachment 2:	FAA Determinations of No Hazard to Air Navigation
Attachment 3:	Text of Public Utilities Code Sections 21670, 21676(b) and 21676.5
Attachment 4:	Compendium of Statutes and Regulations
Attachment 5:	City Council Resolution 17-XX
Attachment 6:	Correspondence from ALUC staff dated July 20, 2017

cc: Sean Cao, Great Far East (via email: sean.cao@greatfareast.com)
Hope Fazio, Great Far East (via email: hope.fazio@greatfareast.com)
Tim Strader, Starpointe Ventures (via email: tj@starpointeventures.com)
Kari Rigoni, Airport Land Use Commission (via email: KRigoni@ocair.com)
Lea Choum, John Wayne Airport (via email: LChoum@ocair.com)
Joel Belding, Principal Planner
File: 00659728-PMPC

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5171-OE

Issued Date: 03/10/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Office Building
Location:	Irvine, CA
Latitude:	33-40-23.46N NAD 83
Longitude:	117-51-44.00W
Heights:	48 feet site elevation (SE)
	253 feet above ground level (AGL)
	301 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

ATTACHMENT 2 TO CC REPORT DATED 7/25/17

Any height exceeding 253 feet above ground level (301 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 09/10/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 09, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on April 19, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5171-OE.

Signature Control No: 294326385-325067374 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2016-AWP-5171-OE

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 253-foot above ground level (agl)/301-foot above mean sea level (amsl) Office Building Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.34 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Office Building Structure 48 feet amsl.

The sponsor has voluntarily lowered the structure height from the originally filed proposal to not exceed 301 feet amsl and provided 1A certified surveys of the structure latitude/longitude corner points and site elevations, in order to mitigate any adverse effect upon instrument procedural operations at SNA.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.17(a)(2) by 45 feet, a height more than 200 feet above the SNA Field Elevation within 3 nautical miles of the airport reference point.

Section 77.19(a) by 95 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange agrees to negotiate this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

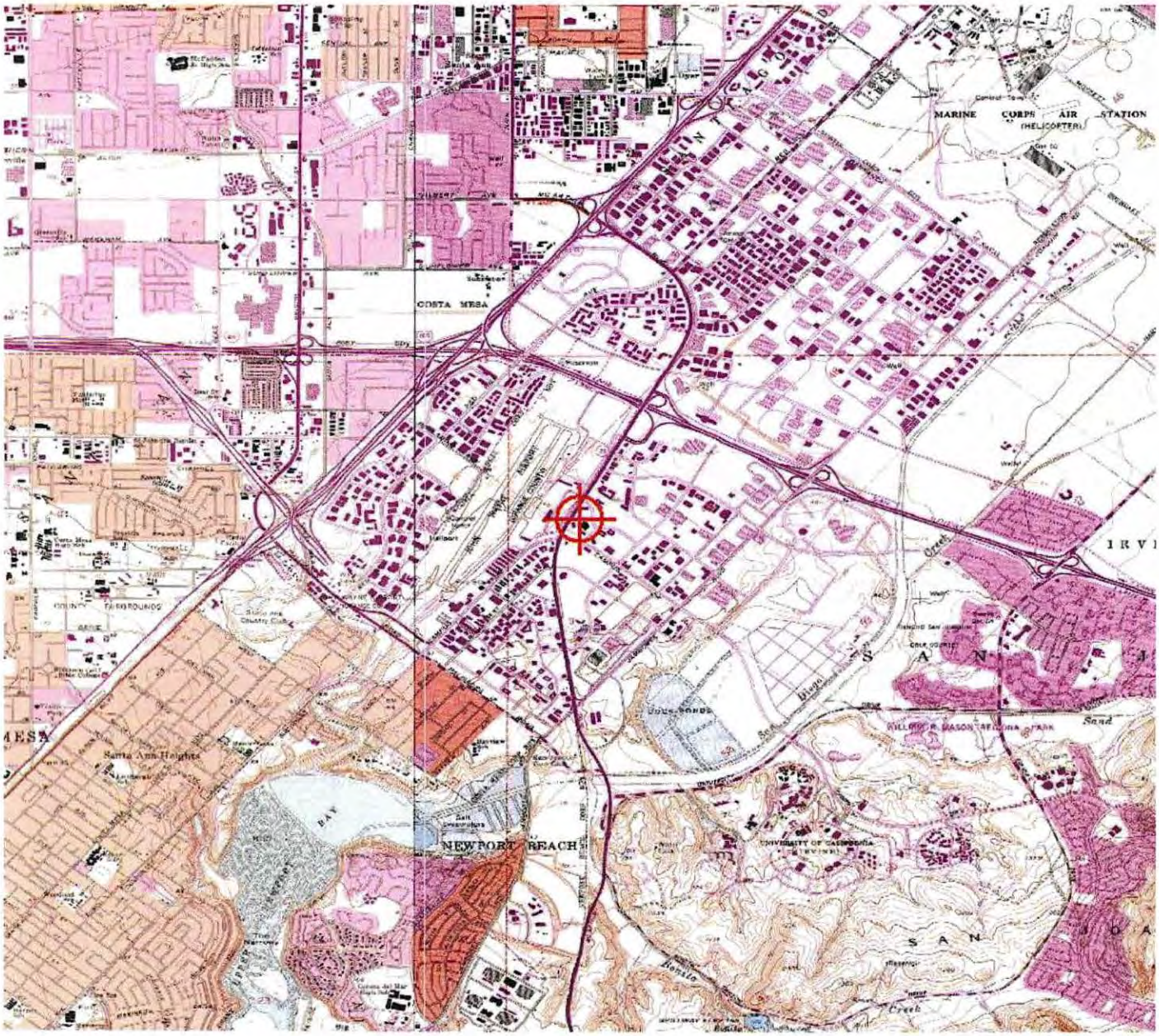
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5171-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5172-OE

Issued Date: 03/10/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Office Building
Location:	Irvine, CA
Latitude:	33-40-23.57N NAD 83
Longitude:	117-51-41.49W
Heights:	48 feet site elevation (SE)
	253 feet above ground level (AGL)
	301 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 253 feet above ground level (301 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 09/10/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 09, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on April 19, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5172-OE.

Signature Control No: 294326386-325067372 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2016-AWP-5172-OE

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 253-foot above ground level (agl)/301-foot above mean sea level (amsl) Office Building Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.34 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Office Building Structure 48 feet amsl.

The sponsor has voluntarily lowered the structure height from the originally filed proposal to not exceed 301 feet amsl and provided 1A certified surveys of the structure latitude/longitude corner points and site elevations, in order to mitigate any adverse effect upon instrument procedural operations at SNA.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.17(a)(2) by 45 feet, a height more than 200 feet above the SNA Field Elevation within 3 nautical miles of the airport reference point.

Section 77.19(a) by 95 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange agrees to negotiate this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

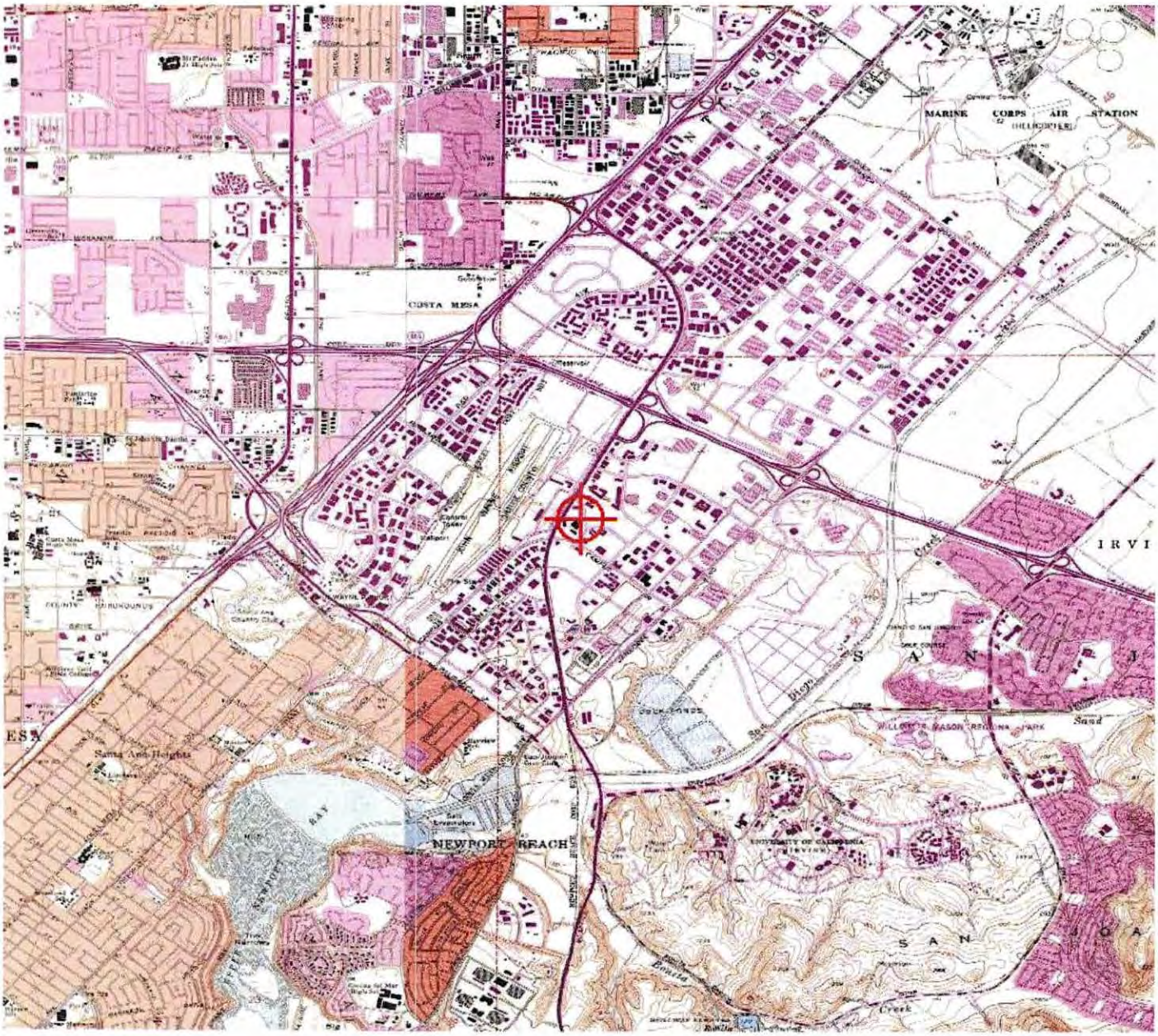
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5172-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5173-OE

Issued Date: 03/10/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Office Building
Location:	Irvine, CA
Latitude:	33-40-22.16N NAD 83
Longitude:	117-51-44.63W
Heights:	48 feet site elevation (SE)
	253 feet above ground level (AGL)
	301 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 253 feet above ground level (301 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 09/10/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 09, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on April 19, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5173-OE.

Signature Control No: 294326387-325067373 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2016-AWP-5173-OE

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 253-foot above ground level (agl)/301-foot above mean sea level (amsl) Office Building Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.34 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Office Building Structure 48 feet amsl.

The sponsor has voluntarily lowered the structure height from the originally filed proposal to not exceed 301 feet amsl and provided 1A certified surveys of the structure latitude/longitude corner points and site elevations, in order to mitigate any adverse effect upon instrument procedural operations at SNA.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.17(a)(2) by 45 feet, a height more than 200 feet above the SNA Field Elevation within 3 nautical miles of the airport reference point.

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Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange agrees to negotiate this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

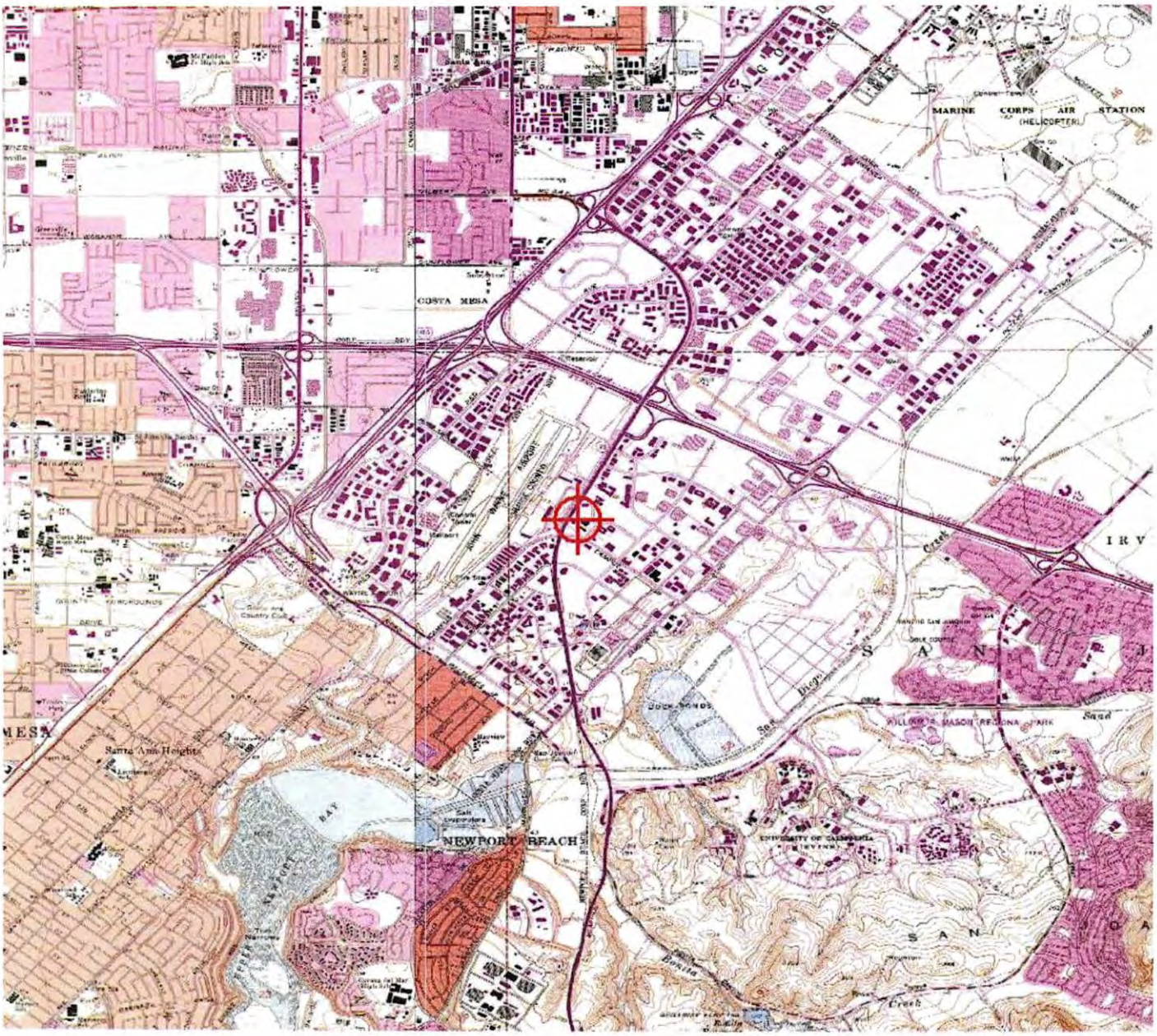
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5173-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5174-OE

Issued Date: 03/10/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Office Building
Location:	Irvine, CA
Latitude:	33-40-22.28N NAD 83
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Heights:	48 feet site elevation (SE)
	253 feet above ground level (AGL)
	301 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

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__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 253 feet above ground level (301 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 09/10/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 09, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on April 19, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5174-OE.

Signature Control No: 294326388-325067371 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2016-AWP-5174-OE

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 253-foot above ground level (agl)/301-foot above mean sea level (amsl) Office Building Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.34 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Office Building Structure 48 feet amsl.

The sponsor has voluntarily lowered the structure height from the originally filed proposal to not exceed 301 feet amsl and provided 1A certified surveys of the structure latitude/longitude corner points and site elevations, in order to mitigate any adverse effect upon instrument procedural operations at SNA.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.17(a)(2) by 45 feet, a height more than 200 feet above the SNA Field Elevation within 3 nautical miles of the airport reference point.

Section 77.19(a) by 95 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange agrees to negotiate this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

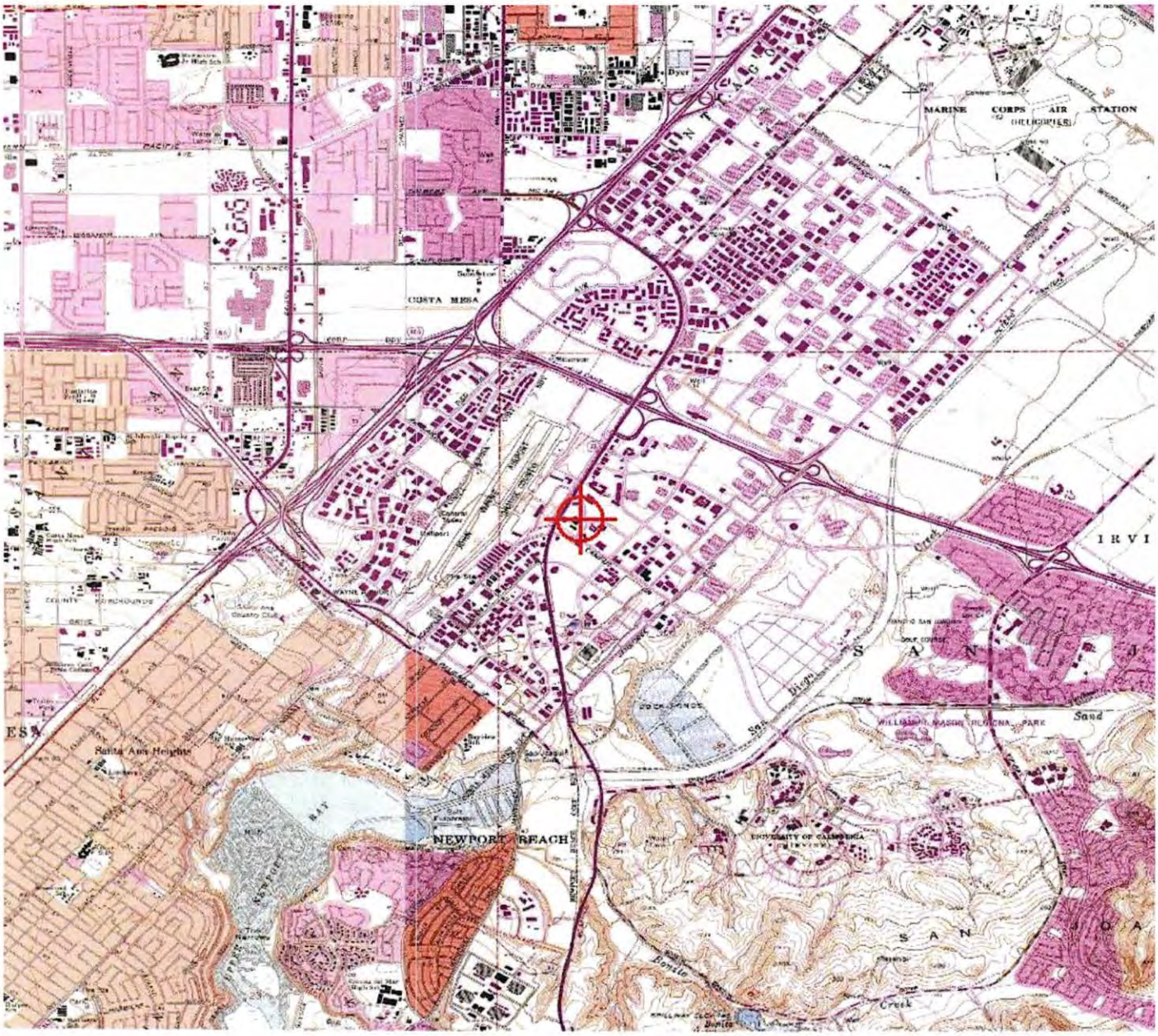
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5174-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5166-OE

Issued Date: 01/24/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Hotel
Location:	Irvine, CA
Latitude:	33-40-25.17N NAD 83
Longitude:	117-51-45.64W
Heights:	47 feet site elevation (SE)
	206 feet above ground level (AGL)
	253 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 206 feet above ground level (253 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 07/24/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before February 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on March 05, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5166-OE.

Signature Control No: 294326361-320079555 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 15-story 206-foot above ground level (agl)/253-foot above mean sea level (amsl) Hotel Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.30 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Hotel Structure 47 feet amsl.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.19(a) by 47 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange negotiates this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

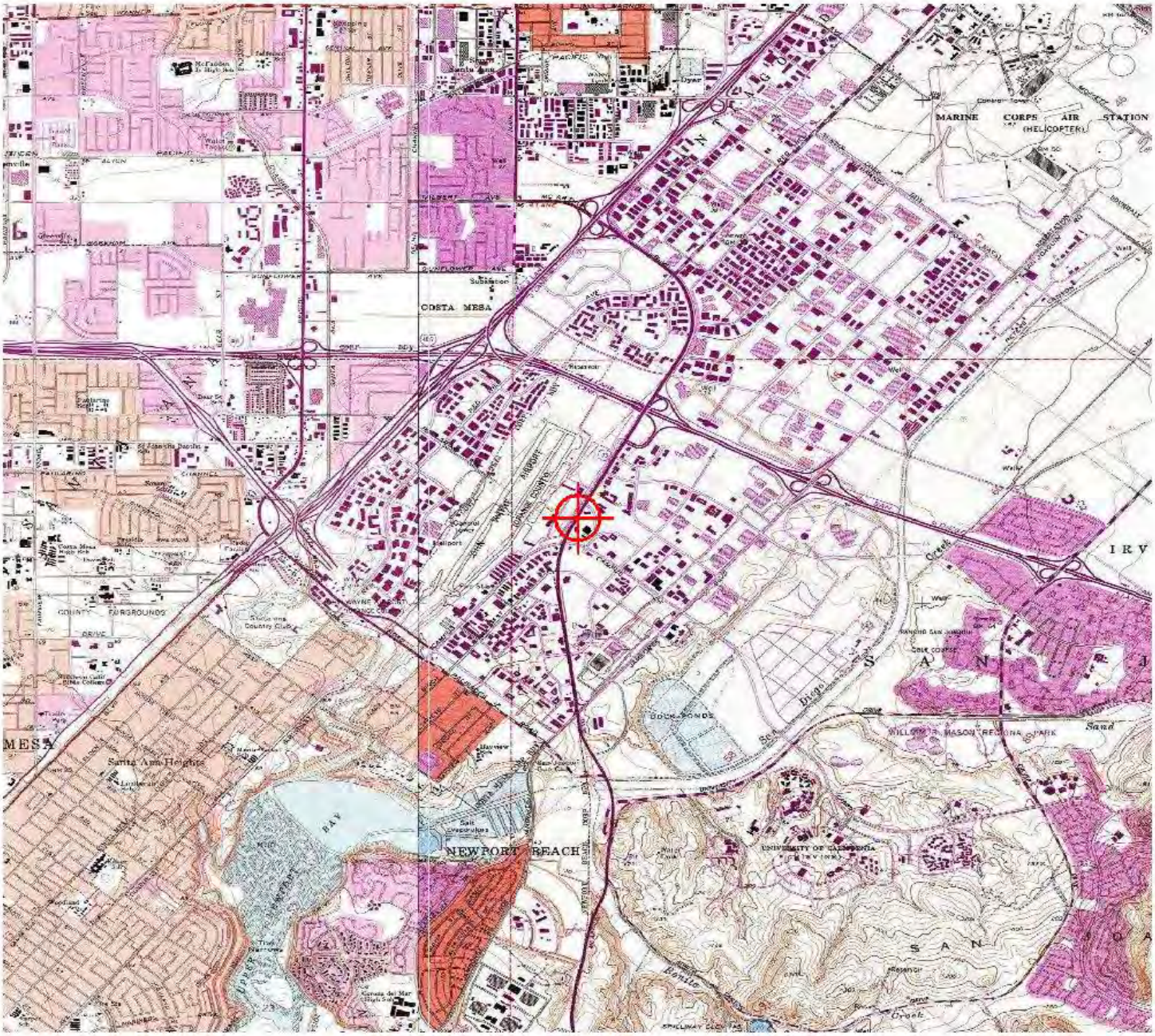
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5166-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5167-OE

Issued Date: 01/24/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Hotel
Location:	Irvine, CA
Latitude:	33-40-26.58N NAD 83
Longitude:	117-51-44.40W
Heights:	47 feet site elevation (SE)
	206 feet above ground level (AGL)
	253 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 206 feet above ground level (253 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 07/24/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before February 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on March 05, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5167-OE.

Signature Control No: 294326362-320079557 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 15-story 206-foot above ground level (agl)/253-foot above mean sea level (amsl) Hotel Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.30 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Hotel Structure 47 feet amsl.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.19(a) by 47 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange negotiates this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

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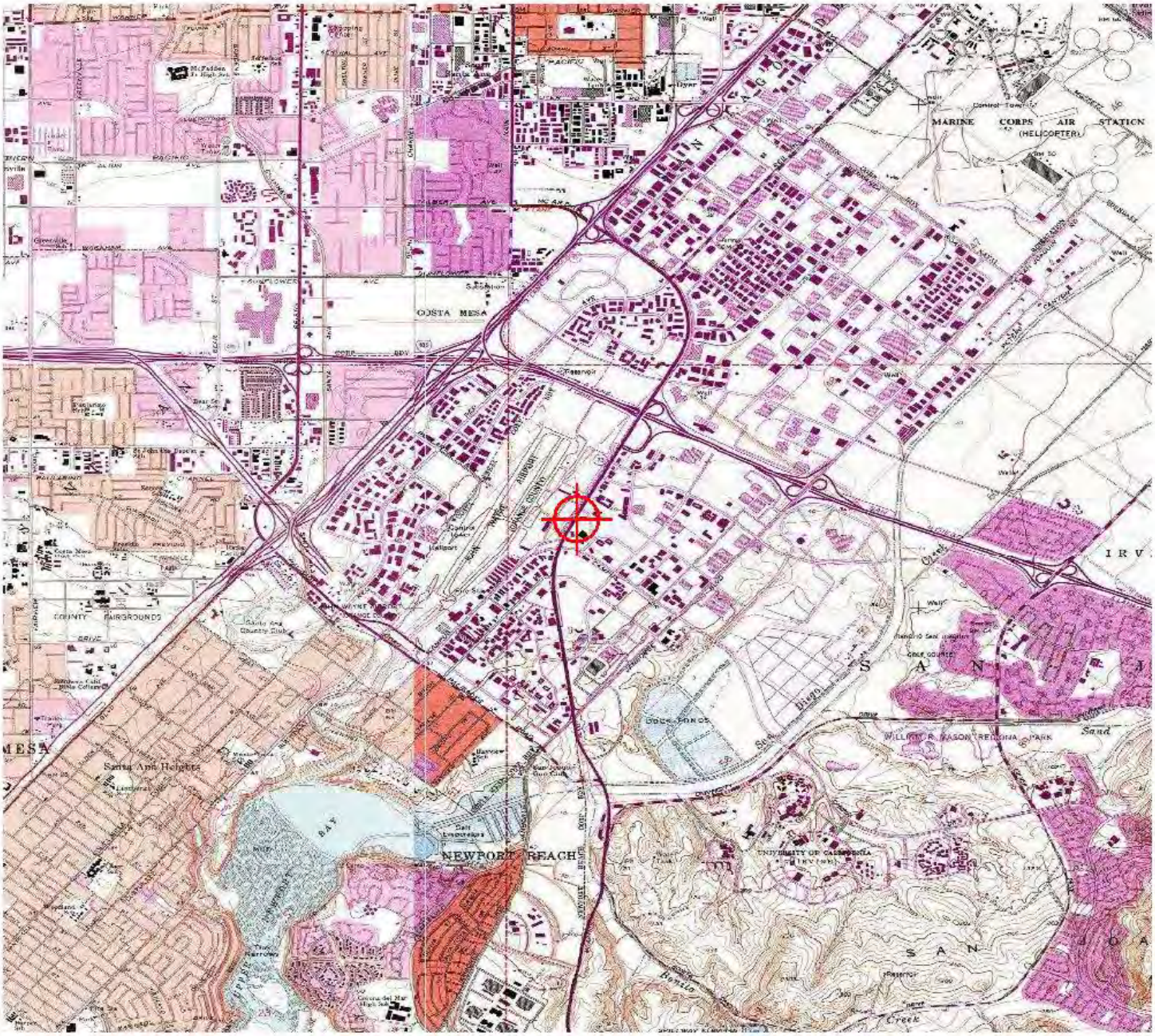
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5167-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5168-OE

Issued Date: 01/24/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Hotel
Location:	Irvine, CA
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As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5168-OE.

Signature Control No: 294326363-320079558 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 15-story 206-foot above ground level (agl)/253-foot above mean sea level (amsl) Hotel Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.30 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Hotel Structure 47 feet amsl.

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Section 77.19(a) by 47 feet, a height exceeding the SNA Horizontal Surface.

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Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

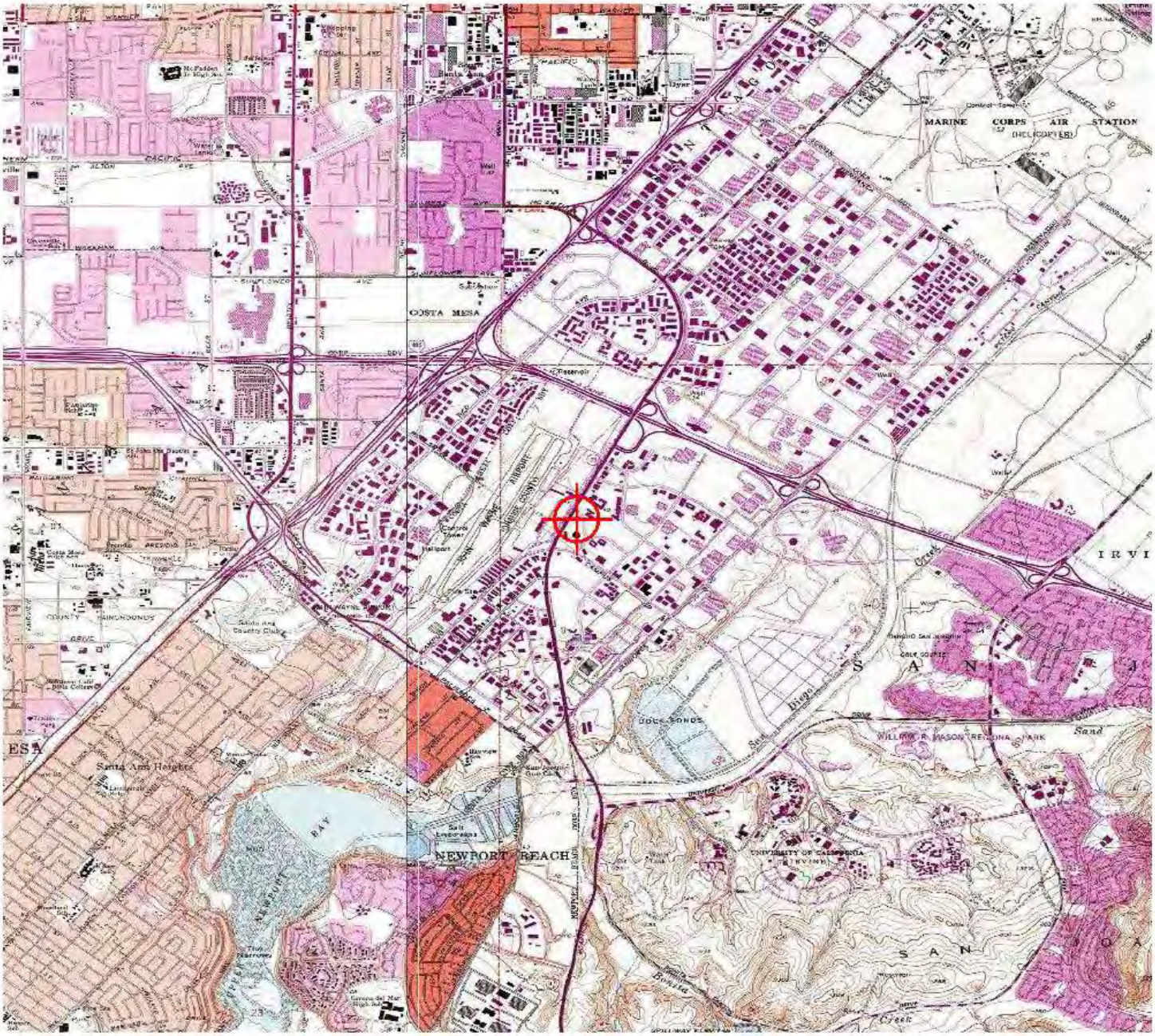
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5168-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5169-OE

Issued Date: 01/24/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Hotel
Location:	Irvine, CA
Latitude:	33-40-26.14N NAD 83
Longitude:	117-51-42.80W
Heights:	47 feet site elevation (SE)
	206 feet above ground level (AGL)
	253 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 206 feet above ground level (253 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 07/24/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before February 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on March 05, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5169-OE.

Signature Control No: 294326364-320079554 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 15-story 206-foot above ground level (agl)/253-foot above mean sea level (amsl) Hotel Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.30 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Hotel Structure 47 feet amsl.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.19(a) by 47 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange negotiates this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

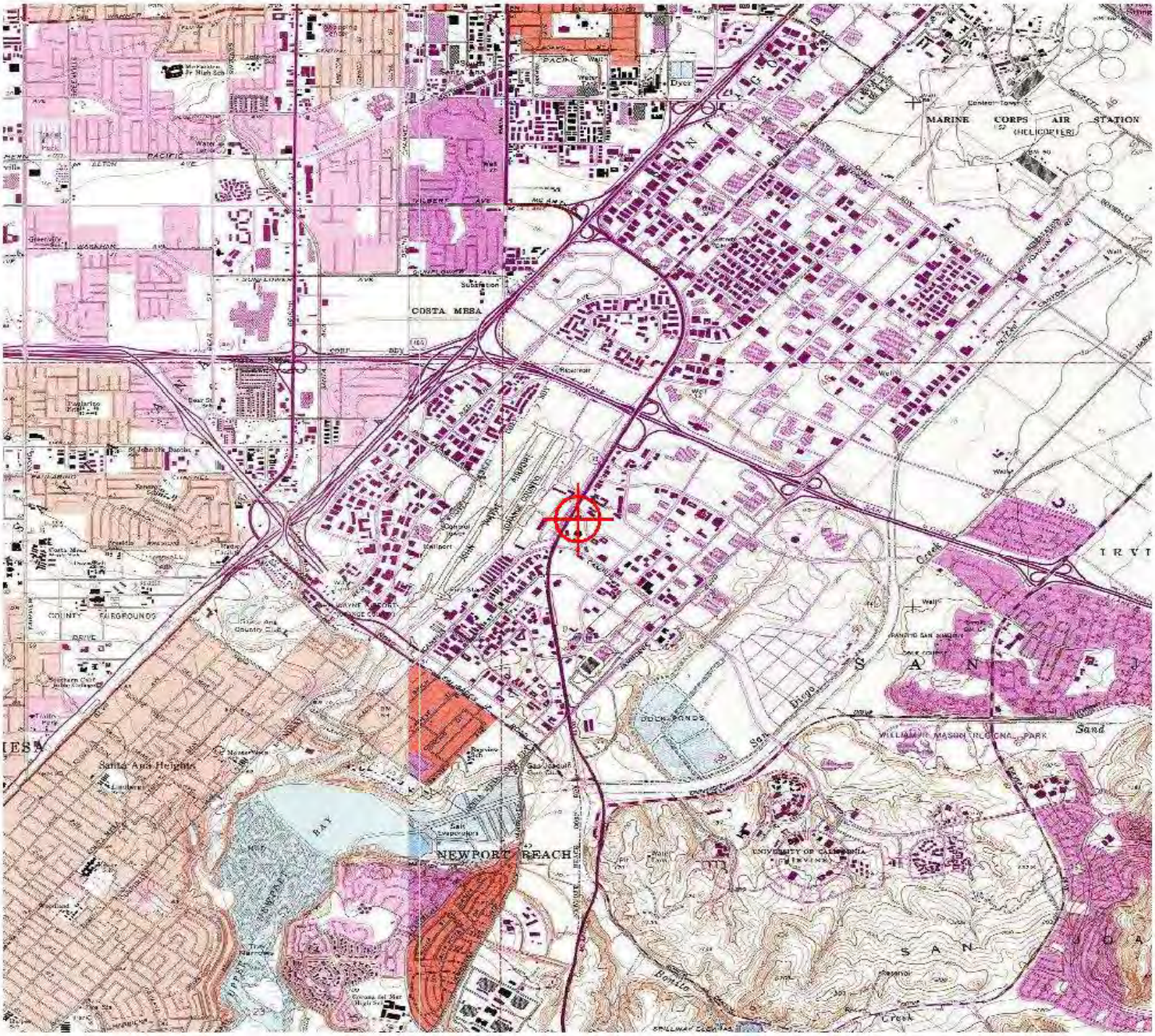
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5169-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-AWP-5170-OE

Issued Date: 01/24/2017

Hope Fazio
Great Far East, The Investment & Management Co.
7700 Irvine Center Dr.
Suite #620
Irvine, CA 92618

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Landmark Hotel
Location:	Irvine, CA
Latitude:	33-40-25.25N NAD 83
Longitude:	117-51-44.72W
Heights:	47 feet site elevation (SE)
	206 feet above ground level (AGL)
	253 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport.

Any height exceeding 206 feet above ground level (253 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 07/24/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before February 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

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This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Karen McDonald, at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-AWP-5170-OE.

Signature Control No: 294326365-320079556 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

The proposal, submitted by Great Far East, The Investment & Management Company, will construct a 15-story 206-foot above ground level (agl)/253-foot above mean sea level (amsl) Hotel Structure on a site bound by Macarthur Boulevard, Douglas, Martin, and Campus Drive, in Irvine, California. This site is located approximately 0.30 nautical miles (NM) southeast of the John Wayne Orange County (SNA) airport reference point and abeam the runways 20L/R and 02R/L. SNA is the closest public-use landing area. The SNA Field Elevation (FE) is 56 feet above mean sea level (amsl). The site elevation of this proposed Hotel Structure 47 feet amsl.

The structure height exceeds the obstruction standards of Title 14 of the Code of Federal Regulations (CFR) Part 77 as follows:

Section 77.19(a) by 47 feet, a height exceeding the SNA Horizontal Surface.

Details of the proposal were distributed as Public Notice in order to gather aeronautical information from interested aviation users and other members of the public. No objections, regarding the structure, were received from the Public Notice distribution. A comment was received from the John Wayne Airport. The comment noted that the structure height is identified as an obstruction under FAR Part 77 and recommended that the structure be reduced to a height not exceeding 206 feet amsl, which would put it below the SNA Horizontal Surface. However, the comment noted that since the County of Orange owns the airspace above 206 feet amsl, encroachment into this airspace could only be approved by the County of Orange. (This is interpreted by the FAA as the sponsor of this project will have to purchase an avigation easement for the development of the site from the County of Orange). (The FAA has no direct bearing, influence, or connection on whether the County of Orange negotiates this avigation easement.) The comment continued to note that projects surpassing this elevation must also fully comply with the referral requirements of the Airport Land Use Commission (ALUC) for Orange County, and with all conditions of approval imposed or recommended by the FAA and ALUC.

Temporary equipment to erect this structure will be evaluated separately for its potential to have impact on the navigable airspace when construction equipment is filed at a later date.

FAA evaluation finds that the adverse effect of this structure is known. There is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for SNA. Therefore, no further attempt to negotiate the proposed structures to lower heights was considered necessary. This does not affect the right to petition for review determinations regarding structures which exceed the subject obstruction standards.

AERONAUTICAL STUDY FOR POSSIBLE EFFECT UPON THE OPERATION OF AN AIR NAVIGATION AID:

- None.

AERONAUTICAL STUDY FOR POSSIBLE INSTRUMENT FLIGHT RULES (IFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed IFR arrival/departure routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR en route routes, operations, or procedures.

- The proposal would have no effect on any existing or proposed IFR minimum flight altitudes.

AERONAUTICAL STUDY FOR POSSIBLE VISUAL FLIGHT RULES (VFR) EFFECT DISCLOSED THE FOLLOWING:

- The proposal would have no effect on any existing or proposed VFR arrival or departure routes, operations or procedures.

- The proposal would not conflict with airspace required to conduct normal VFR traffic pattern operations at any known public use or military airports, including SNA. Aircraft at normal Traffic Pattern altitudes and standard rates of descent, abeam the runways, and thereby not in the climb/descent area, have reasonable clearance above this structure.

- The proposal would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

- The structure shall be appropriately red obstruction lighted to make it more conspicuous to airmen flying in VFR weather conditions between sunset and sunrise.

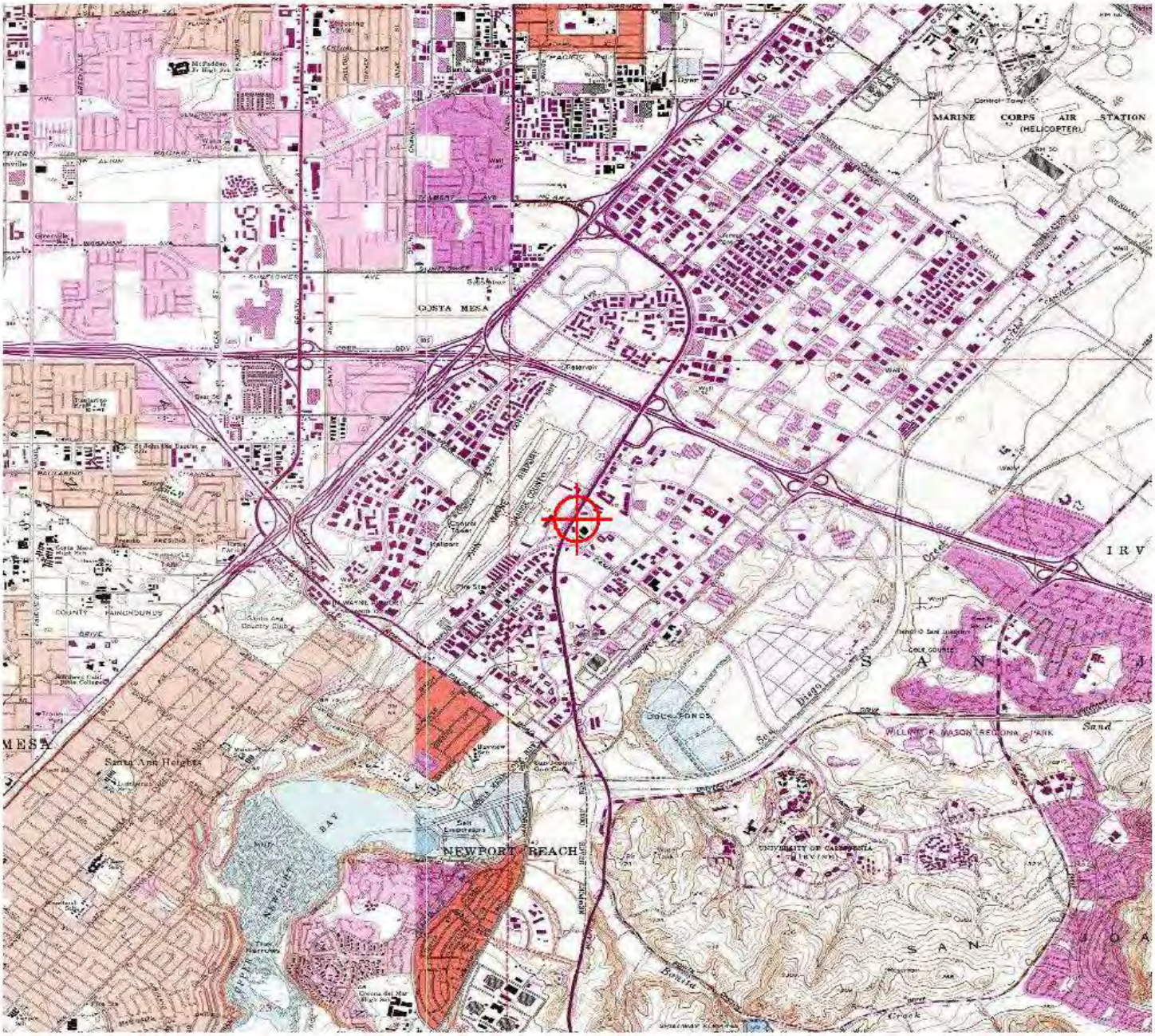
The cumulative impact of the proposed structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned civilian public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

This determination, issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to laws, ordinances, or regulations of any Federal, state, or local governmental bodies.

Determinations, which are issued in accordance with Part 77, do not supersede or override any state, county, or local laws, avigation easements, or ordinances, or local zoning maximum heights.

TOPO Map for ASN 2016-AWP-5170-OE



California Code, Public Utilities Code - PUC § 21670

(a) The Legislature hereby finds and declares that:

(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems.

(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

(b) In order to achieve the purposes of this article, every county in which there is located an airport which is served by a scheduled airline shall establish an airport land use commission. Every county, in which there is located an airport which is not served by a scheduled airline, but is operated for the benefit of the general public, shall establish an airport land use commission, except that the board of supervisors of the county may, after consultation with the appropriate airport operators and affected local entities and after a public hearing, adopt a resolution finding that there are no noise, public safety, or land use issues affecting any airport in the county which require the creation of a commission and declaring the county exempt from that requirement. The board shall, in this event, transmit a copy of the resolution to the Director of Transportation. For purposes of this section, “commission” means an airport land use commission. Each commission shall consist of seven members to be selected as follows:

(1) Two representing the cities in the county, appointed by a city selection committee comprised of the mayors of all the cities within that county, except that if there are any cities contiguous or adjacent to the qualifying airport, at least one representative shall be appointed therefrom. If there are no cities within a county, the number of representatives provided for by paragraphs (2) and (3) shall each be increased by one.

(2) Two representing the county, appointed by the board of supervisors.

(3) Two having expertise in aviation, appointed by a selection committee comprised of the managers of all of the public airports within that county.

(4) One representing the general public, appointed by the other six members of the commission.

(c) Public officers, whether elected or appointed, may be appointed and serve as members of the commission during their terms of public office.

(d) Each member shall promptly appoint a single proxy to represent him or her in commission affairs and to vote on all matters when the member is not in attendance. The proxy shall be designated in a signed written instrument which shall be kept on file at the commission offices, and the proxy shall serve at the pleasure of the appointing member. A vacancy in the office of proxy shall be filled promptly by appointment of a new proxy.

(e) A person having an "expertise in aviation" means a person who, by way of education, training, business, experience, vocation, or avocation has acquired and possesses particular knowledge of, and familiarity with, the function, operation, and role of airports, or is an elected official of a local agency which owns or operates an airport.

(f) It is the intent of the Legislature to clarify that, for the purposes of this article, that special districts, school districts, and community college districts are included among the local agencies that are subject to airport land use laws and other requirements of this article.

PUC § 21676

(b) Prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after a public hearing, propose to overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the public record of any final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

PUC § 21676.5

(a) If the commission finds that a local agency has not revised its general plan or specific plan or overruled the commission by a two-thirds vote of its governing body after making specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670, the commission may require that the local agency submit all subsequent actions, regulations, and permits to the commission for review until its general plan or specific

plan is revised or the specific findings are made. If, in the determination of the commission, an action, regulation, or permit of the local agency is inconsistent with the airport land use compatibility plan, the local agency shall be notified and that local agency shall hold a hearing to reconsider its plan. The local agency may propose to overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

(b) Whenever the local agency has revised its general plan or specific plan or has overruled the commission pursuant to subdivision (a), the proposed action of the local agency shall not be subject to further commission review, unless the commission and the local agency agree that individual projects shall be reviewed by the commission.

Source: http://codes.findlaw.com/ca/public-utilities-code

GREAT FAR EAST

COMPENDIUM OF STATUTES AND REGULATIONS REGARDING FEDERAL PREEMPTION OF AIRPORT LAND USE COMMISSION SAFETY CONCERNS

I. FEDERAL LAW PREEMPTS STATE AND LOCAL LAW, WHERE, AS HERE, CONGRESS HAS EXPRESSLY PREEMPTED BY STATUTE; WHERE THERE ARE CONFLICTING STATE OR LOCAL LAWS; OR A LOCAL LAW FALLS WITHIN A FIELD FULLY OCCUPIED BY FEDERAL LAW

A. Supremacy Clause of U.S. Constitution, Article VI, Clause 2

"This Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding."

B. 49 U.S.C. § 40103(a) (1)

"49 U.S.C. § 40103. Sovereignty and use of airspace
(a) Sovereignty and public right of transit.
(1) The United States Government has exclusive sovereignty of airspace of the United States. …"

C. *Burbank v. Lockheed*, 411 U.S. 624 (1973)

"[T]he Federal Aviation Act, 49 U. S. C. § 1508 (a) [since recodified], provides in part, 'The United States of America is declared to possess and exercise complete and exclusive national sovereignty in the airspace of the United States . . . .' By §§ 307 (a), (c) of the Act, 49 U. S. C. §§ 1348 (a), (c), the Administrator of the Federal Aviation Administration (FAA) has been given broad authority to regulate the use of the navigable airspace, 'in order to insure the safety of aircraft and the efficient utilization of such airspace . . .' and 'for the protection of persons and property on the ground . . . .'" *Id.* at 626-27.

"We are not at liberty to diffuse the powers given by Congress to FAA . . . by letting the States or municipalities in on the planning. If that change is to be made, Congress alone must do it." *Id.* at 640.

D. ***Montalvo v. Spirit Airlines*, 508 F.3d 464 (9th Cir. 2007)**

"[T]he FAA preempts the entire field of aviation safety through implied field preemption. The FAA [Federal Aviation Act] and regulations promulgated pursuant to it establish complete and thorough safety standards for air travel, which are not subject to supplementation by, or variation among, state laws." *Id.* at 468.

E. ***Olympic Pipeline Co. v. City of Seattle*, 437 F.3d 872 (9th Cir. 2006).**

"The Supremacy Clause of Article VI of the United States Constitution grants Congress the power to preempt state or local law." *Id.* at 877.

II. STATE LAW AND THE COUNTY'S AELUP CONFIRM THE PREEMPTIVE AUTHORITY OF FEDERAL LAW AND REGULATION

A. ***Chevron v. National Resources Defense Council*, 467 U.S. 837 (1984) – Federal Regulations Get Particular Deference**

"We have long recognized that considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to administer, and the principle of deference to administrative interpretations 'has been consistently followed by this Court whenever decision as to the meaning or reach of a statute has involved reconciling conflicting policies, and a full understanding of the force of the statutory policy in the given situation has depended upon more than ordinary knowledge respecting the matters subjected to agency regulations.'" [Citations omitted]." *Id.* at 844.

B. **Pub. Util. Code § 21240**

"This state recognizes the authority of the federal government to regulate the operation of aircraft and to control the use of the airways, and nothing in this act shall be construed to give the department the power to so regulate and control safety factors in the operation of aircraft or to control use of the airways. This section does not affect the state's power to regulate the intrastate rates of common carriers by air, and such power is hereby reserved to the state."

C. 14 C.F.R. 77.9(e) – Sets standards for determining obstructions to air navigation.

"(e) You do not need to file notice for construction or alteration of: (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation; …"

D. AELUP, § 2.1.3 – State Law Adopts Federal Standards with Respect to Analysis of Obstructions Specifically

"Building Height Restrictions
[1] In adopting criteria for building height restrictions in the vicinities of airports, the Commission considered only one standard and that was Federal Aviation Regulations Part 77 (FAR Part 77) entitled, "Objects Affecting Navigable Airspace." These regulations are the only definitive standard available and the standard most generally used. In order to ensure that buildings which might affect the continued operations of airports are not built in their vicinities, the Commission has incorporated the standards for determining obstructions and FAR Part 77 definitions, of the "imaginary and notification surfaces" for airports, as the guidelines for height limits. To coincide with this regulation, the ALUC also requires notification for such projects regardless of where within Orange County the project would be located. This may or may not result in referral of a project to the ALUC.

The "imaginary surfaces" are defined by means of elevations, heights and slopes in relation to individual airports, the spaces above which are reserved to air navigation. In addition to the "imaginary surfaces," the Commission will use all of the FAR Part 77.23 standards along with the results of FAA aeronautical studies, or other studies deemed necessary by the Commission, in order to determine if a structure is an "obstruction." Building or structural heights are limited to the distance between the ground elevation of the site and an elevation that has been determined will not adversely affect an airport or aeronautical operations, nor navigational-aid siting criteria, including interference with navigational-aids or published flight paths and procedures. The FAA uses the 100:1 notification surface to help identify projects that may interfere with airport operations. A project exceeding the 100:1 notification surface is not necessarily incompatible, but

rather requires that the FAA be notified, so they can conduct an aeronautical study. Projects that penetrate the 100:1 notification surface must file Form 7460-1 with the FAA. See Appendix D to view the FAR Part 77 Notification Area and Obstruction Imaginary Surfaces for JWA.

In the aeronautical studies, the FAA determines if a project is considered an Obstruction and if a project is determined to be a Hazard to Air Navigation. A Determination of No Hazard to Air Navigation does not automatically equate to a Consistency determination by the ALUC. The FAA may also conclude in their aeronautical study that a project is an Obstruction but not a Hazard to Air Navigation. The Commission may find a project Inconsistent based on an Obstruction determination. The Commission may utilize criteria for protecting aircraft traffic patterns at individual airports which may differ from those contained in FAR Part 77, should evidence of health, welfare, or air safety surface sufficient to justify such an action.[1]

[2] Commission review of individual cases will be guided by FAR Part 77, and by FAA Advisory Circular No. 150/5190-4A, as published on December 14, 1987 and entitled "A Model Zoning Ordinance to Limit Height of Objects Around Airports" (Appendix E). This document has been promulgated by the FAA expressly to guide local agencies in the preparation of specialized zoning regulations, and in the conduct of individual case reviews. The Advisory Circular complements FAR Part 77, and together they provide an overall means to protect the navigable airspace at local airports. In addition, per FAR Part 77, Section 77.13(a), notice to the Federal Aviation Administration (FAA) is required for any proposed structure more than 200 feet Above Ground Level (AGL) of its site. To coincide with this regulation, the ALUC also requires notification for such projects regardless of where within the jurisdiction of the County of Orange the project would be located. This may or may not result in referral of a project to the ALUC.

[3] The results of an aeronautical study conducted by the FAA pursuant to FAR Part 77.13 will be utilized to help determine if a structure will have an adverse effect on the airport or on aeronautical operations. If the proposed object is concluded to be a potential hazard to air navigation, the FAA may object to its construction, examine possible revisions of the proposal to eliminate the problem, require that the object be appropriately marked and lighted as an airspace obstruction, and/or initiate changes to the aircraft flight procedures for the airport so as to

[1] See conflicting determination in the same section of the AELUP, set forth in [4] below.

account for the object. The ALUC considers projects that are a hazard to air navigation to be Inconsistent with the *AELUP for JWA*.

[4] The Commission considers and recognizes the FAA as the single "Authority" for analyzing project impact on airport or aeronautical operations, or navigational-aid siting, including interference with navigational-aids or published flight paths and procedures. The Commission also considers the FAA as the "Authority" for reporting the results of such studies and project analyses. The Commission will not consider the findings of reports or studies conducted by parties other than the FAA unless the FAA certifies and adopts such findings as true and correct.

In those portions of the height restriction planning areas that lie outside of the Safety Zones and 60 dB CNEL Contours, or other areas of special concern as delineated by the FAA and adopted by the Commission, local agencies are required to submit only those matters which contemplate structures that would penetrate the imaginary surfaces as defined in FAR Part 77.13, 77.25, or 77.28 which have been designated for each individual airport for height restriction referral." [Emphasis added].

E. AELUP, § 3.2.6 – The Airport Land Use Commission Also Accepts the Lighting and Marking of Obstructions as Sufficient Mitigation

"Height Restriction Zone
… The standards, criteria, and procedures promulgated by the FAA for the thorough evaluation of development projects are designed to ensure the safe and efficient use of the navigable airspace. The application of these principles by the Commission will ensure the stability of local air transportation, as well as promote land uses that are compatible with the airport environs. However, any object which rises above the height of surrounding development, or which is located in close proximity to any of the various flight paths, must be clearly visible during hours of twilight or darkness and must not threaten, endanger, or interfere with aeronautical operations. Such objects, even if within the above height restrictions, are not acceptable to the Commission unless they are clearly marked or lighted according to FAA standards." [Emphasis added].

F. **Pub. Util. Code § 21674(a); Pub. Util. Code § 21674(b) – Based on the Above, the Role of the ALUC is Not to Make Determinations About Safety of Air Navigation but to "Assist" and "Coordinate" Those of Local Jurisdictions Concerning Land Use Around Airports**

"The commission has the following powers and duties, subject to the limitations upon its jurisdiction set forth in Section 21676:
(a) To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses.
(b) To coordinate planning at the state, regional, and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare."

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

July 20, 2017

City Council
City of Irvine
1 Civic Center Plaza
Irvine, CA 92606-5208

SUBJECT: Additional Information Regarding Intent to Overrule ALUC Inconsistency Determination for Landmark Project

Honorable Mayor and City Council Members:

At your recent meeting on July 11, 2017, the City Council voted to continue its public hearing on the proposed overrule of the Airport Land Use Commission (ALUC) for Orange County's determination of "Inconsistency" on the Landmark Project. The ALUC appreciates your thorough review of information, especially related to air safety concerns. There were a number of questions brought up by Council Members and others at the July 11th meeting, which are addressed as follows:

1. **What is the significance of John Wayne Airport (JWA) references to "206 feet above mean sea level (AMSL)?"**

Federal Aviation Regulation (FAR) Part 77, Section 77.19 defines various civil airport imaginary surfaces. Specifically, Section 77.19 (a) addresses the calculation for an airport's Horizontal Surface as a "horizontal plane 150 feet above the established airport elevation." In the case o John Wayne Airport, the established airport elevation is 56 feet above mean sea level (AMSL). Therefore, 150 feet above 56 feet equals 206 feet AMSL, the calculated Horizontal Obstruction Surface for JWA. This surface extends out in an approximate 10,000 feet radius above the JWA main runway. The airspace above this horizontal plane is reserved for air navigation.

As noted at the July 11, 2017 Council meeting, there are also other imaginary surfaces defined by FAR Part 77, Section 77.19, including a Conical Surface, Primary Surface, Approach Surface and Transitional Surface.

2. **Why is an elevation of 203.68 feet sometime used in older documents?**

References to 203.68 feet are using older vertical datum, specifically NGVD29. For example, an "avigation easement" above JWA, which was deeded to the County of

Orange in 1964, uses the former NGVD29 datum reference of 203.68 feet. To convert the former NGVD29 to currently used NAVD88 vertical datum, simply add 2.4 feet to the NGVD29 elevation. Therefore, 203.68 feet NGVD29 plus 2.4 feet, equals 206.08 feet NAVD88 (which is rounded to 206 feet).

3. Why are there other tall buildings that have been approved near John Wayne Airport?

The majority of existing tall buildings near JWA exceeding the 206 feet horizontal obstruction surface have been found "Inconsistent" by the ALUC; however, surrounding cities have overruled the ALUC "Inconsistency" findings, and the buildings were ultimately constructed based upon city approvals.

4. When does FAA consider shielding in its evaluations?

FAA Order JO 7400.2H - Procedures for Handling Airspace Matters, considers a structure shielded when the following parameters are met: a) physical protection is provided by terrain or permanent structures of equal or greater height than the structure under study; b) the existing permanent structures are not more than 500 feet horizontal distance from the proposed structure; c) The shielded structure is not located closer to the airport than the shielding structure; and d) at least one such shielding structure is situated on at least three sides of the shielded structure. The proposed project buildings do not appear to meet these criteria for being shielded.

5. Why was a recent City of Santa Ana project found Inconsistent?

A recent project in the City of Santa Ana, that did not exceed height restrictions, was referenced at the last Irvine City Council meeting. The ALUC found this project "Inconsistent" not because of building heights, but rather due to the Commission's concern that rezoning from a Commercial/Industrial use to Residential use in an area that was directly under the centerline of the JWA primary aircraft approach corridor, would cause undue exposure of future residents to aircraft overflight. The majority of flights over this Santa Ana property are in the range of 500 to 700 feet above ground level and arrive in very close intervals in the morning and evening hours. In considering this project, the ALUC noted that low approaching aircraft and residential uses would not coexist well together.

6. What is FAA's authority compared to ALUC's mandate?

The FAA has authority over navigable airspace, however, FAA also acknowledges in its determination for the proposed Landmark project that, "This determination is issued in accordance with Part 77, concerns the effect of the proposal on the safe and efficient use of the navigable airspace by aircraft, and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body," and continues, "Determinations, which are issued in accordance with

Part 77, do not supersede or override any state, county, or local laws, avigation easement or ordinances, or local zoning maximum heights."

Regarding the authority for Airport Land Use Commissions, the State of California Public Utilities Code (PUC) State Aeronautics Act, which establishes Airport Land Use Commissions, states that an ALUC is charged by PUC Section 21674(a) "to assist local agencies in ensuring compatible land uses in the vicinity of ...existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses," and, per PUC Section 21674(b), "to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety and welfare."

In closing, it should be noted that the ALUC also has the responsibility to consider a broader perspective in matters affecting the public's well-being and the viability of public aviation facilities. The ALUC for Orange County does not maintain or promote a "no development around airports" viewpoint (e.g., "only agricultural uses," as stated by the project applicant). In fact, the land uses proposed for the Landmark project are appropriate uses for the airport area. The "Inconsistency" finding was made based upon the heights of the buildings above the JWA Horizontal Obstruction Surface.

The Airport Land Use Commission urges the Irvine City Council to take all of these comments into consideration in its deliberations before deciding whether to overrule the ALUC. Thank you for the opportunity to provide these comments.

Respectfully,

Kari Rigoni
Executive Officer

cc: Members of the Airport Land Use Commission for Orange County
Barry A. Rondinella, Director, John Wayne Airport
Tony Sordello, Caltrans/Division of Aeronautics
Stephanie Frady, City of Irvine

City of Irvine

SAFETY EVALUATION FOR THE LANDMARK PROJECT

Prepared by Johnson Aviation, Inc.

Draft - Submitted November 9, 2017

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1. INTRODUCTION

The City of Irvine contracted with Johnson Aviation, Inc. to prepare this Safety Evaluation ("Report") for The Landmark Project located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36 (Irvine Business Complex) ("Project"), located directly adjacent to the east side of John Wayne Airport ("Airport" "SNA" or "JWA") in the City of Irvine.

This Report provides recommendations to the Irvine City Council on whether an override (pursuant to Sections 21670 and 21676 of the California Public Utilities Code) of the Airport Land Use Commission's ("ALUC's") finding of inconsistency with the Airport Environs Land Use Plan ("AELUP") for JWA, should be granted. The recommendations are based upon the facts about the Project and independently-verified findings related to aviation safety.

The methodology followed in preparing this Report consists of a rigorous review of the documents and information contained in the Document Index as compiled by the City. This compendium of documents covers the Project review starting from the initial Project submittal to the Federal Aviation Administration ("FAA") through to the City Council hearings on the Project. Included is the associated Notice of Intent to Overrule the Orange County ALUC's finding of Inconsistency with the AELUP. The recommendations are also based on Other Reference Documents that guide aviation, airport and airspace safety and related airport land use planning. Each document considered in this Report is listed in Section 3 and is hereby incorporated by reference. This study method and approach relies upon our knowledge, experience and expertise associated with aviation safety and airport land use planning. Section 2 of this Report provides a summary of our qualifications and Section 6 provides a complete copy of Nick Johnson's resume.

2. QUALIFICATIONS

Johnson Aviation, Inc. is qualified and experienced with challenging, aviation safety and airport land use matters like those raised by the proposed Landmark Project for the City of Irvine. Nick Johnson has spent his entire professional career tackling difficult aviation and airport planning projects. The company's dedicated group of professionals work every day to improve aviation safety, efficiency and reliability while reducing aviation's environmental impacts and operating costs through the thoughtful application of advanced technology and strategic analysis. We serve the public and the aviation community by diligently searching for balanced solutions to challenging problems.

Nick Johnson – Project Manager

Nick Johnson has worked in recent years with cities and project proponents to provide technical safety assessments of individual projects and general plan amendments requiring review by ALUCs. Recent examples include aviation safety assessments for the City of San Luis Obispo, the City of Perris and The Boeing Company expansion in El Segundo. In each case, Nick and the Johnson Aviation team of experts bring detailed knowledge of FAA airspace and safety regulation, airport planning and design expertise and many years of California airport land use planning experience.

Nick founded Johnson Aviation in 2004 to provide independent leadership on high profile and contentious airport and aviation projects. He has nearly 30 years of aviation, planning and project development experience on and near airports. His work and leadership with teams, large and small, at Los Angeles International Airport and San Diego International Airport cleared the way for multi-billion-dollar development programs at both facilities. The company's client list includes the FAA, airports of all sizes,

from large hubs to the smallest general aviation airports, cities, transit agencies, Boeing, NASA, rental car companies, private land owners, large public companies, developers, and federal-government contractors. Nick also has specialized experience as an expert witness, settling complex airport litigation and as a litigation technical consultant. Prior to starting Johnson Aviation, Nick was a vice president with Landrum & Brown, an international airport planning company. A complete copy of Nick's resume is included in Section 6 of this Report.

3. DOCUMENTS

The City of Irvine provided the following Document Index as part of the contracting process for this Report. Each document listed in the index has been carefully reviewed as an integral step in this Safety Evaluation and is hereby incorporated by reference.

Document Index

1. Approved Conditional Use Permit Project Plans
2. Approved Fire Master Plan
3. Exhibits Showing the Massing of the Project with Surrounding Development
4. Addendum to the Irvine Business Complex Environmental Impact Report
5. Federal Aviation Administration (FAA) Documents
   A. No Hazard Determinations issued for Hotel Building (5 PDFs) – January 24, 2017
   B. No Hazard Determinations issued for Office Building (4 PDFs) – March 10, 2017
   C. FAA Feasibility Report – September 14, 2015
6. Airport Land Use Commission (ALUC) Review of Project
   A. City Application Packet for ALUC hearing – April 3, 2017
   B. ALUC Hearing Confirmation Notice – April 6, 2017
   C. Applicant Letter to ALUC – April 20, 2017
   D. ALUC Agenda Report for Landmark Project – April 20, 2017
   E. ALUC Determination on Landmark Project – May 5, 2017
7. Staff Memo to Notify City Council of Override Process – May 19, 2017
8. Planning Commission Review of Project
   A. Planning Commission Agenda Packet – June 15, 2017
   B. Staff PowerPoint Presentation on project
9. City Council Review of Project
   A. City Council Agenda Packet – July 11, 2017
   B. Staff PowerPoint Presentation on project
   C. Applicant PowerPoint Presentation on project
   D. City Council Agenda Packet – July 25, 2017
   E. Staff PowerPoint Presentation on project
10. Correspondence
    A. John Wayne Airport (JWA) Letter to FAA – September 28, 2016
    B. JWA Letter to Irvine Subdivision Committee – March 20, 2017
    C. JWA Letter to Irvine Planning Commission – June 13, 2017
    D. ALUC Letter to Irvine Planning Commission – June 13, 2017
    E. California Department of Transportation ("CalTrans"), Division of Aeronautics Letter to City Council – June 15, 2017
    F. ALUC Letter to City Council – June 26, 2017
    G. ALUC Letter to City Council – July 20, 2017

11. Airport Environs Land Use Plan for John Wayne Airport – Amended April 17, 2008
12. JWA Avigation Easement Deed – March 17, 1964
13. RWDI Solar Reflection Analysis – August 28, 2017

In addition to the above Document Index, the following list of Other Reference Documents was consulted in preparation of this Report and is hereby incorporated by reference.

Other Reference Documents

14. FAA Order 8260.3C, United States Standards for Terminal Instrument Procedures
15. FAA Order 8260.58A, United States Standards for Performance Based Navigation
16. FAA Order 8260.19H, Flight Procedures and Airspace
17. Joint Order 7400.2L, Procedures for Handling Airspace Matters
18. 14 CFR Part 77, Safe, Efficient Use, and Preservation of The Navigable Airspace
19. 49 U.S.C. §44718, Structures Interfering with Air Commerce or National Security
20. 14 CFR Part 91.119, Minimum Safe Altitudes: General
21. California Public Utilities Code, Section 21659
22. California Public Utilities Code, Section 21670
23. California Public Utilities Code, Section 21676
24. Caltrans, *California Airport Land Use Planning Handbook* – October 2011
25. FAA Advisory Circular 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects Around Airports
26. FAA Airport Improvement Program Assurances for Airport Sponsors, March 2014

4. FINDINGS OF FACT

City of Irvine staff has provided findings supporting the override of the ALUC decision as required in the California Public Utilities Code (PUC) Section 21676. The following are the aviation safety findings that are relevant to this Project based upon independent review and assessment.

1. The FAA's Determinations of No Hazard to Air Navigation for The Landmark hotel and office structures are the only source of authoritative, aviation safety findings regarding the Landmark Project.

    a. In this case it is important to first establish what entity has authority over the use of airspace over the Project site. "The United States Government has exclusive sovereignty of airspace of the United States" (49 U.S.C. § 40103(a)(1)).

    b. In order to use this airspace, the FAA Administrator is responsible for:

        i. Plans and policy for the safe use of the navigable airspace (49 U.S.C. § 40103(b)(1); and

        ii. "[R]egulations on the flight of aircraft (including regulations on safe altitudes) for (A) navigating, protecting and identifying aircraft; (B) protecting individuals and property on the ground; (C) using the navigable airspace efficiently; and (D) preventing collision between aircraft, between aircraft and land or water vehicle, and between aircraft and airborne objects" (49 U.S.C. § 40103(b)(2)).

c. The FAA's aeronautical studies for The Landmark hotel and office structures are the definitive standard for assessing compliance with federal aviation safety laws and regulations (49 U.S.C. § 77.1(c)).

2. The City of Irvine has the local police powers to control land use on the site (Cal. Const., art. XI 11, § 7). This constitutional authority is acknowledged in State law (Cal. PUC §21670 and §21676) and the ALUC process (AELUP §4.11) allowing for overrule or override of an ALUC finding of inconsistency.

3. The other entities that have processed or commented on this Project have aviation safety duties and responsibilities related to this matter. Each of these entities relies on or ultimately defers to the FAA's authoritative aviation safety role in airspace determinations.

   a. **Orange County ALUC** – The AELUP for John Wayne Airport, Section 2.1.3 Building Height Restrictions states, "In adopting criteria for building height restrictions in the vicinities of airports, the Commission considered only one standard and that was Federal Aviation Regulations Part 77 (FAR Part 77) entitled, "Objects Affecting Navigable Airspace." These regulations ***are the only definitive standard available*** [emphasis added] and the standard most generally used."

   Section 2.1.3 also recognizes FAA aeronautical studies beyond FAR Part 77 surfaces as the standard for review, "In addition to the 'imaginary surfaces,' the Commission will use all of the FAR Part 77.23 standards ***along with the results of FAA aeronautical studies***, [emphasis added] or other studies deemed necessary by the Commission, in order to determine if a structure is an 'obstruction.'" This section goes on to state:

   > The Commission considers and recognizes the FAA as the single "Authority" for analyzing project impact on airport or aeronautical operations, or navigational-aid siting, including interference with navigational-aids or published flight paths and procedures. The Commission also considers the FAA as the "Authority" for reporting the results of such studies and project analyses. The Commission will not consider the findings of reports or studies conducted by parties other than the FAA unless the FAA certifies and adopts such findings as true and correct.

   Section 2.1.3 adds reference to FAA Advisory Circular 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects Around Airports for Commission Review. This FAA Advisory Circular provides specific guidance for establishing zoning regulations along with specific guidance on a "variance" process for potential obstructions. At Section 3.b., "The Federal Aviation Administration (FAA) conducts aeronautical studies on obstructions which examine their effect on such factors as: aircraft operational capabilities; electronic and procedural requirements; and, airport hazard standards. ***If an aeronautical study shows that an obstruction, when evaluated against these factors, has no substantial adverse effect upon the safe and efficient use of navigable airspace, then the obstruction is considered not to be a hazard to air navigation*** [emphasis added]."

   b. **CalTrans Division of Aeronautics** – Caltrans publishes the *California Airport Land Use Planning Handbook* ("Handbook") in accordance with State Law with the purpose of, "(1) provide information to ALUCs, their staffs, airport proprietors, cities, counties, consultants, and the public, (2) to identify the requirements and procedures for preparing

effective compatibility planning documents, and (3) define exemptions where applicable (Caltrans, 2011)."

The Handbook provides specific guidance for assessing potential airspace obstructions in Section 4.5 Airspace Protection.

> Limiting the heights of structures to the heights indicated by the FAR Part 77 surfaces provides an ample margin of safety for normal aircraft operations. The guidance provided by FAR Part 77 is not absolute, however. Moreover, deviation from FAR Part 77 standards does not necessarily mean that a hazard to flight exists; instead, ***deviation requires that the offending objects be evaluated by the FAA and that mitigation, such as marking or lighting, be applied if appropriate*** [emphasis added].
>
> In some locations, ***such as adjacent to a runway, objects exceeding the FAR Part 77 height limits may not be regarded as a hazard*** [emphasis added]. On the other hand, tall objects in the approach corridors—especially along instrument approach routes—may pose risks even though they do not penetrate the defined FAR Part 77 surfaces.

c. **State of California** – The California Public Utilities Code §21659 requires a permit from the State to exceed FAR Part 77 unless the FAA determines that the structure is not a hazard to air navigation:

> (a) No person shall construct or alter any structure or permit any natural growth to grow at a height which exceeds the obstruction standards set forth in the regulations of the Federal Aviation Administration relating to objects affecting navigable airspace contained in Title 14 of the Code of Federal Regulations, Part 77, Subpart C, unless a permit allowing the construction, alteration, or growth is issued by the department.
>
> (b) ***The permit is not required if the Federal Aviation Administration has determined that the construction, alteration, or growth does not constitute a hazard to air navigation or would not create an unsafe condition for air navigation*** [emphasis added]. Subdivision (a) does not apply to a pole, pole line, distribution or transmission tower, or tower line or substation of a public utility.

d. **John Wayne Airport/Orange County** – The FAA requires airport sponsors like Orange County to accept specific grant assurances when they accept federal funding. Hazard Removal and Mitigation and Compatible Land Use are two of these assurances. For hazard removal, the Airport relies on the FAA's aeronautical study to meet its requirement. For compatible land use, the Airport relies on coordination with the surrounding cities and the ALUC. The following are the specific assurances:

   i. Hazard Removal and Mitigation. It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or

otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

ii. Compatible Land Use. It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

Orange County has also acquired an avigation easement deed to protect against airspace obstructions associated with the Project location. This easement requires that the County follow the guidance of the FAA regarding construction on the property:

> If at any time in the future during a time when the foregoing easement is in effect, Grantor, or its successors or assigns, plans the construction of any building or structure extending into the airspace within such easement and the ***applicable rules and regulations*** [emphasis added] or criteria promulgated by the Federal Aviation Agency or other cognizant federal aviation agency have been changed, amended or altered over such criteria as defined by the easement hereunder ***to permit the use of all or a portion of the airspace*** [emphasis added] over which such easement is granted, Grantee will release and quitclaim to Grantor, its successors or assigns, without consideration such airspace as is no longer required by such rules and regulations or criteria as so amended, changed or altered so as to permit the construction of such building or structure.

The Airport provided a comment to the FAA during the Public Notice phase of each case for consideration by the FAA in its aeronautical studies on the Project. This comment calls out the ALUC process and the above-cited avigation easement. The FAA acknowledges this comment and addresses it directly in each of its aeronautical studies of the Project. The Airport did not follow up and petition the FAA for discretionary review of its determinations as is allowable under FAR Part §77.37.

4. The FAA's Determination of No Hazard to Air Navigation is based upon the findings of its aeronautical studies specific to The Landmark office and hotel structures. These studies are called out in FAR Part 77, Subpart D, Aeronautical Studies and Determinations and in 49 U.S.C. §44718, Structures Interfering with Air Commerce or National Security. The procedures for these studies are published in FAA Order JO 7400.2L, Procedures for Handling Airspace Matters (See Chapter 6). **Figure 1** provides a plan view of the relative location of The Landmark Project to the areas considered by the FAA in its aeronautical study of structures within the Visual Flight Rules ("VFR"), Traffic Pattern Airspace. The Project location is "abeam" Runway 2R/20L at John Wayne Airport and within the Horizontal Surface area. This is the area to the side of a runway that extends outward from a line perpendicular to the runway end points that is outside of the runway approach slope, transitional surface and the climb/descent areas.

The FAA performed a Feasibility Study of a single structure on the Project site back in 2015. As specified in FAA Order 7400.2L, 6-1-6, "[a] feasibility study is a limited aeronautical review based on very broad, estimated, or general information supplied for the structure." The focus is on the structure height in a general location and results in a report instead of an official determination. **Figure 2** is an illustrative cross section depicting the results of that study. It found that the requested height of 345 feet (395 feet above mean sea level (AMSL)) would penetrate the FAR Part 77 Horizontal Surface by 188 feet. There was no adverse impact to the visual traffic pattern penetration identified in the study. The study did find several potential impacts on existing instrument flight procedures at JWA. The study concluded that by lowering the structure to not exceed 340 feet AMSL would result in a building height that would pose no effect on instrument flight procedures.

Figure 1: Traffic Pattern Airspace Adverse Effect (FAA Order JO 7400.2L, Figure 6-3-10)

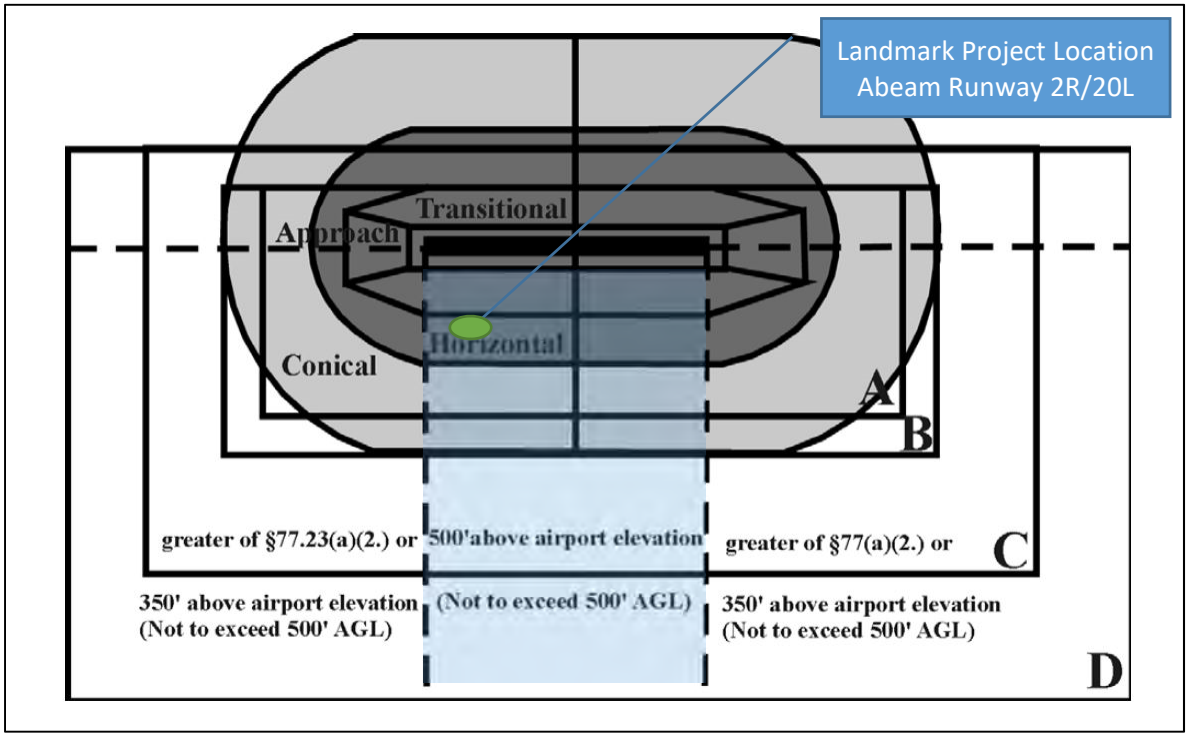
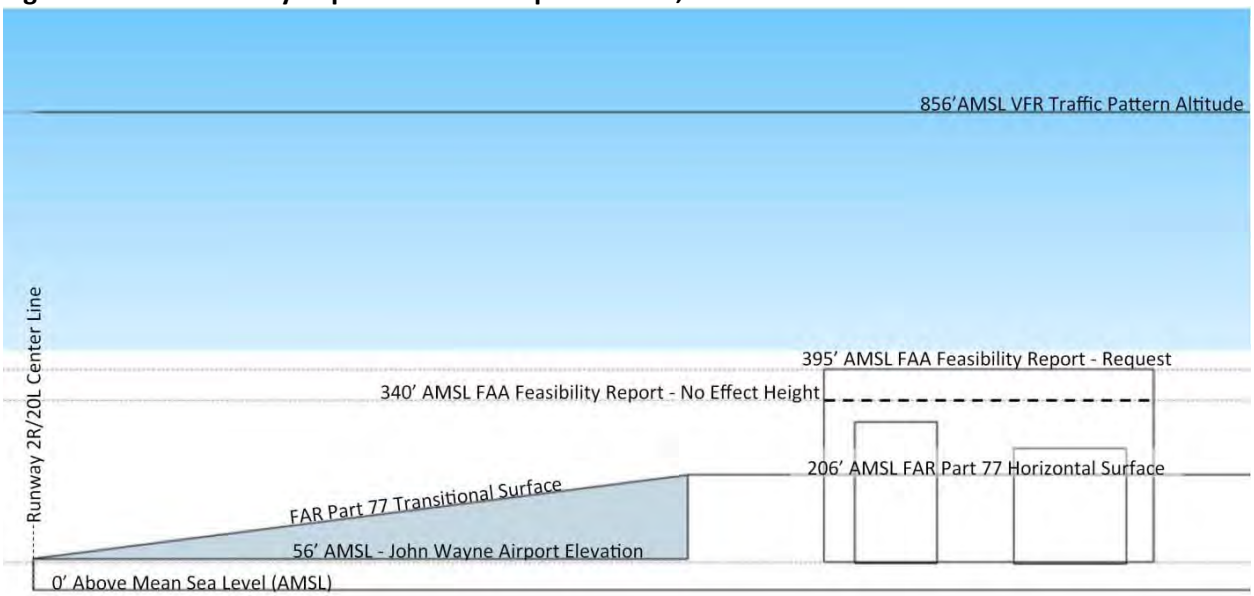
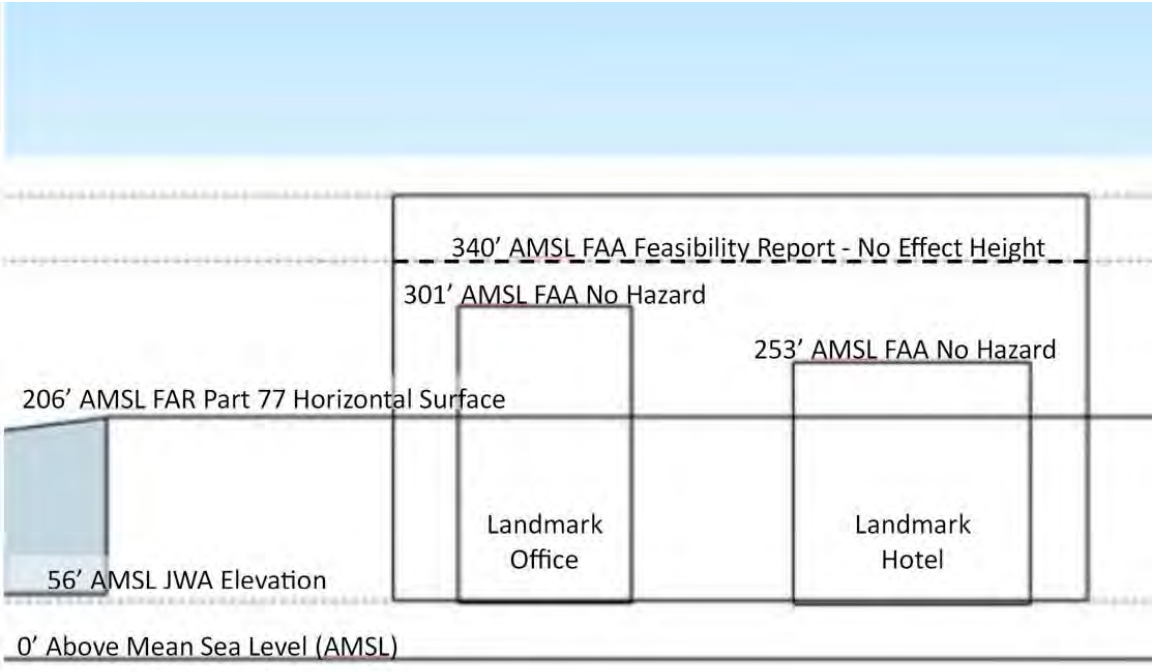


Figure 2: FAA Feasibility Report Results – September 14, 2015



The FAA performed two aeronautical studies on the specific Landmark Project buildings in 2016. The first study was on the hotel structure and the second was on the office structure. **Figure 3** is an illustrative depiction of the results of the buildings analyzed in these two studies. On January 24, 2017, the FAA issued a Determination of No Hazard to Air Navigation for The Landmark hotel structure. On March 10, 2017, the FAA issued a Determination of No Hazard to Air Navigation for The Landmark office structure. In each case, the FAA's "study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities."

Figure 3: FAA Determinations of No Hazard – January 24, 2017 (Hotel) and March 10, 2017 (Office)



5. The FAA's Determination of No Hazard to Air Navigation contains specific conditions to ensure adequate notice to the aviation community of the change in condition associated with the construction and future presence of The Landmark Project. These conditions include:

    a. Structure is to be marked/lighted in accordance with FAA Advisory Circular 70/7460-1L, Change 1, Obstruction Marking and Lighting, with red lights as specified in Chapters 4, 5 and 12.

    b. Any failure or malfunction that lasts more than 30 minutes and affects a top light or flashing obstruction light, regardless of position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

    c. It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or within 5 days after the construction reaches its greatest height (7460-2, Part 2).

    d. Any height exceeding 253 feet AMSL for the hotel structure and any height exceeding 301 feet AMSL for the office structure will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

    e. The determination issued for the hotel structure expires on July 24, 2018 and the office structure determination expires on September 10, 2018, unless:

        i. the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by the FAA.

        ii. The determination is extended, revised, or terminated by the issuing office.

        iii. the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

    f. This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power (frequencies and power are included due to information needs of the FCC to determine potential radio frequency interference that may be associated with the structure). Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

    g. This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

6. Flight track information was provided by JWA and noted by the ALUC and CalTrans in their letters to the City of Irvine. This flight track information was studied along with reviews of specific aircraft operations from noise monitoring system flight tracking available to the public.

   The flight track information provided by JWA was inadequate to correlate each flight track near the Project site to the list of aircraft identifiers associated with these flight tracks. Fixed-wing aircraft operating within the JWA Airport Traffic Pattern airspace would not track over the Project site without being seriously off course from normal traffic pattern ground tracks. The fixed wing aircraft overflying the site appear to be well above normal traffic pattern altitudes, transiting the Airport airspace generally perpendicular to the runway headings.

   Helicopters operating in this area can operate lower to the ground and closer to structures and maneuver closer to the airport than fixed-wing aircraft. Helicopters flying to and from JWA maneuver around the entire airport airspace in close coordination with instructions from the FAA Air Traffic Control Tower controllers. If the Project facilities are approved and constructed, the obstruction light mitigation measures will make structures on the project site conspicuous to pilots flying in the vicinity at night.

7. Concerns were raised related to potential solar reflection impacts from the proposed Project during the ALUC hearing on the Project and again during the City Council hearing on July 25, 2017. In response, the applicant commissioned a study, dated August 28, 2017, using industry-accepted solar glare analysis tools and methodology to investigate the potential impact of solar glare reflections off of the structures and parking structure rooftop photovoltaic ("PV") panels on air traffic controllers, ground crews at JWA and pilots on the ground or in flight. No visual glare impacts are expected for air traffic controllers. Short duration solar impacts on the ground in the summer months early in the morning and near sunset are expected; however, those times are during the JWA noise curfew hours and therefore planes are not anticipated to be in use. Some solar impacts to pilots in flight or on the JWA airport surface are expected but did not exceed the solar glare significance threshold. While mitigation of these potential affects was not considered necessary, recommendations for strategies to reduce reflection impacts are provided in the study.

5. RECOMMENDATIONS

This section provides recommendations for the Irvine City Council to consider during its deliberations on whether an overrule (pursuant to Sections 21670 and 21676 of the California Public Utilities Code) of the Airport Land Use Commission's finding of inconsistency with the Airport Environs Land Use Plan for John Wayne Airport, should be granted in the case of The Landmark Project.

Recommendation 1: Based upon the foregoing review, research and analysis, the City of Irvine should accept the Federal Aviation Administration's (FAA) Determinations of No Hazard to Air Navigation for The Landmark hotel and office structures as the only authoritative source of aviation safety findings regarding The Landmark Project and should support the overrule of the ALUC inconsistency determination.

Recommendation 2: Based upon the foregoing review, research and analysis, it is our recommendation that the City of Irvine should strictly enforce the FAA's conditions requiring 1) construction notification, 2) marking and lighting of temporary construction equipment, 3) additional FAA review of construction equipment taller than current determinations, 4) marking and lighting of buildings, and 5) constant compliance with the mitigation measures.

6. RESUME

NICK JOHNSON

PRESIDENT & CEO – JOHNSON AVIATION, INC.

Nick Johnson is a leader in aviation and airport planning. He has expertise and experience in airport master plans, airport land use planning, aviation public policy, airport system planning, public outreach, facilities and operations planning, strategic planning, environmental analysis, financial policy, air traffic procedures planning, airport security analysis and airport project construction. Nick founded Johnson Aviation in 2004 providing leadership on high profile and contentious airport master planning and environmental projects.

Since 2011 Nick has worked closely with the leadership of the City of Ontario and the Ontario International Airport Authority to transfer ownership and operation of Ontario International Airport (ONT). He worked with a small team to develop the strategic business plan adopted in 2013 that guides the Authority's strategic direction. In 2015 and 2016, Nick led a large and diverse ownership transfer team to meet all regulatory, operational, financial, environmental, and legal requirements of the FAA. That team successfully transferred the ownership and operation of the Airport in 15 months. Johnson Aviation staff continues as the Airport's planning and development program managers.

Johnson Aviation worked with ATAC Corporation and the Federal Aviation Administration (FAA) on updates and revisions to its key airport planning guidance documents. The FAA's Master Plan Advisory Circular (AC) was revised and updated to address innovations and lessons learned in the field of airport planning. The FAA's Airport Land Use Compatibility AC was completely rewritten to address the challenges of effective land use planning near airports to ensure the safe and compatible use of nearby land while maximizing the economic development characteristics of these surrounding areas. The FAA's Solar Guidance document was updated to take into account the most recent findings of solar panel glare analyses and the effects on safe air navigation.

Nick worked closely with Los Angeles World Airports (LAWA) to secure City Council approval of the Los Angeles International Airport (LAX) Master Plan entitlements that were ultimately approved in December 2004. He provided technical planning support to the legal defense team on the LAX Master Plan when it was sued in State and federal courts. Four legal challenges related to the California Environmental Quality Act (CEQA) Environmental Impact Report and to the National Environmental Policy Act, Record of Decision were successfully settled in December 2005. Nick also facilitated a required review and approval of key settlement provisions by the FAA.

Nick worked with LAWA and consulting team in the early phase of a multi-year study of key components of the LAX Master Plan. Together, they crafted an approach in close coordination with airline and community stakeholders. This planning initiative by LAWA was intended to modernize LAX and expand regional airport capacity throughout Southern California.

Nick provided strategic guidance to a team of airport planners from HNTB Corporation on the San Diego International Airport Master Plan. This plan was developed to meet the immediate needs of the airport and airline community while the policy for the long-term future of the airport was resolved. The Green Build terminal project was the first major plan component completed in 2013.

Prior to starting Johnson Aviation, Nick was a Vice President with Landrum & Brown in the firm's airport planning practice. He served as Landrum & Brown's Project Manager for the LAX Master Plan. He lead the way in developing a plan for LAX that balanced the needs of the regional economy while finding practical solutions for the local impact to nearby communities as part of a multi-discipline consultant team. Nick also led various land re-use and property development projects for Landrum & Brown at other major California airports.

Education

Master of Public Administration, Aviation Administration – Southern Illinois University
Bachelor of Science, Aviation Management – Southern Illinois University
Air Traffic Control Internship – Federal Aviation Administration
Aviation Flight Program – Southern Illinois University

Selected Projects

Los Angeles International Airport
- Master Plan Study
- Environmental Impact Statement/ Environmental Impact Report
- International Gateway Analysis
- Strategic Planning Analysis
- Airport Land Use Plan
- Stipulated Settlement Agreement
- South Airfield Improvement Project EIR
- North Airfield Safety Study

Denver International Airport
- Airspace Redesign Program for 32 new RNAV arrival and departure procedures
- Aircraft De-ice Facility analysis and use program

San Diego International Airport
- Airport Master Plan
- Environmental Impact Report/EA
- Airport Site Selection Program Phase 1
- Gate Allocation Study
- 1996 Strategic Plan

Ontario International Airport
- Strategic Plan
- Adaptive Property Reuse Study
- Master Plan Study
- OIAA Development Program Management

John Wayne-Orange County, CA Airport
- Settlement Agreement Extension (representing the City of Newport Beach)
- Master Plan Update

Boeing Realty Corporation
- Long Beach Airport Commercial Property Reuse Study
- Huntsville Alabama Commercial Property Reuse Study
- Corporate Headquarters Relocation Team

The Boeing Company
- Douglas Park FAA Land Use Coordination
- Douglas Park Rezone Land Use Support
- Boeing Helicopter Aviation Compatibility

City of Phoenix, Aviation Department
- Airspace Feasibility Assessment

US Airways
- Philadelphia Hub Development Study

Miami International Airport
- Capital Improvement Program Verification

Chicago O'Hare International Airport
- Cargo Forecast
- Long-Range Strategic Forecast
- Terminal Development Program

Chicago Midway Airport
- General Aviation Tie-down Rates and Charges Policy
- Privatization capacity analysis

Greater Rockford Airport, Rockford, IL
- UPS Regional Hub Site Location Study and Implementation Plan
- Layout Plan for Air National Guard/Air Force Reserve Units Relocation Study (under BRAC)
- Passenger Facility Charge Application
- FAR Part 107 Airport Security Plan
- Annual Capital Improvement Program/AIP Grant Applications

Capital Airport, Springfield, Illinois
- Layout Plan for Air National Guard/Air Force Reserve Units Relocation Study (under BRAC)

Dane County Regional Airport, Madison, WI
- Noise Mitigation Home Owners Assistance Program

Palwaukee Municipal Airport, Wheeling/Prospect Heights, IL
- Eminent Domain Land Acquisition Program (37 Parcels)
- Annual Capital Improvement Program/AIP Grant Applications
- Airport Layout Plan and Report

Dupage Airport, West Chicago, IL
- Airport Layout Plan and Report
- Runway 1L/19R and 1R/19L Extension Justification Report
- Annual Capital Improvement Program/AIP Grant Applications

Aurora Municipal Airport, Aurora, IL
- Airport Layout Plan and Report
- Environmental Assessment for New Runway 15/33
- Annual Capital Improvement Program/AIP Grant Applications
- Layout Plan for Army Helicopter Unit Location Study

Schaumburg Airpark, Schaumburg, IL
- Environmental Assessment for Public Acquisition of Privately-owned Airport
- Land Acquisition Program Development and Implementation
- Land Use Development Plan

Freeport Albertus Airport, Freeport, IL
- Master Plan Study
- Environmental Assessment of Runway 6/24 Extension and Widening
- Land Acquisition Program Development and Implementation
- Installation of Non-Federal Localizer/DME

Elmhurst Memorial Hospital, Elmhurst, IL
- Rooftop Heliport Siting and Layout Study
- Expert Testimony on Rooftop Heliport

RotoCraft Partnerships, Ltd.
- Heliport Siting and Layout Study

Southern Illinois Airport, Carbondale, IL
- Southern Illinois Radar Coverage Study/Simulation

Illinois Department of Transportation, Division of Aeronautics
- Illinois State Airport/Heliport System Plan

Airport Compatibility & Land Use Projects

Los Angeles International Airport
- Comprehensive Airport Land Use Plan
- Overrule of Los Angeles County Airport Land Use Commission
- Stipulated Settlement Agreement including Los Angeles County ALUC issues

Ontario International Airport
- Adaptive Property Reuse Study
- Technical Planning Consultant

Boeing Realty Corporation
- Long Beach Airport Commercial Property Reuse Study
- Huntsville Alabama Commercial Property Reuse Study
- Corporate Headquarters Relocation Team

The Boeing Company
- Douglas Park FAA Land Use Coordination
- Douglas Park Rezone Land Use Support
- Boeing Helicopter Aviation Compatibility
- Boeing B717 Facility Reuse, Long Beach, California
- Boeing Buildings S30/S31 Aviation Compatibility, El Segundo, California
- Boeing Building S50 Aviation Compatibility, El Segundo, California

AEG Worldwide
- Airport Compatibility Study and Land Use Plan – Riverside County California Airport Land Use Commission

Lee Homes
- Hawthorne Central Park Airport Compatibility Study and Land Use Plan – Los Angeles County California Airport Land Use Commission

City of Perris, California
- March Air Reserve Base & Joint Powers Authority Coordination on Airport Land Use Compatibility Planning – Riverside County California Airport Land Use Commission
- March Joint Land Use Study Coordination - Riverside County Airport Land Use Commission
- Perris Valley Airport Compatibility Study – Riverside County California Airport Land Use Commission Coordination
- City General Plan and selected Specific Plan Updates based upon Adopted Airport Land Use Compatibility Plan.

Kohl Ranch – Thermal, California
- Kohl Ranch Specific Plan Amendment Study – Airport Compatibility Plan – Riverside County Airport Land Use Commission
- Thermal Motorsports Park (TMP) Race Track Plan – Riverside County Airport Land Use Commission

Thermal Motorsports
- Race Track land use planning and approvals adjacent to Jacqueline Cochran Regional Airport
- BMW Performance Center West ALUC review and approval
- Specific Plan Amendment

Sanders Industries
- New Manufacturing and Distribution Facility Aviation Compatibility Planning – Long Beach, California

Xebec Incorporated
- New Manufacturing and Office Facility Aviation Compatibility Planning – Long Beach, California

Nexus Development Corporation
- Hotel and Office Facility Aviation Compatibility Planning – Long Beach, California

Sares-Regis Group
- Redevelopment and reuse of aviation manufacturing facilities – Long Beach, California
- Land use planning for manufacturing, industrial, distribution and office facilities – Long Beach, California
- Land use planning near March Air Reserve Base
- Land use planning near Chino Airport
- Land use planning near Ontario International Airport

Los Angeles Metro
- Crenshaw/LAX Transit Corridor design and construction planning through the LAX Section
- Crenshaw/LAX Line Maintenance Yard land use planning, site clearing and business relocation support

Dollar Thrifty Automotive Group
- Project manager for relocation and consolidation of LAX-area facilities and operations

City of San Luis Obispo

San Luis Obispo Airport Land Use Study
- Update to the City of San Luis Obispo Land Use and Circulation Elements of its General Plan
- Airport Land Use Plan update and revisions
- Land use planning guidance and strategy

Technical Consultant, Litigation Support & Expert Witness

United Air Lines, Inc., v. The City of Los Angeles
- Technical airport planning consultant, expert witness for defendant – deposition and trial

Boca Airport, Inc., d/b/a Boca Aviation v. Proskauer Rose
- Technical airport planning consultant and expert witness for plaintiff – deposition and trial

Silverwing at Sandpoint, LLC v. Bonner County (Idaho)
- Technical airport planning consultant, expert witness for defendant – deposition and trial

City of Ontario v. City of Los Angeles
- Technical airport planning consultant and litigation support for plaintiff – deposition and settlement

Eagles Nest II, Inc. v. Chino Development League, Inc.; Celso M. Palafox
- Technical airport planning consultant and expert witness for plaintiff – designated expert

Dryden Oaks, LLC; and Durkin-CAC LOT 24, LLC v. San Diego County Regional Airport Authority; County of San Diego
- Technical airport planning consultant and expert witness for defendant, San Diego County Regional Airport Authority – retained consultant and expert

Nyenhuis v. San Bernardino County
- Technical airport planning consultant and expert witness for plaintiff – designated expert

CITY COUNCIL RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, ADOPTING FINDINGS TO OVERRIDE THE AIRPORT LAND USE COMMISSION FOR ORANGE COUNTY INCONSISTENCY DETERMINATION FOR THE LANDMARK PROJECT LOCATED AT 18872, 18912 AND 18952 MACARTHUR BOULEVARD IN PLANNING AREA 36 (IRVINE BUSINESS COMPLEX); FILED BY GREAT FAR EAST, LLC

WHEREAS, an application has been filed by Great Far East, LLC, for The Landmark Project (Commercial Master Plan 00659728-PMPC) to allow development of a 15-story, 386-room hotel, a 15-story office building and ground level restaurant/retail space located at 18872, 18912 and 18952 MacArthur Boulevard in Planning Area 36 [Irvine Business Complex (IBC)]; and

WHEREAS, the maximum building height allowed for the project site, which is located within the 5.1 IBC Multi-Use zoning district, is as follows:

> Irvine Zoning Ordinance Section 3-37-29(G), Maximum building height. Federal Aviation Administration (FAA) height limits as determined in accordance with Part 77 of the FAA regulations; and

WHEREAS, in accordance with the Irvine Zoning Ordinance requirement for FAA review of project height, on January 24 and March 10, 2017, FAA *Determinations of No Hazard to Air Navigation* were issued for the 204-foot tall above ground level (AGL) hotel and 253-foot AGL tall office building proposed at the project site; and

WHEREAS, at a duly noticed public hearing on April 20, 2017, the Airport Land Use Commission (ALUC) of Orange County reviewed the project and made a determination that the hotel and office buildings are:

A. Inconsistent with the Airport Environs Land Use Plan (AELUP) for John Wayne Airport (JWA) per ALEUP Sections 1.2 and 2.1.4 and PUC Section 21674; and
B. Inconsistent with the AELUP for Heliports per Section 1.2; and

WHEREAS, pursuant to Public Utilities Code Sections 21670 and 21676, the City of Irvine may, after a public hearing, overrule the decision of the ALUC by a two-thirds vote of the City Council and approve the project, if the City makes specific findings that the proposed project is consistent with the purposes of Section 21670; and

WHEREAS, on May 25, 2017, the City provided a 45-day notice to the ALUC and the California Department of Transportation Division of Aeronautics, via certified post, of

ATTACHMENT 5

the City Council's intent to consider an override of the ALUC determination of inconsistency with the AELUPs for JWA and for Heliports for The Landmark Project; and

WHEREAS, on June 15, 2017, the Irvine Planning Commission considered evidence presented by City staff, the applicant and other interested parties at a duly noticed public hearing and approved the Commercial Master Plan for The Landmark Project by a vote of 4-0-1 (Commissioner Bartlett absent). The approval was contingent upon the City Council approving the overrule; and

WHEREAS, on June 20, 2017, the Irvine Transportation Commission considered the project Access Study along with evidence presented by City staff, the applicant and other interested parties at a public hearing and unanimously voted to accept the *Access Stud*y without revision; and

WHEREAS, on June 22, 2017, a City Council public hearing notice was published in the *Irvine World News,* was mailed to all property owners and occupants within a 500-foot radius of the subject site, and was posted on the site and at designated locations throughout the City; and

WHEREAS, on July 11, 2017, the Irvine City Council considered evidence presented by City staff, the applicant and other interested parties at a public hearing and continued the item to allow time to review additional evidence; and

WHEREAS, on July 25, 2017, the Irvine City Council considered evidence presented by City staff, the applicant and other interested parties at a public hearing and requested that staff issue a limited Request for Proposals (RFP) and hire an independent aviation consultant to review all project-related materials and provide a recommendation to the City Council concluding whether the proposed project is safe and whether the override request should be supported; and

WHEREAS, on October 12, 2017, at the conclusion of the RFP process, the City hired Johnson Aviation to provide aviation consultant services as requested by the Irvine City Council; and

WHEREAS, on October 24, 2017, the Irvine City Council continued to the November 28 City Council meeting to allow the aviation consultant sufficient time to prepare a recommendation report analyzing the project; and

WHEREAS, the City Council of the City of Irvine has considered evidence presented by City staff, the City's aviation consultant, the applicant and other interested parties at a public hearing on November 28, 2017.

NOW, THEREFORE, the City Council of the City of Irvine DOES HEREBY RESOLVE as follows:

SECTION 1. The Recitals above are true and correct and incorporated herein by this reference.

SECTION 2. The findings required by Sections 21670 and 21676 of the Public Utilities Code to override the ALUC determination that The Landmark Project is inconsistent with the AELUP for JWA are hereby made as follows:

A. It is in the public interest to (1) provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to (2) promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to (3) prevent the creation of new noise and safety problems.

(1) To provide for the orderly development of JWA and the area surrounding the airport, the ALUC adopted the 2008 AELUP on April 17, 2008. AELUP Section 2.1 sets forth specific standards and criteria for new development, which is based on the continuing operation of JWA as a commercial and general aviation airport. The AELUP standards/criteria guide development proposals to best provide for orderly development within the area surrounding JWA. Specific criteria for consideration include: Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions. These AELUP standards are technically met allowing the project to be consistent with the JWA AELUP. Specific compliance with Section 2.1 is described as follows:

a. Aircraft Noise – The Landmark Project is located within the 60 CNEL Contour as set in the Noise Element of the City of Irvine General Plan. However, the more stringent noise measures set forth in the 2008 IBC Vision Plan Environmental Impact Report (EIR) apply to The Landmark project. The measures are as follows:

I. Plans, Programs and Policies (PPP) 9-1 Control of Construction Hours: Construction activities occurring as part of the project shall be subject to the limitations and requirements of Section 6-8-205(a) of the Irvine Municipal Code which states that construction activities may occur between 7 a.m. and 7 p.m. Mondays through Fridays, and 9 a.m. and 6 p.m. on Saturdays. No construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or his or her authorized representative. Trucks, vehicles and equipment that are making, or are involved with, material deliveries, loading or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City. Any waiver granted shall take impact upon the community into consideration. No construction activity will be

permitted outside of these hours except in emergencies including maintenance work on the City rights-of-way that might be required.

II. PPP 9-2 Acoustical Report: Prior to the issuance of building permits for each structure or tenant improvement other than a parking structure, the applicant shall submit a final acoustical report prepared to the satisfaction of the Director of Community Development. The report shall show that the development will be sound attenuated against present and projected noise levels, including roadway, aircraft, helicopter and railroad, to meet City interior and exterior noise standards. The final acoustical report shall include all information required by the City's Acoustical Report Information Sheet (Form 42-48). To demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures.

III. Project Design Feature (PDF) 9-2: Prior to issuance of grading permits, the project applicant shall incorporate the following measures as a note on the grading plan cover sheet to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.

i. Construction equipment, fixed or mobile, shall be equipped with properly operating and maintained noise mufflers consistent with manufacturer's standards.
ii. Construction staging areas shall be located away from off-site sensitive uses during the later phases of project development.
iii. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, whenever feasible.
iv. Construction of sound walls that have been incorporated into the project design prior to construction of the building foundation; or installation of temporary sound blankets (fences typically composed of poly-vinyl-chloride-coated outer shells with adsorbent inner insulation) placed along the boundary of the project site during construction activities.

IV. PDF 9-3: As described in the proposed zoning for the project, prior to issuance of certificate of occupancy, the project applicant shall submit evidence to the satisfaction of the Director of Community Development that occupancy disclosure notices for units with patios and/or balconies that do not meet the 65 dBA CNEL are

provided to all future tenants pursuant to the City's Noise Ordinance.

V. PDF 9-4: As described in the proposed zoning for the project, residential and active recreational areas shall be prohibited in the 65 dBA CNEL noise contour of JWA. In addition, as described in the proposed zoning for the project, prior to issuance of building permits, the project applicant for any project within the 60 dBA CNEL contour of JWA shall retain an acoustical engineer to prepare an acoustic analysis that identifies required building acoustical improvements (*e.g.*, sound transmission class rated windows, doors, and attic baffling) to achieve the 45 dBA CNEL interior noise standard of Title 21 and Title 24 of the California Building Code. In addition to the 24-hour interior noise standard, the acoustic report shall detail compliance with the City's interior noise standard of 55 dBA Lmax for single-event noise generated by the loudest 10 percent of aircraft overflights at JWA. Parks within the 60 dBA CNEL noise contour shall include signage indicating their proximity to JWA and related airport noise. The acoustic analysis shall be submitted to the Director of Community Development to ensure compliance.

Finally, as is required per Section 11010 of the California Business & Professions Code, the following statement will be included on sale/lease disclosure documents for this project:

Notice of Airport in Vicinity

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

b. Safety Compatibility Zones – The Landmark Project is located outside of the JWA Runway Protection Zone as depicted in Appendix D of the AELUP. The ALUC has not adopted an Accident Potential Zone for this airport because none could be justified with available data.

c. Building Height Restrictions – The FAA's Determinations of No Hazard to Air Navigation for The Landmark hotel and office structures are the only source of authoritative, aviation safety findings regarding the Landmark

Project as “the United States Government has exclusive sovereignty of airspace of the United States” (49 U.S.C. § 40103(a)(1)).

To use this airspace, the FAA Administrator is responsible for:

i. Plans and policy for the safe use of the navigable airspace (49 U.S.C. § 40103(b)(1); and
ii. “[R]egulations on the flight of aircraft (including regulations on safe altitudes) for A) navigating, protecting and identifying aircraft; B) protecting individuals and property on the ground; C) using the navigable airspace efficiently; and D) preventing collision between aircraft, between aircraft and land or water vehicle, and between aircraft and airborne objects” (49 U.S.C. § 40103(b)(2)).

The FAA’s aeronautical studies for The Landmark hotel and office structures are the definitive standard for assessing compliance with federal aviation safety laws and regulations (49 U.S.C. § 77.1(c)).

The City of Irvine has local police powers to control land use on the site (Cal. Const., art. XI 11, § 7). This constitutional authority is acknowledged in State law (Cal. PUC §21670 and §21676) and the ALUC process (AELUP §4.11) allowing for overrule or override of an ALUC finding of inconsistency.

The other entities that have processed or commented on this Project, including the Orange County ALUC, Caltrans Division of Aeronautics and John Wayne Airport, have aviation safety duties and responsibilities related to this matter. However, each of these entities relies on or ultimately defers to the FAA’s authoritative aviation safety role in airspace determinations.

The height of the hotel and office buildings proposed as part of The Landmark Project do not exceed the airport building height restriction as evidenced by the issuance of FAA *Determinations of No Hazard to Air Navigation* for the project. In its Determinations dated January 24 and March 10, 2017, the FAA asserts that the hotel and office buildings would have no significant adverse effect on air navigation.

The hotel building, at a height of 206 feet AGL / 253 feet above mean sea level (AMSL), and the office building, at a height of 253 feet AGL / 301 feet AMSL, were found to cause no hazard by the FAA. Specifically, the Determinations state that the Aeronautical Studies prepared for the proposed project by the FAA:

> “considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating

under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure[s] when combined with the impact of other existing or proposed structures. Th[ese] stud[ies] disclosed that the described structure[s] would have no substantial adverse effect on air navigation."

As required by the FAA Determination, a condition of approval was added to Planning Commission Resolution 17-3615, approving the Commercial Master Plan for The Landmark Project, which requires the hotel and office building to be marked and lighted in accordance with FAA Advisory Circular 70-7460-1 L Change 1, Obstruction Marking and Lighting, red lights – Chapters 4, 5 (Red) & 12.

In addition to the proposed buildings on the project site, there are several other large buildings within the immediate vicinity. Within the JWA Safety Zone surrounding the airport, there are buildings up to 315 AMSL in height. The proposed Landmark Project would be consistent and compatible with other tall development in the vicinity. Surrounding multi-story buildings include:

I. 2600 Michelson – 16 stories (constructed in 1986)
II. Tower 17, 18881 Von Karman – 17 stories (1987)
III. Jamboree Center, 1-5 Park Plaza – 19 stories (1989-90)
IV. 2030 Main Street – 16 stories (1990)
V. Lakeshore Tower, 18007 Von Karman – 18 stories (1990)
VI. MacArthur Court, 4675 MacArthur Ct, Newport Beach (two towers located closest to the project site) – 15 stories (1985)
VII. 3161 Michelson – 19 stories (2007)

Because the FAA has preemptive authority over the determination of air safety, pursuant to federal law (see e.g. 49 U.S.C. 40103(a)(1)), and regulation, 14 C.F.R. Part 77, as well as State law (see Public Utilities Code Section 21240), the provisions of FAR Part 77 govern in this case.

The AELUP, Section 2.1.3, confirms these federal standards by saying "[i]n adopting criteria for building height restrictions in the vicinities of airports, the commission considered only one standard and that was Federal Aviation Regulations Part 77…These regulations are the only definitive standard available and the standard most generally used." Thus, even though the applicant went beyond typical requirements in achieving compliance with the requirements of Part 77, the Irvine City Council relies on Part 77.9(e)(1) which expressly exempts a structure from the analysis requirements of Part 77 if it is "shielded by existing structures of a permanent or substantial nature…and will be located in the congested

area of a city…". As demonstrated above, there are existing structures in the immediate vicinity which serve to shield the project site.

Furthermore, Section 2.1.3 allows the ALUC to "utilize the results of an Aeronautical Study, conducted by the FAA pursuant to FAR Part 77.13, to determine if a structure will have an adverse effect on the airport or on aeronautical operations." As stated above, the Aeronautical Studies completed by the FAA for the proposed project found that the project would not have adverse impacts on air navigation. Specifically, the Determinations asserted "there is no significant adverse effect on aeronautical operations or on the utility of the navigable airspace overlying the site. Existing obstacles and terrain control the development of future approach and departure Terminal Instrument Procedures for JWA."

Section 2.1.3 also recognizes FAA aeronautical studies beyond FAR Part 77 surfaces as the standard for review, "In addition to the 'imaginary surfaces,' the Commission will use all of the FAR Part 77.23 standards along with the results of FAA aeronautical studies, or other studies deemed necessary by the Commission, in order to determine if a structure is an 'obstruction.'" This section goes on to state:

> The Commission considers and recognizes the FAA as the single "Authority" for analyzing project impact on airport or aeronautical operations, or navigational-aid siting, including interference with navigational-aids or published flight paths and procedures. The Commission also considers the FAA as the "Authority" for reporting the results of such studies and project analyses. The Commission will not consider the findings of reports or studies conducted by parties other than the FAA unless the FAA certifies and adopts such findings as true and correct.

Section 2.1.3 adds reference to FAA Advisory Circular 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects Around Airports for Commission Review. This FAA Advisory Circular provides specific guidance for establishing zoning regulations along with specific guidance on a "variance" process for potential obstructions. At Section 3.b., "The Federal Aviation Administration (FAA) conducts aeronautical studies on obstructions which examine their effect on such factors as: aircraft operational capabilities; electronic and procedural requirements; and, airport hazard standards. If an aeronautical study shows that an obstruction, when evaluated against these factors, has no substantial adverse effect upon the safe and efficient use of navigable airspace, then the obstruction is considered not to be a hazard to air navigation."

Finally, the April 20 ALUC Agenda Report states that the hotel penetrates the 206 foot AMSL horizontal surface for JWA by 47 feet and the office

building by 95 feet. There is a provision to allow such penetration, via a purchase of air rights from the County of Orange pursuant to an Easement granted to Orange County by the City of Irvine in 1964 for overflights from John Wayne Airport.

14 C.F.R. Part 77 has been amended numerous times since the 1964 Easement referenced by the County was granted by the City of Irvine, and most recently under Docket No. FAA 2006-25002, 75 Fed.Reg. 42303, July 1, 2010. Moreover, under revised Part 77, the FAA has found no hazard posed by the project in the use of the airspace over which the easement is granted.

(2) The City of Irvine requires that all development proposals meet the City's noise standards of 45 dB CNEL for the interior of buildings classified as belonging to Noise Zone 1 in the Irvine Municipal Code (Section 6-8-204(A)(2)), which is consistent with the standards established to promote the overall goals and objectives of the California airport noise standards.

As discussed above, several measures related to noise impacts are identified for the proposed project. The project proponent will be tasked with demonstrating compliance with each measure prior to the issuance of building permits. Through implementation of the City's Noise Ordinance standards, the project will meet AELUP standards for California airport noise.

(3) The standards set forth in Section 2.1 of the AELUP were adopted to prevent the creation of new noise and safety problems within the vicinity of JWA. The Landmark Project complies with the standards/criteria established in Section 2.1 (Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions), as discussed previously.

The Irvine City Council and Planning Commission have reviewed the general aviation flight tracks that were provided in a letter from JWA dated June 13, 2017. These diagrams show a limited number of general aviation aircraft (helicopters and propeller planes) that fly over the site based on a daily survey performed.

The flight track information provided by JWA was inadequate to correlate each flight track near the Project site to the list of aircraft identifiers associated with these flight tracks. Fixed-wing aircraft operating within the JWA Airport Traffic Pattern airspace would not track over the Project site without being seriously off course from normal traffic pattern ground tracks. The fixed wing aircraft overflying the site appear to be well above normal traffic pattern altitudes, transiting the Airport airspace generally perpendicular to the runway headings.

The daily tracks do show that aircraft flew at elevations ranging from 305 to 1,428 feet AMSL, with an average height of 860 feet AMSL for the day surveyed.

The office building measures 301 feet AMSL, so it is evident that the average flight path is at a substantially higher elevation than the project site. The flight tracks clearly show that the flight path for general aviation aircraft using Runway 2 at JWA is located to the east, nowhere near the project site. The Project is not located within flight paths associated with approach or departure from JWA.

In response to concerns raised during the ALUC hearing on the Project and again during the City Council hearing on July 25, 2017 related to potential solar reflection impacts from the proposed Project, the applicant commissioned a Solar Reflection Analysis, dated August 28, 2017, using industry-accepted solar glare analysis tools and methodology to investigate the potential impact of solar glare reflections off of the hotel and office structures as well as the parking structure rooftop photovoltaic ("PV") panels on air traffic controllers, ground crews at JWA and pilots on the ground or in flight. No visual glare impacts are expected for air traffic controllers. Short duration solar impacts on the ground in the summer months early in the morning and near sunset are expected; however, those times are during the JWA noise curfew hours and therefore planes are not anticipated to be operating. Some solar impacts to pilots in flight or on the JWA airport surface are expected, but these impacts are anticipated to be minor and do not exceed the solar glare significance threshold. While mitigation of these potential affects was not considered necessary, recommendations for strategies to reduce reflection impacts are provided in the study and will be incorporated in project design.

By requiring project adherence to the established standards in the AELUP, the City has taken measures to assure that risks to people and property on the ground, as well as to the occupants of aircraft, are held to a minimum.

B. It is the purpose of Chapter 3.5 of the State Aeronautics Act to protect the public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

The proposed project meets the purposes set forth in the State Aeronautics Act, Cal. Pub. Util. Code § 21670 and the AELUP Section 2.1 related to Aircraft Noise, Safety Compatibility Zones, and Building Height Restrictions, as discussed previously, in that it:

1. Provides for the orderly development of John Wayne Airport by ensuring that building heights and structures do not violate any federal statutory requirements or FAA regulations and standards, or incur upon any flight paths regularly used by aircraft arriving, departing or circling JWA.

2. Promotes the overall goals and objectives of the California airport noise standards, and prevents the creation of new noise and safety problems

by: (a) implementing noise measures set forth in the 2008 IBC Vision Plan EIR, including limits on construction hours; (b) requiring an acoustical report before the grant of building permits for each structure; (c) complying with project design features 9-2, 9-3 and 9-4; (d) complying with Irvine Municipal Code § 6-8-204(A)(2), requiring that the interior of buildings classified as belonging to Noise Zone 1 meet the City's noise standards of 45 dB CNEL for the interior of buildings.

3. In addition, the following conditions are imposed:

    a. Sound attenuation of noise impacts to meet City and California airport minimum standards;
    b. "Notice of Airport in Vicinity" to future hotel guests and office tenants;
    c. Outdoor signage depicting the presence of operating aircraft in public spaces on the project site;
    d. Obstruction lighting and marking consistent with FAA Advisory Circular 70/7460-1L, Change 1, Obstruction Marking and Lighting, with red lights as specified in Chapters 4, 5 and 12;
    e. In the case of any failure or malfunction that lasts more than 30 minutes and affects a top light or flashing obstruction light, regardless of position, the failure should be reported immediately so a Notice to Airmen (NOTAM) can be issued; and
    f. Requirement to file an FAA Form 7460-2, Notice of Actual Construction or Alteration, any time the project is abandoned or within 5 days after the construction reaches its greatest height (7460-2, Part 2);
    g. Temporary construction equipment that exceeds the overall building heights approved in the FAA Determinations required separate notice to the FAA; and
    h. Incorporation of design features as recommended in the Solar Reflection Analysis, dated August 28, 2017.

C. Based upon these findings, the City Council does hereby override ALUC's decision finding that The Landmark Project is incompatible with the AELUP for JWA.

SECTION 3. The ALUC determined that The Landmark Project is also inconsistent with the AELUP for Heliports. The Irvine City Council finds as follows:

The ALUC found the proposed Landmark Project to be inconsistent with Section 1.2 of the AELUP for Heliports. Sections 1.2 and 2.1.4 of the AELUP relate to the siting of heliports, not the operation of helicopters around existing airports. Section 1.2 states, in pertinent part, "[t]his land use compatibility plan for heliports intends to safeguard the general welfare of the inhabitants within the vicinities of heliports by reviewing proposed heliport sites to determine if the

proposed site is compatible with adjacent existing or proposed uses.". Other sections are equally limiting. In Section 2.1.4, for example, the AELUP for Heliports states: "The Commission is charged with reviewing the expansion of existing public/private use heliports/helistops and the development of new heliports/helistops." Neither one of those sections is relevant to the issue, as both apply to the siting of heliports, not with new development projects surrounding heliports.

Furthermore, in the April 20, 2017 ALUC agenda report, it is stated that helicopter operations are part of JWA general aviation operations of the proposed project site. While it may be accurate that helicopters currently fly over the project site, there was no evidence provided to show that this is a specific flight path set for helicopters; they may pursue other routes should the project be constructed.

Helicopters operating in this area can operate lower to the ground and closer to structures and maneuver closer to the airport than fixed-wing aircraft. Helicopters flying to and from JWA maneuver around the entire airport airspace in close coordination with instructions from the FAA Air Traffic Control Tower controllers. If the Project facilities are constructed, the obstruction light mitigation measures will make structures on the project site conspicuous to pilots flying in the vicinity at night.

As there are no heliports proposed as part of The Landmark Project, the City Council hereby finds that the AELUP for Heliports does not apply and, therefore, overrides this specific finding of inconsistency.

SECTION 4. That the City Clerk shall certify to the passage and adoption of this Resolution and enter it into the book of original Resolutions.

NOW, THEREFORE, based on the above findings, the City Council of the City of Irvine DOES HEREBY OVERRIDE the decision of the Airport Land Use Commission for Orange County, which found that The Landmark Project is inconsistent with the Airport Environs Land Use Plans for John Wayne Airport and for Heliports.

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 28th day of November 2017.

_____
MAYOR OF THE CITY OF IRVINE

ATTEST:

_____
CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine held on the 28th day of November 2017.

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

ABSTAIN: COUNCILMEMBERS:

_____
CITY CLERK OF THE CITY OF IRVINE

5.1

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: APPROVAL OF PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS FOR ORANGE COUNTY GREAT PARK WAYFINDING SIGNAGE

Director of Public Works

City Manager

Director, Orange County Great Park

RECOMMENDED ACTION

1. Approve the construction plans, specifications and contract documents for Orange County Great Park Wayfinding Signage, Capital Improvement Project 361726.

2. Approve the Engineer's Estimate, Construction Contingency and Project Funding Summary.

3. Authorize staff to solicit competitive bids and award the construction contract to the lowest responsive and responsible bidder, in accordance with the City's purchasing policies and procedures, within the approved project budget.

EXECUTIVE SUMMARY

A capital project to develop a comprehensive wayfinding sign program for the Orange County Great Park was approved by the City Council as part of the Fiscal Year 2016-17 annual budget. The recommended sign program was developed by the City's design consultant, AECOM, consistent with the sign design concepts previously previewed by the Great Park Board in March 2017 (Attachment 2).

Construction plans, specifications, and contract documents were prepared based on these design concepts and are ready for City Council approval. These documents are available for public review in the Public Works department. The proposed work includes installation of more than 230 signs throughout the Orange County Great Park and along the public streets leading to the Great Park facilities and amenities. Initial park destination areas include the Western Sector, Upper Bee, Bosque and Sports Park.

Staff is seeking City Council direction on the proposed sign program. The recommended actions are provided should the City Council elect to move forward with the solicitation of competitive bids for the sign program as proposed in the attached

construction plans and contract specifications or as modified by the City Council's direction to staff.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

Not applicable

ANALYSIS

The proposed Orange County Great Park Sign Program (OCGP Sign Program) is intended to implement an effective and comprehensive wayfinding system to assist the public in navigating the complex and program rich environment of the Great Park. The OCGP Sign Program provides a cohesive range of directional and wayfinding sign types including vehicular, parking, pedestrian, athletic fields and points of interest. Development of the OCGP Sign program was led by the City's design consultant, AECOM, through its Wayfinding and Environmental Graphics Design Division and included site visits and field work to refine the designs and locations.

The program identifies specific locations for new sign placement along the street network adjacent to the park (Attachment 3). Within the park, new sign placement is extensive and encompasses the areas of the Upper Bee and Bosque, the Sports Park and replacement signage for the Western Sector (Attachment 4). The sign program is engineered to grow and remain flexible to accommodate revisions with future development of the park (golf course and Cultural Terrace). The work for this project includes installation of more than 230 new signs developed in accordance with the City approved OCGP Sign Program.

The approved OCGP Sign Program complies with Chapter 2-31 (Sign Program Procedures) of the Zoning Ordinance and was approved by the Director of Community Development on July 17, 2017. The City's Zoning Ordinance delegates authority for Sign Program approval to the Director of Community Development. Signs will vary in dimension dependent on use and type as shown in Attachment 2. Twenty-five (25) of the proposed signs within the park will be illuminated and ten (10) signs will include liquid-crystal display (LCD) screens that can be programmed to display maps and communicate additional park information. The remaining signs will be standard reflective-material metal signs directing the public to the various areas of the park.

The construction contract cost estimate prepared by the consultant design engineer is $1,400,000. A budget allowance of $50,000 for construction engineering (inspection services) and $150,000 for construction contingency is recommended, as shown in the Project Funding Summary (Attachment 5). The City's construction contracting policies and procedures limit the award of the construction contract by staff to a maximum of 10 percent over the engineer's estimate and limit the use of the construction contingency for unforeseen circumstances that may arise to complete the work within the approved project scope and budget.

If the City Council approves the recommended actions, staff is prepared to immediately proceed with soliciting competitive bids for construction. A copy of the Notice Inviting Bids, Construction Contract, Plans, Specifications and the proposed Schedule of Work listing the individual bid items for this project is included as Attachment 6. The manufacture of the new signs is anticipated to begin in March 2018 following the award of the construction contract. Installation will be phased in as park development is completed and opened to the public. Work activity will take place primarily Monday through Friday between the hours of 7 a.m. and 3:30 p.m. with minimal disruption to park operations or the public use of the facilities.

ALTERNATIVES CONSIDERED

The City Council may direct staff to modify any element of the proposed sign program or project scope. The City Council may also approve the construction plans and related documents, authorize staff to solicit competitive bids and direct staff to bring back the results of the competitive bid process to the City Council for its review and consideration prior to award of the contract.

FINANCIAL IMPACT

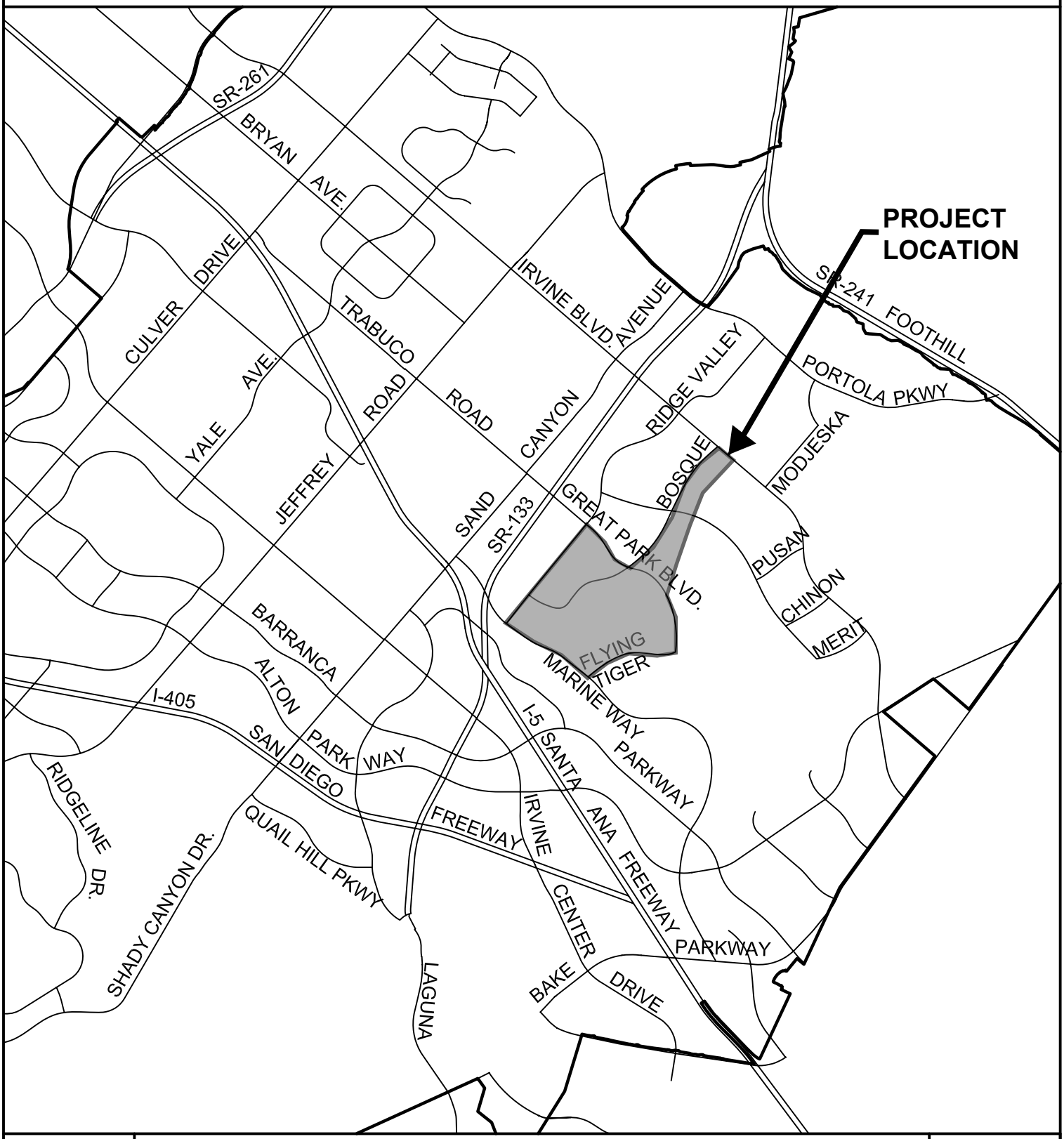
The construction contract estimate prepared by the consultant design engineer is $1,400,000. The recommended budget allowance of $50,000 for construction engineering and $150,000 for construction contingency brings the total estimated project cost for the construction phase to $1,600,000. Funding for the project is available in the City Council approved CIP 361726 from Park In-Lieu funds. A complete Project Funding Summary for this project is provided in Attachment 5.

REPORT PREPARED BY: Tom Perez, CIP Administrator
Chris Koster, Manager of Great Park Planning and Development

ATTACHMENTS

1. Vicinity Map
2. Sign Depictions
3. Street Sign Location Plan
4. Great Park Sign Location Plan
5. Project Funding Summary
6. Notice Inviting Bids, Construction Contract, Plans, Specifications and Proposed Schedule of Work

ORANGE COUNTY GREAT PARK WAYFINDING SIGNAGE

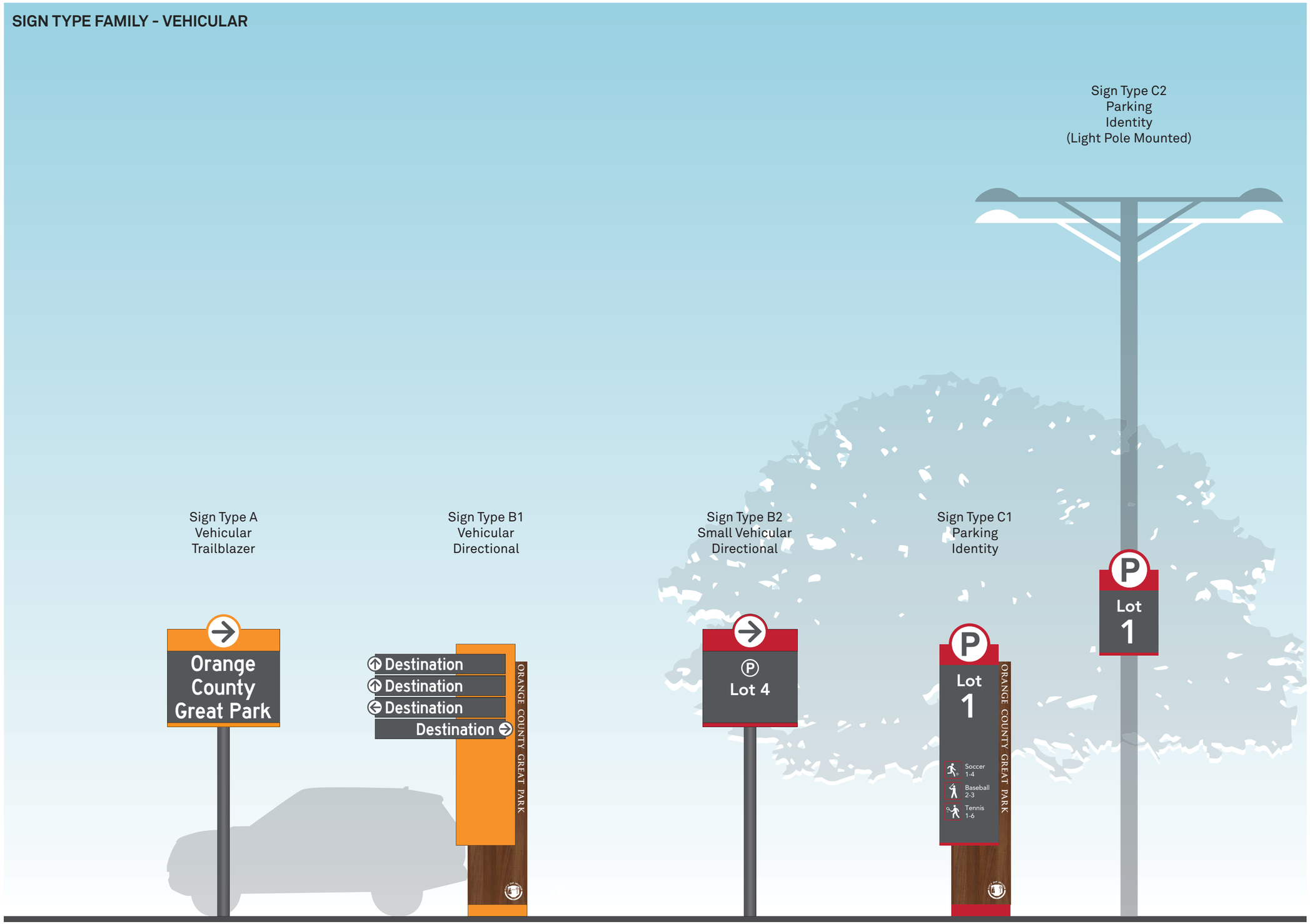


VICINITY MAP

ATTACHMENT 1

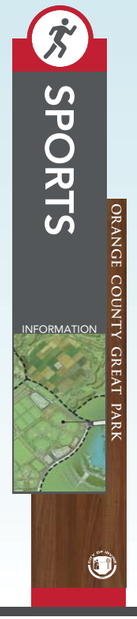
SIGN DEPICTION

SIGN TYPE FAMILY - VEHICULAR



SIGN TYPE FAMILY - PEDESTRIAN

Sign Type D
Pedestrian
Landmark Identity



Sign Type E1
Pedestrian
Directional



Sign Type E2
Pedestrian
Directional



Sign Type F1
Soccer Field
Identity



Sign Type F2
Volleyball Court
Identity



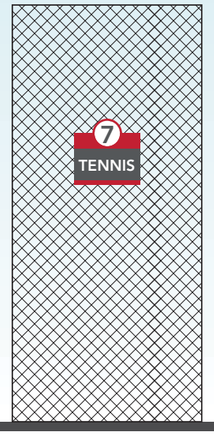
Sign Type F3
Baseball Field
Identity



Sign Type F4
Softball Field
Identity



Sign Type F5
Tennis Court
Identity



Sign Type F6
Basketball Court
Identity



SIGN TYPE FAMILY - PEDESTRIAN

Sign Type G1
Bicycle
Directional

Sign Type G2
Bicycle
Mile Marker

Sign Type H
Trail Gateway Sign

Sign Type J
Pedestrian Map



STREET SIGN LOCATION PLAN

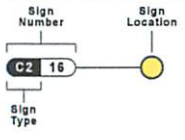
SIGN TYPE A – SIGN LOCATION PLAN

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 20, 2017
Revisions:

These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator.

The content of this document is subject to the design intent requirements outlined in the Fabricator Specifications.

ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

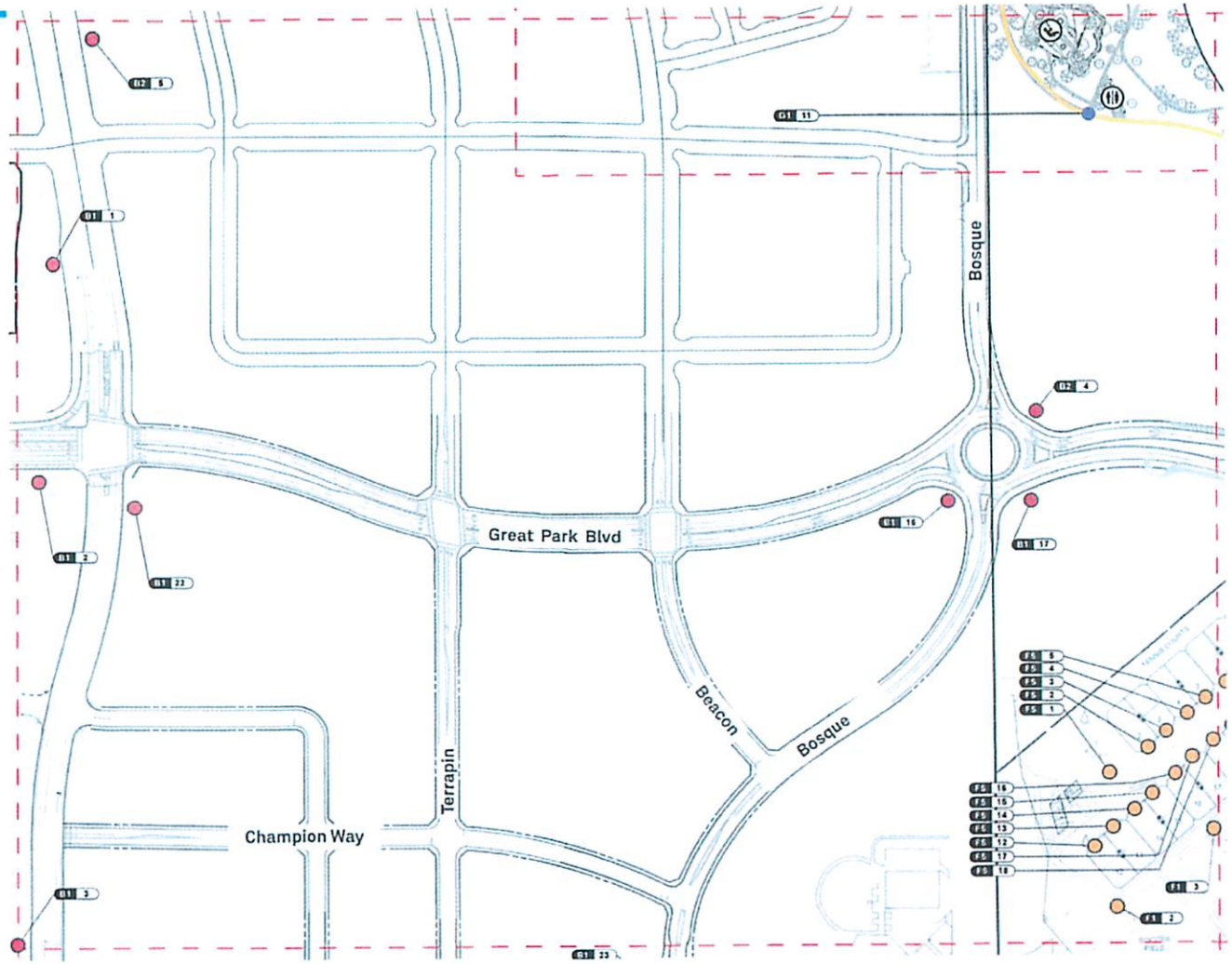
ATTACHMENT 3

GREAT PARK SIGN LOCATION PLAN

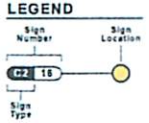
SIGN LOCATION PLAN-SECTOR C

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Revisions:

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00/05463-PSR

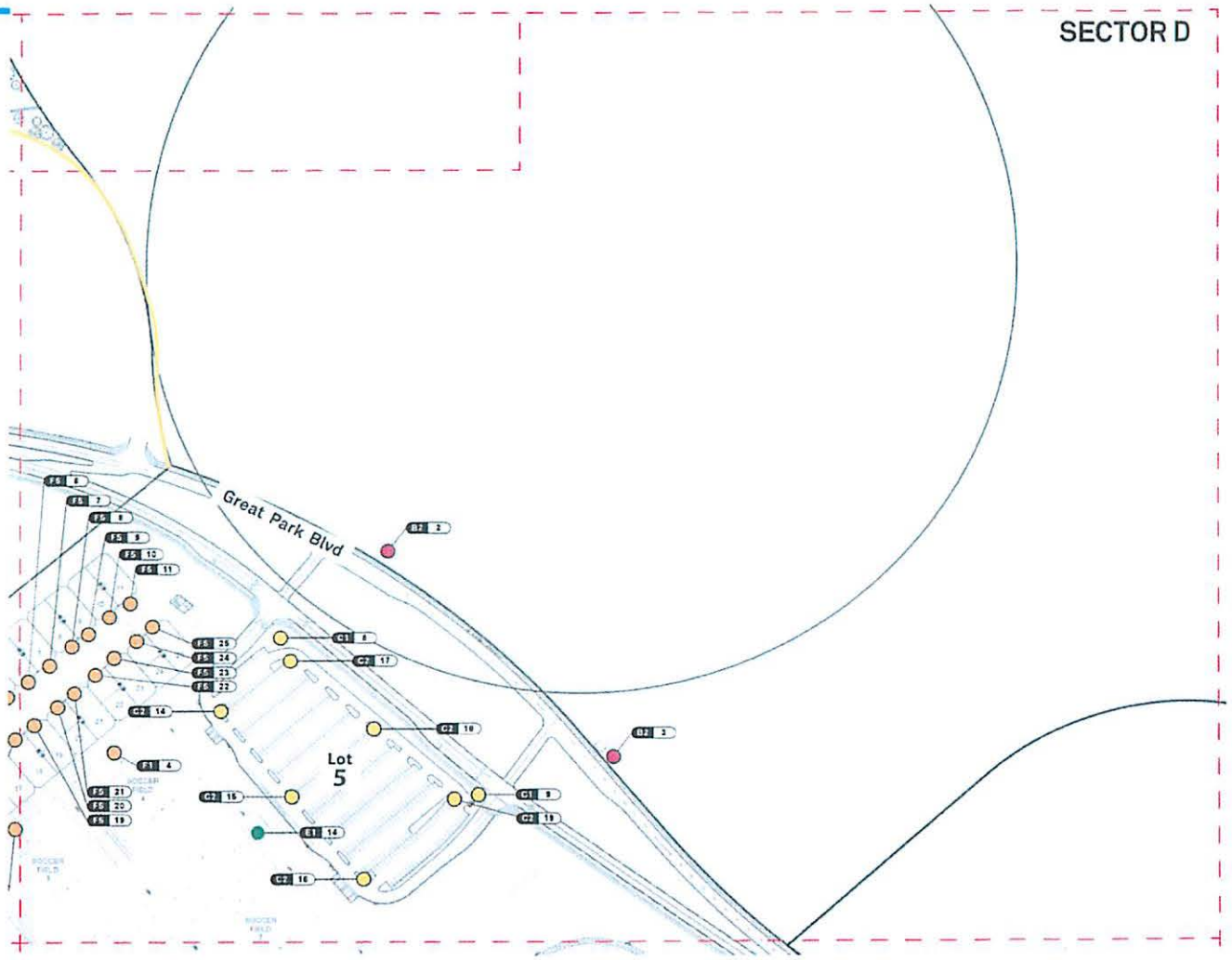
AECOM

ATTACHMENT 4

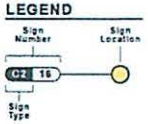
SIGN LOCATION PLAN- SECTOR D

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
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Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
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Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

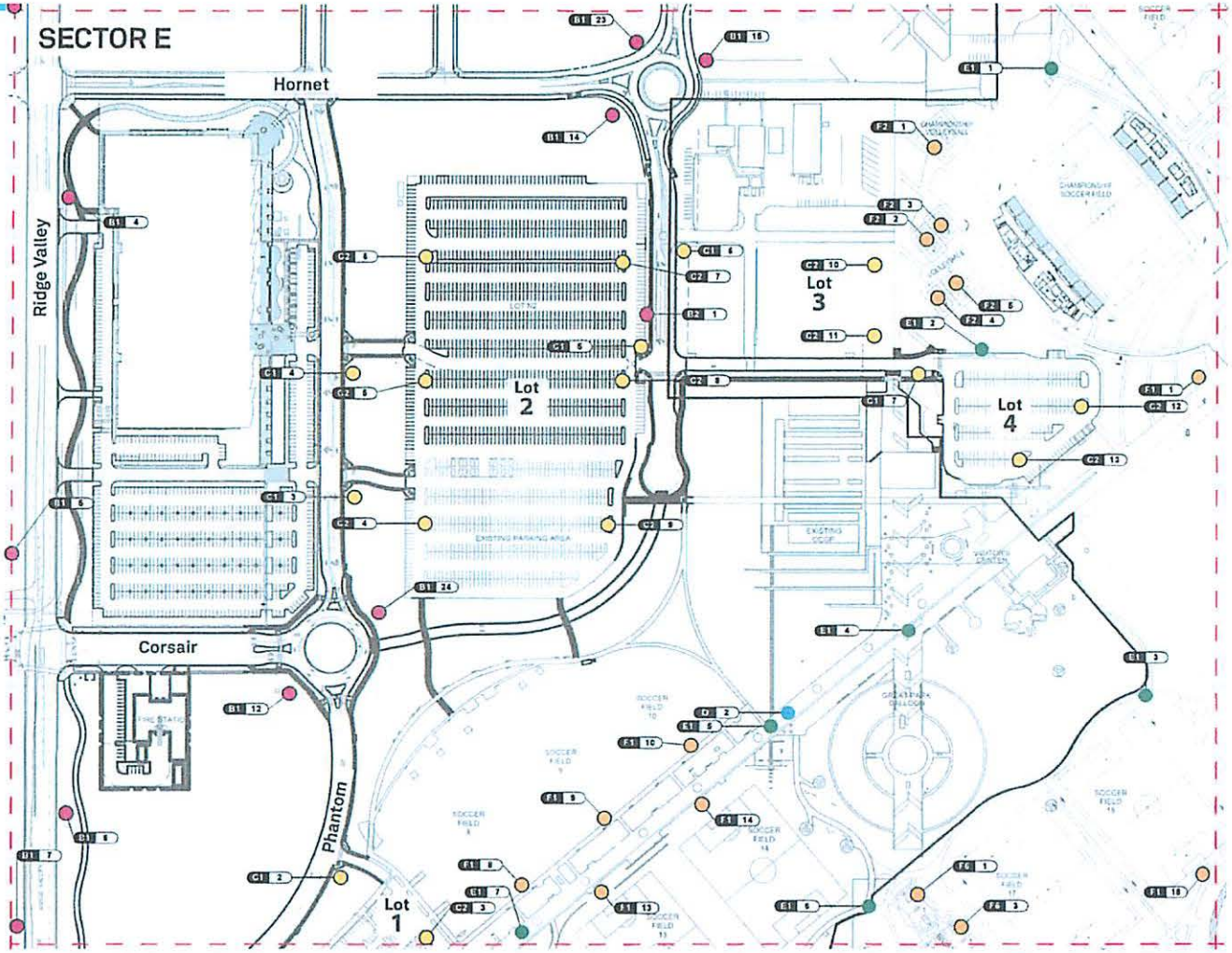
Case No: 00705463-PES

AECOM

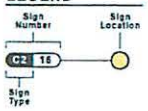
SIGN LOCATION PLAN- SECTOR E

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 23, 2017
Revisions:

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 0705463-PSS

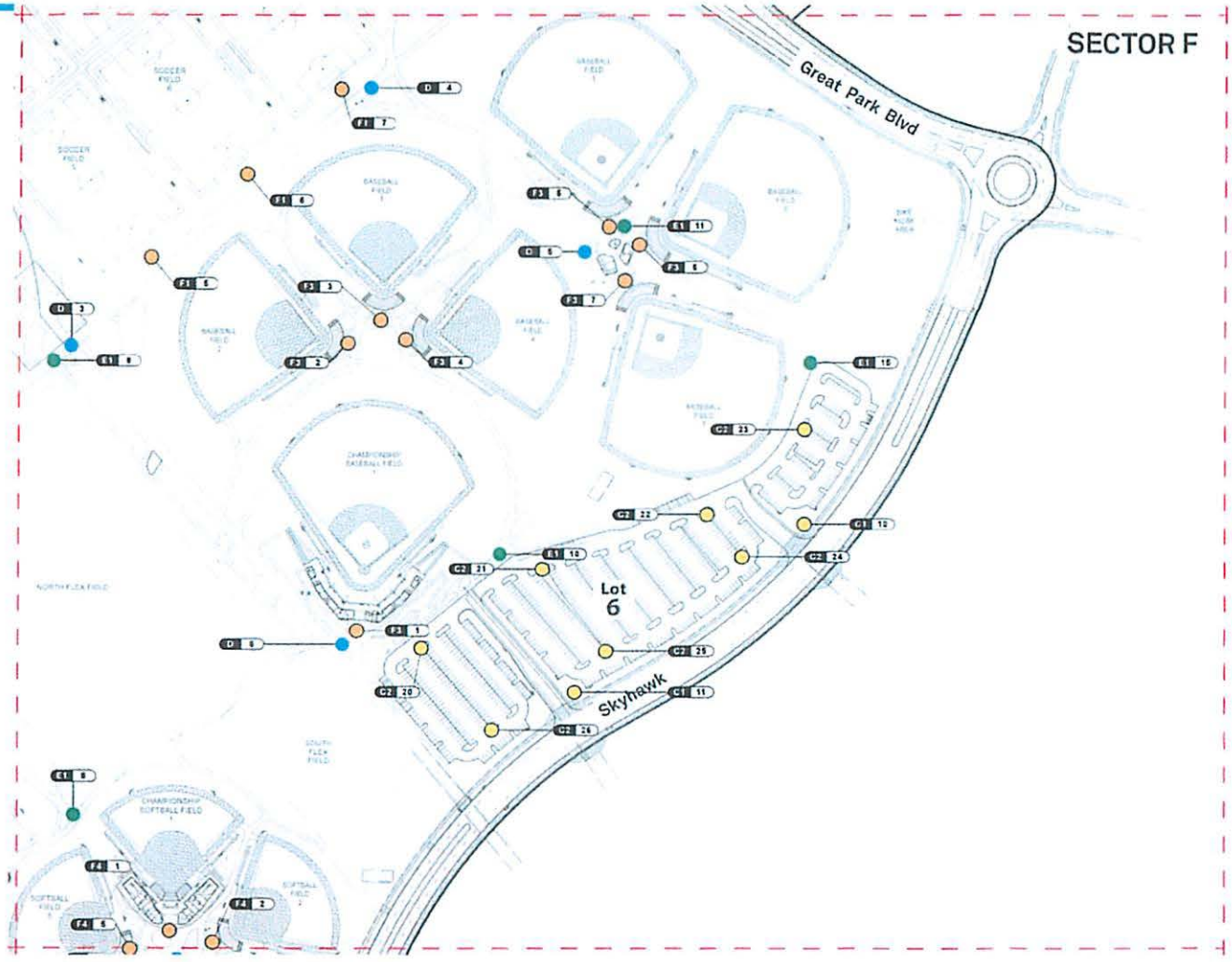
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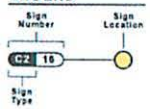
SIGN LOCATION PLAN- SECTOR F

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

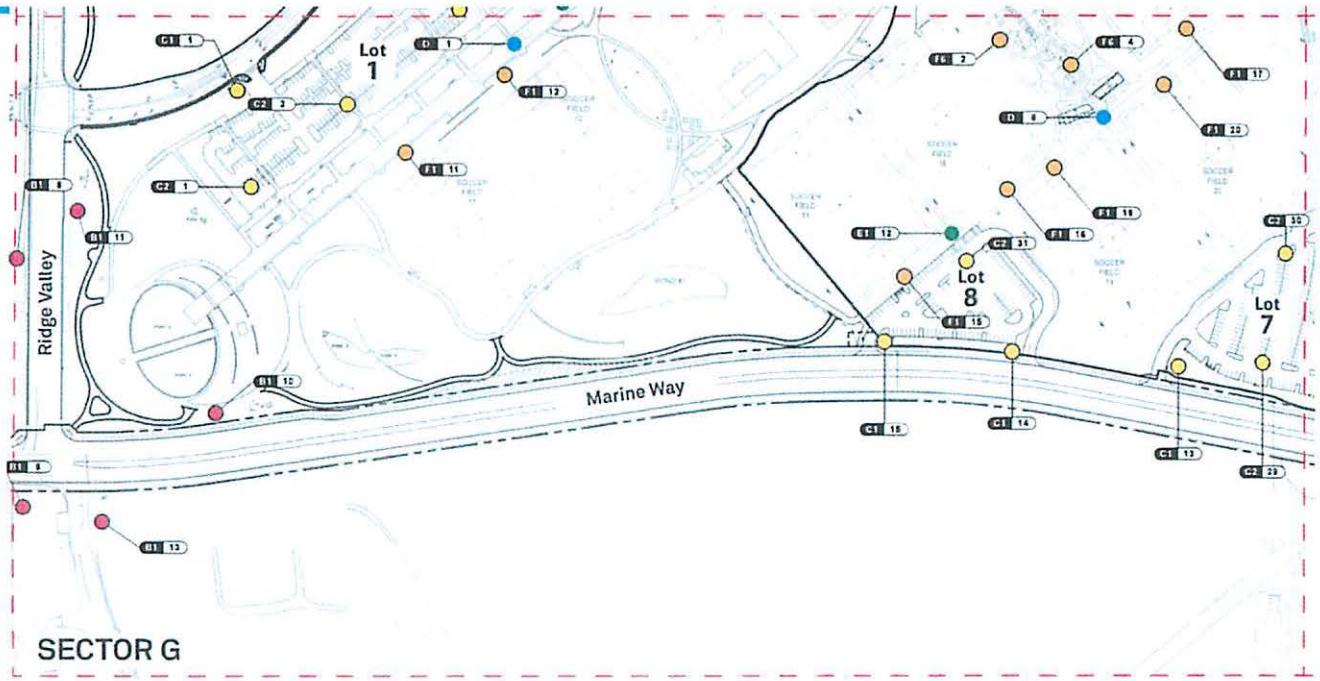
Case No. 00705453-PES

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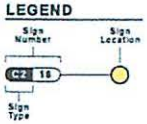
SIGN LOCATION PLAN- SECTOR G

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
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Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Signage & Wayfinding Program

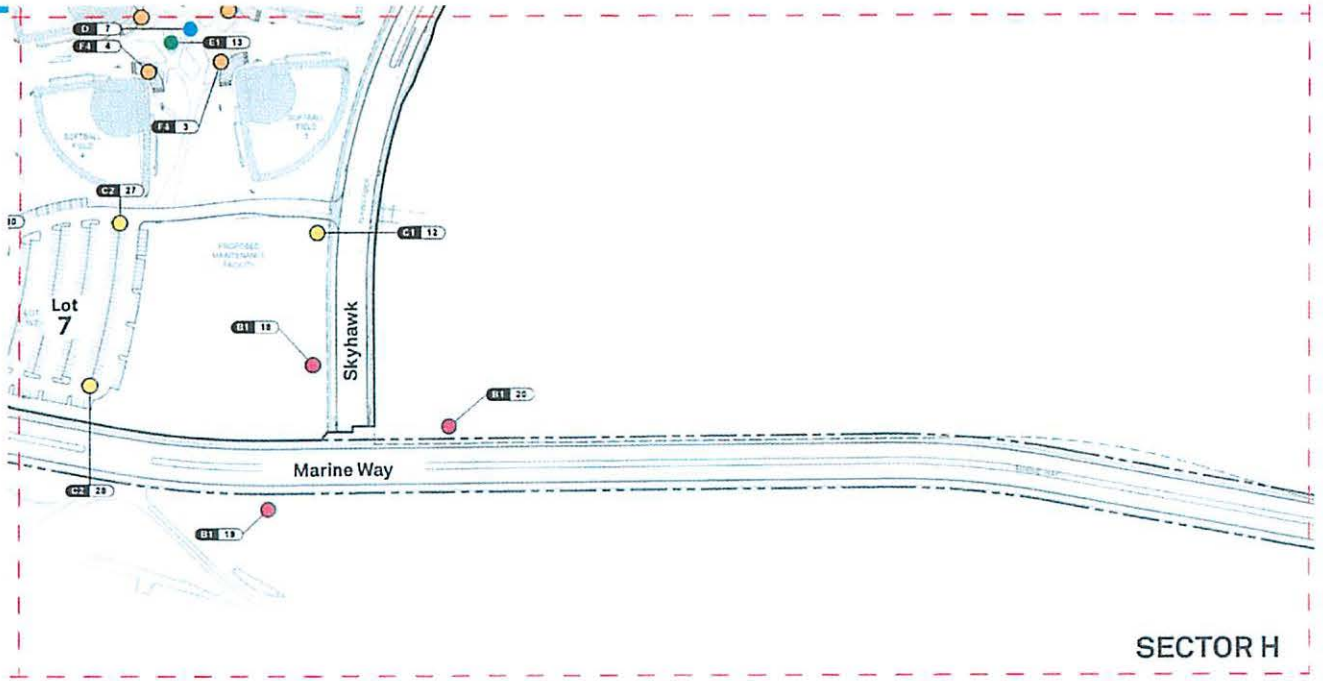
Case No: 07705463-PSS

AECOM

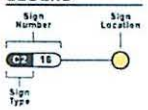
SIGN LOCATION PLAN- SECTOR H

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the "sight distance triangle" requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
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Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
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Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Revisions:

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00709462-PSS

AECOM

Project Funding Summary

Orange County Great Park Wayfinding Signage

CIP 361726

November 28, 2017

Project Expenditures	
Construction (Engineer's Estimate)	$1,400,000
Construction Engineering	$ 50,000
Construction Contingency	$ 150,000
Total Estimated Project Cost	**$1,600,000**

Project Funding	
CIP 361726 Fiscal Year 2016-17	$1,600,000
Total Funding Available	**$1,600,000**

ATTACHMENT 5

CITY OF IRVINE

ORANGE COUNTY, CALIFORNIA

NOTICE INVITING BIDS, PROPOSAL, CONTRACT AND SPECIAL PROVISIONS FOR

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

CITY OF IRVINE
1 CIVIC CENTER PLAZA
P.O. BOX 19575
IRVINE, CALIFORNIA 92623-9575

November 2, 2017

ATTACHMENT 6

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726

THE SPECIAL PROVISIONS CONTAINED HEREIN HAVE BEEN PREPARED BY OR UNDER THE DIRECTION OF:

Thomas Perez, PE
CIP Administrator

67549
R.C.E. No.

APPROVED BY:

James M. Houlihan, P. E.
City Engineer

51568
R.C.E. No.

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CITY OF IRVINE, CALIFORNIA
NOTICE INVITING BIDS
Bid No. 18-1355

NOTICE IS HEREBY GIVEN that sealed bids with online bid price submittal will be received by the Purchasing Agent of the City of Irvine, California, for furnishing all labor services, materials, tools, equipment, supplies, transportation, utilities and all other items and facilities necessary therefore, as provided in the contract documents for **Orange County Great Park Signage and Wayfinding** together with appurtenances thereto, in strict accordance with the Specifications on file at the **Department of Public Works**, 6427 Oak Canyon, Bldg. 1, Irvine, California 92618-5202.

DATE OF OPENING BIDS: Bid prices for each line item of the Schedule of Work must be entered and all other required documents for the bid proposal packet (pages 12, 16-29) must be uploaded to the BidsOnline system in accordance with the instructions beginning on page 14 no later than XX:XX:XX a.m. on Month Date, 2017 at which time bids will be publicly read aloud at 1 Civic Center Plaza, Irvine, California 92606-5207. No late bids will be accepted. No other method of bid submittal will be accepted.

LOCATION OF THE WORK: The work to be performed hereunder is located in the City of Irvine, County of Orange, within the Orange County Great Park.

MANDATORY PRE-BID MEETING: There will be a **mandatory** pre-bid meeting on **Month Date, 2017, at XX:XX p.m. at 6427 Oak Canyon, Irvine, CA 92618.** Failure to attend will result in your bid being declared non-responsive.

DESCRIPTION OF WORK: The work to be performed shall include, but not be limited to: The structural design of all signs including but not limited to all structures, supports, anchoring, footings and foundations, sign fabrication, electrical connection of internally illuminated signs to an existing power source, internal construction of all signs, and installation at various locations throughout the Orange County Great Park. The Engineer's construction cost estimate for the project is $1,400,000.

LICENSE REQUIREMENT: **Prime Contractor must possess a valid Class A or C-45 license.** At the time of submitting the bid, the Bidder shall be licensed as a contractor in accordance with the provisions of California Business and Professions Code Chapter 9, Division 3.

DEBARRED CONTRACTORS: The City of Irvine Municipal Code Section 2-12-101 *et seq.* sets forth procedures to debar Contractors from bidding or performing work on City of Irvine contracts at any tier, whether prime, subcontractor, etc. Accordingly, certain Contractors have been debarred and are listed on the City's website at www.cityofirvine.org/purchasing. Click on the link which states: "For a list of Debarred Contractors, please click here."

COMPLETION OF WORK AND LIQUIDATED DAMAGES: All work shall be completed in a total of **One Hundred and Eighty (180) Working Days** from the date specified in the Notice to Proceed. Liquidated damages shall be **Three Thousand Five Hundred Dollars** (**$3,500)** per Calendar Day, for each and every Calendar Days delay in finishing the work

AWARD OF CONTRACT: The award of the Contract, if it is awarded, will be to the lowest responsive and responsible Bidder whose bid complies with all the requirements prescribed. The City reserves the right, after opening bids, to reject any or all bids, to waive any informality in a bid, to make awards in the interest of the City, and to reject all other bids.

PROPOSAL GUARANTEE AND BONDS: Each bid shall be accompanied by a scanned copy of a certified or cashier's check or corporate surety bond issued by a surety company, admitted to do business in the State of California, on the form furnished by the City as guarantee that bidder will, if an award is made to him in accordance with the terms of his bid, promptly secure Workers' Compensation insurance, and liability insurance, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the contract ("Performance Bond") and for the payment of claims of materialmen and laborers thereunder ("Payment Bond"). Said check or bidder's bond shall be in an amount of not less than ten percent (10%) of the amount of the bid. **Bidders with the apparent three lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA, 92606 within two business days of the bid opening date.** The Performance and Payment Bonds shall be not less than one hundred percent (100%) of the total amount of the bid price named in the contract. Only bonds issued by companies admitted to do business in the State of California will be accepted in accordance with the Code of Civil Procedure Section 995.311. Failure to submit acceptable Payment and Performance Bonds as required shall result in a rejection of the bid and a forfeiture of the proposal guarantee.

PREVAILING RATES OF WAGES: **Prevailing wage requirements apply to public works projects with a value exceeding $1,000.00. The definition of "public works" is found at Labor Code Section 1720, *et seq.***

The City is subject to the provisions of law relating to public contracts in the State of California. It is agreed that all provisions of law applicable to public contracts are a part of this Agreement to the same extent as though set forth herein, and will be complied with by Contractor. Contractor shall abide by all applicable Sections of the California Labor Codes including Sections 1770 -1781, *et seq*. In accordance with the provisions of Section 1773 of the California Labor Code, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the Work is to be performed shall be in accordance with the rates posted on the Department of Industrial Relations website, found at http://www.dir.ca.gov/dirdatabases.html. The Contractor, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of this Agreement.

The City of Irvine reminds all contractors and subcontractors of the adoption of **State of California Senate Bill No. 854 (SB 854),** and encourages them to understand and comply with the requirements as set forth on the Department of Industrial Relations (DIR) website at http://www.dir.ca.gov/Public-Works/PublicWorks.html. All contractors and subcontractors who plan to bid on a public works project (including maintenance work) with a value exceeding $1,000.00 must first be registered and pay an annual fee with the DIR. The City requires all contractors and subcontractors to be registered with the DIR prior to submitting a bid on any public works project. Subject to the exceptions set forth in Labor Code Section 1725.5, bids from contractors that are not currently registered will be deemed nonresponsive. Further, the City will not award a contract to

and no contractor or subcontractor will be allowed to work on a City public works project unless they are registered with the DIR pursuant to Labor Code Section 1725.5. Please visit the DIR website for further information.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

LABOR REGULATIONS: The Contractor shall comply with all applicable requirements of the California Labor Code and the City of Irvine Municipal Code.

PLANS AND SPECIFICATIONS: A full set of bid documents consisting of Notice Inviting Bids, Proposal, Contract, Special Provisions and Contract Plans are available for inspection without charge at the Department of Public Works, Project Management Division, City of Irvine Operations Support Facility, 6427 Oak Canyon, Building 1, Irvine, California 92618-5202.

To obtain a copy of the bid documents, please visit the City of Irvine's website at www.cityofirvine.org/purchasing. Click on the "Supplier Registration and Bid Opportunities" link, and review the information about our online system. Next, click on the "BidsOnline" link. If you are not currently registered with the City of Irvine, please click on the "New Vendor Registration" button and then complete the electronic supplier registration process, including selecting Category Code(s) describing the goods and/or services you provide, as well as entering your Contractors State License information. After registering your firm, click on the "Bid Opportunities" button to view and download the Bid Documents. Interested firms must be registered on the City's website and download the Bid Documents in order to submit a bid. Firms must also check the website periodically for addenda information as failure to download any and all addenda will result in bid disqualification.

SECURITY FOR COMPLETION OF WORK: The Contract Documents establish a provision for monthly progress payments based upon the percentage of work completed as determined by the Engineer. The City will retain a portion of each progress payment as security for completion of the balance of the work. At the request and expense of the successful bidder, the City will pay the amount so retained upon compliance with the requirements of California Public Contract Code § 22300 and the provisions of the Contract Documents, Special Provisions Subsection 9-3.2.2 pertaining to "Substitution of Securities."

PROJECT ADMINISTRATION: All questions relative to this project prior to opening bids shall be prepared in writing and transmitted to the attention of Thomas Perez, by facsimile to 949-724-6442 or by email to tperez@cityofirvine.org. No inquiries will be accepted later than five (5) business days prior to the bid opening date as this would not allow time to respond to all plan holders. No phone inquiries will be accepted.

CITY OF IRVINE

Published by:
Publication Date:

INSTRUCTIONS TO BIDDERS, PROPOSAL REQUIREMENTS AND CONDITIONS

1. CONTRACT DOCUMENTS: The Contract Documents shall consist of:

    a) Permits and Agreements

    b) Contract

    c) Addenda

    d) Instructions to Bidders, Proposal Requirements and Conditions

    e) Special Provisions

    f) Contract Plans

    g) Standard Plans

    h) Standard Specifications

    i) Reference Specifications,

    all of which are on file at the City of Irvine in the Public Works Department, Project Management Division, Operations Support Facility, 6427 Oak Canyon, Bldg. 1, Irvine, California, and are hereby referred to and made a part hereof.

2. BID PROPOSALS: To be considered, bids shall be in accordance with the following instructions:

    a) For the convenience of bidders, the “SCHEDULE OF WORK AND BID PRICES” has been posted on the City’s BidsOnline system. Bidders must enter their unit price information online in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS included herein. Unit prices must be entered online and then the extended prices and total bid price will be automatically calculated.

    b) Bids shall be submitted only on bid items stated in the Bid Documents; bids on other bases will not be considered. Bids that are not submitted on the prescribed forms, and in accordance with the INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS may be rejected.

    c) Unless called for, additive bids will not be considered.

    d) Pursuant to the provisions of Public Contract Code § 4101 to 4108, inclusive, every Bidder shall set forth in its bid:

        1) The Bidder shall list the name, license number and location of the place of business of each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the prime contractor's total bid or ten thousand dollars ($10,000), whichever is greater.

        2) The bid item numbers and the percentage of the bid item subcontracted.

e) In the event additive bids are called for and the Bidder intends to use different or additional subcontractors on the additive(s), the Bidder shall fill out additional forms of the list of subcontractors and shall identify such forms with relation to whether they apply to the base or additive bids.

f) If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent (1/2%) of the Bidder's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the Bidder's total bid or ten thousand dollars ($10,000), whichever is greater, the Bidder agrees to perform that portion of work himself. The successful Bidder shall not, without the consent of the City, either:

   1) Substitute any person, firm or corporation as subcontractor in place of the subcontractor designated in the original bid, or

   2) Permit any subcontract to be assigned or transferred or allow the work to be performed by anyone other than the original subcontractor listed in the bid.

g) If required in the Notice Inviting Bids, bids shall be accompanied by a certified or cashier's check or an acceptable corporate bid bond on the form furnished by the City for an amount not less than ten percent (10%) of the bid, made payable to the order of the City of Irvine. The check or bid bond shall be a guarantee that the Bidder will enter into a contract and provide all required insurance and bonds if awarded the work; and in case of refusal or failure to enter into the contract, the check or bid bond shall be forfeited. The City will return Bidder's check if the project is not awarded to Bidder.

   Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and Insurance Code § 12090.

h) Before submitting a bid, bidders shall carefully examine the work site, the Contract Documents and the form of Contract and shall fully inform themselves about all existing conditions and limitations. Bidders shall include in their bids a sum to cover the cost of all work included in the Contract.

i) Bid prices must be entered and the bid proposal packet must be uploaded to the BidsOnline System on or before the day and hour set for the bid opening in the Notice Inviting Bids. No other method of bid submittal will be accepted. Bidders with the three apparent lowest responsive bids shall deliver an original hard copy of the certified check, cashier's check or surety bond to the Receptionist for the Purchasing Agent at 1 Civic Center Plaza, Irvine, CA, 92606 within two business days of the bid opening date.

j) A bid may be considered non-responsive if it does not comply with the requirements set forth in these bid documents. A responsive bid is one that complies with the solicitation in all acceptability and material respects and contains no material defects.

3. WITHDRAWAL OF BIDS: Bids may be withdrawn at any time before the bid deadline, by going back into the BidsOnline system and selecting "Withdraw."

4. INTERPRETATION OF DRAWINGS AND DOCUMENTS; REQUESTS FOR CLARIFICATION: If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the plans and specifications, or other proposed Contract Documents, or finds discrepancies in, or omissions from, the drawings or specifications, he shall submit to the Purchasing Agent a written request for all interpretations or corrections thereof via email to the project manager and purchasing staff prior to the deadline for submitting questions, as set forth in the Notice Inviting Bids section herein. Any clarification or correction of the proposed documents will be made only by Addendum duly issued, with notice provided to all firms who downloaded the bid documents from the City's website. The City is not responsible for any other explanations or interpretations of the proposed documents.

5. ADDENDA TO THE CONTRACT DOCUMENTS: Any addenda issued during the time of bidding, or forming a part of the Contract Documents after the Bidder has downloaded the bid documents from the City's website, shall be taken into account in the bid and shall be made a part of the Contract.

   Addenda may be issued by the City of Irvine for any reason, including but not limited to, clarifying or correcting the Notice Inviting Bids, Special Provisions, Plans, or Bid.

   Bidders will be notified of such Addenda during the period of advertising either by email or posting on the City's website, provided however, each Bidder shall be solely responsible for obtaining any such Addenda.

   The Bidder shall acknowledge the receipt of Addenda on the City's BidsOnline system.

6. BIDDER RESPONSIVENESS: Failure of the Bidder to provide requested information in a complete and accurate manner may be considered non-responsive resulting in rejection of the bid. The use of "N/A" or "n/a" in response to any request for information without an explanation as to why that abbreviation is being used may render the bid non-responsive.

7. BIDDER RESPONSIBILITY: Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Contractor is non-responsible if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness, or capacity to perform a contract with the City or any other entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; or (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider Bidder's past conduct on City projects or on any other public or private projects upon which Bidder performed work.

8. BIDDER DEBARMENT: Bidders are hereby notified that, in accordance with the City of Irvine Municipal Code § 2-12, the City may make a determination that the Bidder shall be debarred if the hearing officer finds evidentiary support that the Bidder has committed any of the following: (1) violated a term of a contract, present or past, with the City or other entity; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness, or capacity to perform a contract with the City or any entity or engaged in a pattern or practice which negatively reflects on the same; (3) committed an act or omission which evidences a lack of business integrity or business honesty; (4) made or submitted a false claim against the City or any other entity; (5) received a fine or citation for performing work in an unsafe manner; or (6) violated a condition, rule, regulation, permit, or standard applicable to a contract with the City or any other entity. In arriving at his or her determination, the hearing officer may consider past conduct of the Contractor on City projects or on any other public or private projects which Contractor performed work.

9. OPENING BIDS: Bids will be publicly opened and read at the time and place set in the Notice Inviting Bids.

10. BID PROTEST PROCEDURES:

    a) BASIS FOR PROTEST: It is the policy of the City to ensure that free and open competition takes place in all procurement activities. If, in the course of a procurement action, an interested party has reason to believe that these conditions do not exist, the interested party may file a protest in accordance with the provisions of these procedures with the City of Irvine Purchasing Agent requesting a review of the claim and a timely resolution of the issue. Any bidder on a project for which it submitted a timely bid may protest the contract award for that project; however, subcontractors, suppliers or other third parties may not protest contract awards. Moreover, complaints about alleged ambiguity of the bid documents and/or estimates are not appropriate subject matters for bid protests.

    b) BID PROTEST CONTENTS: The bid protest shall be submitted in writing via email to the attention of the Purchasing Agent. The written protest shall include:

        1) The solicitation number and project description.

        2) The name, address, phone number, and email address of the protesting party.

        3) A detailed statement of all the legal and factual grounds for the protest and all relevant, supporting documentation (including all written documentation). The grounds for protest must be fully supported.

        4) Statement of the form of relief requested from the City.

        5) Signature of an authorized representative of the protesting party.

    c) DEADLINE TO SUBMIT BID PROTESTS: Bid protests must be filed within five (5) business days after the deadline for receiving bids.

d) WHERE TO FILE: All protests are to be directed to the City of Irvine Purchasing Agent. Protests must be submitted in writing via email to: purchasing@cityofirvine.org. A copy of the email must also be sent to the project manager whose email address is set forth in the bid documents. (A document is considered filed on a particular calendar day when it is received via email by the City of Irvine Purchasing Agent by 5:00 p.m., Pacific Standard Time, on that calendar day.) Although not required, in addition to submitting a protest via email, an original protest letter may be sent via United States Postal Service to: Attn: Purchasing Agent, City of Irvine, P.O. Box 19575, Irvine, CA 92623-9575.

e) BID PROTEST REVIEW: Upon receipt, the Purchasing Agent shall consider the protest and may give notice of the protest and its basis to other persons including bidders involved in or affected by the protest. A protest shall be dismissed for failure to comply with any of the requirements set forth in the "Bid Protest Contents" section above. The Purchasing Agent shall review all material submitted with the protest. No additional material will be accepted for consideration from the protesting party unless specifically requested by the Purchasing Agent. If additional material is requested, it must be submitted by the requested date. The Purchasing Agent shall respond to the protesting party via email within ten (10) business days after receipt of the protest. Final determinations shall be binding, except as otherwise provided below.

f) RECONSIDERATION OF PROTEST DECISION: A protesting party may request the Purchasing Agent's reconsideration of a decision prior to contract award only if one or both of the following conditions are met:

   1) New information becomes available that was not previously known, or could not have been reasonably known, at the time of the original protest; and/or

   2) The Purchasing Agent's decision contains an error of law.

   Any request for reconsideration of a protest decision must be submitted in writing via email to the Purchasing Agent within three (3) business days from the date of issuance of the initial decision. The request must include a detailed explanation of the basis for reconsideration as set forth above. The Purchasing Agent shall respond to the request for reconsideration within seven (7) business days from receipt of the request.

g) CONTRACT AWARD: At its discretion, the City may delay the execution of any proposed agreement pending the resolution of a protest unless one or both of the following conditions are present:

   1) The project or service being procured is urgently required; and/or

   2) Failure to make prompt award will otherwise cause undue harm to the City.

h) REMEDIES: There shall be no limitation on remedies selected by the City. Nothing contained herein shall be considered to either act as a limitation on the City's choice of remedies or confer any right upon any interested party to a remedy. In determining the appropriate remedy, the City shall consider all the circumstances surrounding the solicitation, the contract

selection, and/or the contract award, including, but not limited to: the seriousness of any deficiency found to exist in the contracting process; the effect of the action of the competitive process; any urgency surrounding the contract requirement; and the effect that implementing the remedy will have on the City's overall ability to accomplish its mission. If the City determines that the award or proposed award was not made in accordance with the applicable City statutes, regulations, policies, and procedures, the City may, in its sole discretion, grant any of the following or any other remedy it deems appropriate: If pre-award, reject all bids and issue a new solicitation, make a new contractor selection or award a contract consistent with applicable statutes, regulations, policies, and procedures; or if post-award, refrain from extending the term of the contract or awarding task orders under an existing task order agreement; or at its sole discretion, take no further action.

11. AWARD OR REJECTION OF BIDS AND EXECUTION OF CONTRACT: The award of the Contract will be as of the date specified in the Notice of Award issued by the City. The award of the Contract shall not constitute a binding obligation on City until the Contract has been lawfully executed by all parties and the Contractor has submitted all required insurance certificates and bonds to the City.

    The Contractor shall not commence work in advance of the execution of the Contract and the delivery of the bonds and insurance certificates, as specified above and purchase order issuance.

    The award of the Contract, if it is awarded, will be to the responsive and responsible Bidder who submitted the lowest Bid complying with these Proposal Requirements and Conditions and with the Notice Inviting Bids. Such award, if made, will be made within ninety (90) Calendar Days after the opening of the proposals. The ninety (90) Calendar Days period shall be subject to extension for such further period as may be agreed upon in writing between the City and the Bidder(s) concerned. All bids will be compiled on the basis of the estimated quantities of work to be done as shown in the Proposal. However until an award is made, the City of Irvine reserves the right to reject any and all bids or to waive any informality in bids received, if doing so is deemed to best serve the interest of the City.

12. CONTRACT AND BONDS: The Contract, which the successful Bidder, as Contractor, will be required to execute, is included in the Contract Documents and should be carefully examined by the Bidder.

    The successful Bidder, simultaneously with his execution of the Contract, will be required to furnish a Payment Bond and a Performance Bond. Said bonds shall be in the form of the two (2) sample bonds included in these Contract Documents and based upon conditions specified in the Standard Specifications Section 2-4, "Contract Bonds," and as specified in the Special Provisions and shall be secured from a surety company satisfactory to the City.

    Only bonds issued by companies admitted to do business in the State of California will be accepted, in accordance with Code of Civil Procedure § 995.311 and

Insurance Code § 12090. Failure to submit acceptable Payment and Performance Bonds as required shall result in rejection of bid and forfeiture of the proposal guarantee.

All alterations, extensions of time, extra and additional work, and other changes authorized by the Contract Documents will be made without securing the consent of the surety or sureties on the Contract bonds.

The Contract shall be signed by the successful Bidder, and delivered to the City together with the Contract bonds within ten (10) days of the date specified in the Notice of Award issued by the City, not including Saturdays, Sundays and legal holidays. The Contractor shall submit insurance certificates electronically in accordance with 7-3 of the Standard Specifications and as set forth in the Contract Documents. The executed Contract, together with the required bonds, will be filed with the Clerk of the City of Irvine.

Failure of the lowest responsive and responsible Bidder to execute the Contract and file acceptable insurance certificates and bonds as provided herein within ten (10) days of award of the Contract, not including Saturdays, Sundays and legal holidays, shall be just cause for the forfeiture of the bid bond. The successful Bidder may file with the City a written notice, signed by the Bidder or his authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to him. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable certificates of insurance and bonds within the time herein before prescribed.

13. SPECIAL NOTICE: Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the Work will be performed, and the Contractor must employ, so far as possible, such methods and means in the carrying out of this work as will not cause any interruption or interference with any other contractor.

14. BIDDERS INTERESTED IN MORE THAN ONE BID: No person, firm or corporation shall be allowed to make or file or be interested in more than one bid as prime contractor for the same work.

15. BIDS TO BE LEFT ON DEPOSIT: No Bidder may withdraw its bid for a period of ninety (90) Calendar Days after the time set for opening thereof. However, the City will return all certified checks within fifteen (15) days, not including Saturdays, Sundays and legal holidays, after the award of the Contract or rejection of the bids, as the case may be, to respective Bidders whose bids are not accepted.

16. NON-COLLUSION DECLARATION: All Bidders shall submit with their bids an executed non-collusion declaration on the form provided in the bidding documents. Failure to provide completed form shall result in the bid being deemed non-responsive.

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is 800-424-9071. The service is

available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

17. SUBSTITUTIONS: Where the Specifications or drawings specify any material, product, thing, or service by one or more brand names, whether or not "or equal" is added, and a Bidder wishes to propose the use of another item as being equal, he shall request approval therefor as set forth in 4-1.6 of the Standard Specifications and Special Provisions.

18. REPORTING SUSPECTED IMPROPRIETY, GROSS WASTE, FRAUD AND OTHER ACTS: Any City and/or Great Park official, employee, and/or contractor who suspects any type of impropriety relating to purchasing or contracting activities, or gross waste, fraud, or abuse of City and/or Great Park funds or resources, a gross abuse of authority, a specified and substantial danger to public health or safety due to any act or omission of any City and/or Great Park official, employee, or contractor, or the use of a City and/or Great Park office or position or of City and/or Great Park resources for personal gain, should report the act by calling the City's Integrity Line at 866-428-1509. All such reports shall remain anonymous if desired by the reporting party. Suspected fraudulent activities include bid rigging, product substitution, theft, overcharging, false certifications and representations, and the like. Any allegations of bribery, kickbacks, gratuities, and conflicts of interest involving City employees should also be reported.

19. ASSIGNMENT OF CONTRACT: No assignment by the Contractor of any Contract to be entered into hereunder or of any part thereof, or of funds to be received thereunder by the Contractor, will be recognized by the City unless such assignment has had the prior written approval of the City and the surety has been given due notice of such assignment in writing.

20. OTHER REQUIREMENTS: Before entering into a Contract, the Bidder to whom the Contract has been awarded shall satisfy all insurance requirements per Section 7-3 of the Standard Specifications and Special Provisions and such insurance shall be maintained in full force and effect at its own expense during the life of this Contract.

    Upon request, the successful Bidder shall furnish to the City a statement of its financial condition and previous construction experience or such other evidence of his qualifications.

21. LABOR CODE:

    PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

    In accordance with State of California Senate Bill No. 854 (SB 854), contractors bidding on and/or engaging in the performance of public works projects (the definition of "public works" is found at Labor Code Section 1720, *et seq.*) shall be registered with the Department of Industrial Relations. By submitting a bid for City of Irvine Public Works project, the contractor acknowledges the above

requirements and agrees to maintain a valid Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project.

a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.
b) Pursuant to Labor Code Section 1771.4, all bidders are hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

In addition to the requirement for submittal of certified payroll records to the City, contractors and subcontractors shall furnish electronic certified payroll records to the Labor Commissioner **(State of California, Division of Labor Standards Enforcement).**

Contractors and subcontractors shall be responsible for complying and staying current with all DIR requirements and regulations. More information on SB 854 can be found at http://www.dir.ca.gov/Public-Works/SB854.html

Attention is directed to Labor Code § 1735, which reads as follows:

> No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in the Government Code §12940, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.

The Contractor shall abide by the provisions of the California Labor Code § 1770-1781, *et seq*. In accordance with the provisions of the California Labor Code § 1773, the general prevailing rates of per diem wages and holiday and overtime work in the locality in which the work is to be performed has been obtained from the Director of the Department of Industrial Relations, a copy of which is on file in the office of the City Clerk of the City of Irvine and will be made available to any interested party upon request. The Contractor shall post a copy of the prevailing rate of per diem wages at the job site. The Contractor, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of the contract.

Failure to comply with the subject sections will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1775.

In accordance with of the Labor Code § 1773.1, the Contractor must make travel and subsistence payments to each worker employed in the execution of the Contract.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the City on the Contract.

The Contractor shall familiarize itself with the provisions of the Labor Code § 1777.5 regarding employment of apprentices, and shall be responsible for compliance therewith, including compliance by his subcontractors.

The Contractor and subcontractors shall comply with Labor Code § 1777.6 which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age except as provided in Labor Code § 3077, of such employee.

The Contractor and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the Contractor and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the Contractor to penalty and forfeiture provisions of the Labor Code § 1813.

22. RESERVATION OF RIGHTS:

The City reserves the right to:

a) Disqualify any Bidder in accordance with the instructions herein.

b) Reject any bids, at its discretion, including bids found to be conditional or incomplete, contain irregularities, contain any interlineations or alterations, or found to be not responsive to this Invitation for Bids (IFB).

c) Investigate the qualifications of any Bidder under consideration.

d) Require confirmation or clarification of information furnished by the Bidder.

e) Require additional evidence of Bidder’s ability to perform the Work described in these bid documents.

f) Contact the submitted references to confirm information provided in the bid.

g) Postpone or cancel the entire IFB or a portion thereof.

h) Postpone the bid opening or award for its own convenience.

i) Award a Contract in part or in combination of items.

j) Issue subsequent IFB.

k) Seek the assistance of outside technical experts to review the bids.

l) Disqualify a bid upon evidence of collusion, with intent to defraud, or other illegal practices on the part of the Bidder.

m) Waive any errors or informalities in any bid to the extent permitted by law.

n) Require bidder to provide proof as to the equality, substitutability, and compatibility of any items proposed as alternates or equals.

o) Determine, at the City's sole discretion, the equality, substitutability, and compatibility of any items proposed as alternates or equals.

p) Exercise any other rights under the City's charter or municipal code.

The City has no obligation to consider any bid unless it is responsive to this IFB and conforming in all respects to the Form of Contract. This IFB does not commit the City to enter into a Contract.

BIDDER'S PROPOSAL
CONSTRUCTION
OF

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL
CITY HALL
IRVINE, CALIFORNIA

THE UNDERSIGNED, HAVING CAREFULLY EXAMINED ALL OF THE CONTRACT DOCUMENTS; PERMITS ISSUED BY JURISDICTIONAL REGULATORY AGENCIES; CONTRACT; CONTRACT ADDENDA; INSTRUCTIONS TO BIDDERS; PROPOSAL REQUIREMENTS AND CONDITIONS; SPECIAL PROVISIONS; THE PLANS SHEETS 1 THROUGH 68; STANDARD PLANS; STANDARD SPECIFICATIONS; REFERENCE SPECIFICATIONS; AND ALL OTHER INFORMATION PROVIDED BY THE AGENCY FOR THE CONSTRUCTION LISTED ABOVE IN AND FOR THE CITY OF IRVINE, IS FAMILIAR WITH THE CONDITIONS, HAVING PERSONALLY VISITED THE SITE OF THE WORK, AND HEREBY PROPOSES TO FURNISH ALL LABOR, MATERIALS AND EQUIPMENT, AND ALL INCIDENTAL WORK NECESSARY TO DELIVER ALL THE IMPROVEMENTS COMPLETE, IN PLACE AND IN STRICT CONFORMITY WITH THE CONTRACT DOCUMENTS, FOR THE UNIT PRICES NAMED IN THE FOLLOWING SCHEDULE OF WORK AND BID PRICES.

_____
Bidder's Company Name (please print or type)

_____
Signature of Bidder

_____
Print Name

CITY OF IRVINE

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

SCHEDULE OF WORK

All applicable sales taxes, State and/or Federal taxes, and any other special taxes, patent rights or royalties are included in the prices quoted in this Proposal.

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QTY.
1	Mobilization	LS	1
2	WPCP	LS	1
3	Traffic Control	LS	1
4	Sign Type A	EA	18
5	Sign Type B1	EA	24
6	Sign Type B2	EA	5
6	Sign Type C1	EA	15
7	Sign Type C2	EA	31
8	Sign Type D	EA	10
9	Sign Type E1	EA	15
10	Sign Type E2	EA	8
11	Sign Type F1	EA	20
12	Sign Type F2	EA	5
13	Sign Type F3	EA	7
14	Sign Type F4	EA	5
15	Sign Type F5	EA	25
16	Sign Type F6	EA	4
17	Sign Type G1	EA	11
18	Sign Type G2	EA	3
19	Sign Type H	EA	15
20	Sign Type J	EA	15
21	Electrical Conduits and Conductors	LF	2,500
22	Electrical Pullbox	EA	50

Bidder's Name: _____

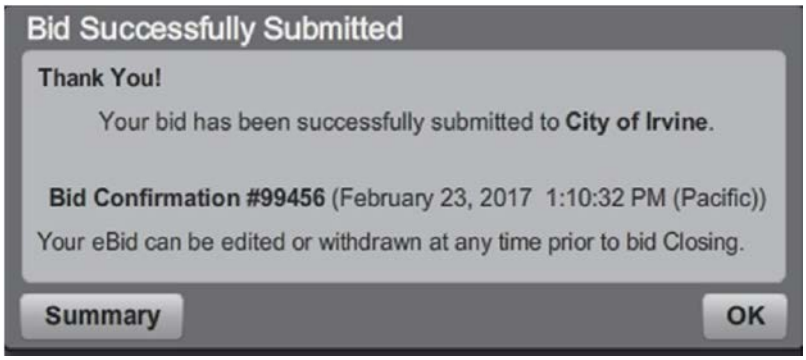
CITY OF IRVINE

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

INSTRUCTIONS FOR ENTERING ELECTRONIC BIDS

In order to access the BidsOnline system and ensure successful online submission of your bid prices, follow these steps:

1. Go to https://www.planetbids.com/portal/portal.cfm?CompanyID=15927#
2. On the Vendor Portal page, log into the system (lower right hand corner of screen) with your assigned user name and password. (You must be registered in order to download documents and submit a bid.)
3. Click on "Bid Opportunities" and then on the Bid # and Description that you wish to bid on. The selected bid will open to allow you to access all tabs, documents and the pricing sheet.
4. Click on the “Documents & Attachment” tab to be sure you have downloaded all documents that are part of this bid.
   - *If you have not already downloaded all bid documents, you must download them now, in order to submit your bid. The screen will indicate which documents you've already downloaded.*
5. Click on the tab "Addenda & Emails" to be sure you have read and acknowledged all addenda that have been issued for this bid.
   - *The screen will display "yes" or "no" next to each addendum to indicate whether you have viewed and acknowledged it. If you have not previously acknowledged an addendum, do so now by clicking on the addendum to open and read it, then click on the "Acknowledge" button on the lower left hand corner of screen.*
6. To begin entering your bid, click on "Place eBid" on the lower right corner of the screen. The bid "Terms and Conditions" will pop up with a button for you to click "Accept" to acknowledge your agreement to the terms of the bid.
7. Enter the Respondee information on the “Detail” tab.
8. Click the “Attach” button on the “Attachments” tab, browse to your scanned Bid Submittal Documents, and upload them.
9. Go to the "Line Items" tab and enter your unit prices on each line. The system will calculate the extended costs and grand total for you.
10. When you have finished entering all pricing and attachments, click on the "Save" button. This saves your bid as a draft for you to review or revise as needed anytime up to the bid submittal deadline. When you are ready to submit your bid, click the "Submit" button. You will receive a confirming message that looks like this:



Note: E-Bids are sealed and cannot be viewed by the City until the closing date and time. As noted in the screen print above, if you need to withdraw your bid, you may do so any time before the bid deadline, by going back into the system and selecting "withdraw".

Please begin entering your bid in sufficient time to complete and submit it prior to the stated deadline. The official closing time for the bid is determined, and controlled, by the electronic clock in the bid management system. Once the deadline is reached, the system will not allow any bids to be submitted, and any in process that are not completed will be rejected. The amount of time required to enter and submit your bid depends on the complexity of the bid and the processing speed of your server and internet connections.

Technical Support
In the event you encounter technical difficulties during the uploading process, please contact the Planet Bids, BidsOnline system team as shown below (M-F from 8 a.m. to 5 p.m.):

support@planetbids.com or call 818-992-1771, ext. 0

Bid prices must be entered and the bid proposal packet must be uploaded to the BidsOnline system no later than the date and time indicated in the Notice Inviting Bids. No late bids will be accepted. No other method of bid submittal will be accepted.

CITY OF IRVINE

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

INFORMATION REQUIRED OF BIDDERS

In determining the lowest "responsible" bidder, consideration will be given to the general competency of the bidder in regard to the work covered by the Bid Proposal. To this end, each proposal shall be supported by a statement of the Bidder's experience on this form. **Failure of the Bidder to provide requested information in a complete and accurate manner shall render the bid non-responsive**. Additionally, the City reserves the right to disqualify or refuse to consider a proposal if a Bidder is determined to be non-responsible in accordance with Irvine Municipal Code § 2-12-103 "Determination of Contractor Non-Responsibility."

The Bidder shall supply the following information. Use additional sheets as necessary.

1. Contact person name:_____ Email:_____

   Address: _____

   Telephone: (___)_____Fax: (___)_____

2. Type of firm (Individual, Partnership, or Corporation): _____
3. State Contractor's License Number and Classification:_____
4. DIR Registration Number: _____ Expiration Date_____
5. Number of years your firm has operated as a contractor: _____
6. Number of years your firm operated under its present business name: _____
7. List the **names and addresses** of all principals or officers authorized to bind your firm.

Name:	**Address:**

8. List any project(s) your firm has **failed to complete** within the last five years due to a termination of contract. For each project, list the type of project, client's name, contact person, current telephone number, email address, and provide a brief description of the grounds for the termination.

   Check appropriate box: None ☐ See list below ☐

Bidder's Name: _____

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

Type of Project	Client Name	Contact Person	Contact Phone No. and email address
Description:			

9. List projects of similar nature to the **Orange County Great Park Signage and Wayfinding** your firm is **currently** constructing. For each project, list the type of project, contract amount, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None ☐ See list below ☐

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

Bidder's Name: _____

Type of Project	Contract Amount	Client Name	Contact Person	Contact Phone No. and email address
Description:				

10. List projects of a similar nature to the **Orange County Great Park Signage and Wayfinding** your firm has **completed** within the last five years. For each project, list the type of project, contract amount, date of completion, client's name, contact person, current telephone number, email address, and a brief description.

Check appropriate box: None ☐ See list below ☐

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Type of Project	Contract Amount	Date of Completion	Client Name	Contact Person	Contact Phone No. and email address
Description:					

Bidder's Name: _____

11. List the name of the person(s) **(A MINIMUM OF ONE)** who inspected the site of the proposed work for your firm.

Name:	**Date of Inspection:**

12. Complete the following in conformance with Labor Code Section 1725.5

Name of Subcontractor	Registered with DIR?	DIR Registration No.
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	
	Yes __ No __	

13. If requested by the City, the Bidder shall furnish a notarized financial statement, financial data, or other information and references sufficiently comprehensive to permit an appraisal of its current financial condition or ability to perform the work.

    Failure to furnish information upon request will render the bid nonresponsive.

    All of the above statements regarding Contractor's experience and financial qualifications are submitted in conjunction with the Bid Proposal, as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Bidder.

Bidder's Name: _____

THE CITY OF IRVINE RESERVES THE RIGHT TO REJECT ALL BIDS

The undersigned understands the contract time limit allotted for the completion of the work required by the Contract is **Sixty (60) Working Days**.

The undersigned agrees, if awarded the Contract, to sign the Contract and furnish the necessary insurance certificates and bonds within ten (10) days of the date specified in the Notice of Award of Contract, not including Saturdays, Sundays and legal holidays, and to begin work within ten (10) Working Days from the date specified in the City's Notice to Proceed. Contract time accounting shall begin on the date shown in the Notice to Proceed.

Accompanying this Bid Proposal is **(check appropriate box)**:

☐ **Cash** ☐ **Cashier's Check** ☐ **Certified Check** ☐ **Bid Bond**

Sign Here if Individual:

(Signature) _____

(Print Name) _____

(Address) _____

_____

Affix notary's acknowledgement

Sign Here if Co-Partnership:

Co-Partnership Name of Firm: _____

(Address) _____

_____

Members Signing:

(Signature) _____

(Print Name) _____

(Address) _____

_____

(Signature) _____

(Print Name) _____

(Address) _____

_____

Affix notary's acknowledgement

Sign Here if Corporation:

(Name of Corporation) _____

(Address) _____

_____

Officers of Corporation Signing:

(Signature) _____

(Print Name) _____

(Title) _____

And

(Signature) _____

(Print Name) _____

(Title) _____

If executed by other than President and Secretary of the Corporation, attach a certified copy of resolution authorizing signature on behalf of the Corporation.

Affix notary's acknowledgement

LIST OF SUBCONTRACTORS

The Bidder shall list each subcontractor performing work in an amount in excess of one-half of one percent (1/2%) of the prime contractor's total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (1/2%) of the prime contractor's total bid or ten thousand dollars ($10,000), whichever is greater. Complete columns (1) and (2) and submit with the bid. Complete columns (3) and (4) and submit with the bid or hand-deliver to the Receptionist for the Purchasing Agent at the reception desk located on the first floor of the Civic Center building at the City of Irvine, located at 1 Civic Center Plaza, Irvine, California 92606-5207 within 24 hours after the bid opening. Failure to provide complete information in columns (1) through (4) within the time specified shall render the bid non-responsive.

Subcontractors listed must not be debarred from performing the designated work.

BUSINESS NAME and LOCATION (1)	CONTRACTOR LICENSE NUMBER (2)	BID ITEM NUMBERS (3)	PERCENTAGE OF BID ITEM SUBCONTRACTED (4)*

Information must be typed or clearly printed.

*** If you are subcontracting a whole bid item insert one hundred percent (100%), if less insert actual percentage.**

NON-COLLUSION DECLARATION-CONTRACTOR
To be Executed by Bidder and Submitted with Bid
City of Irvine Bid No. 18-1355

The undersigned declares:

I am the _____ [title] of _____[company name], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[date], at _____[city], _____[state].

_____
Signature

_____
Print Name

FORM OF BID BOND

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

(10% of the Proposal Amount)

KNOW ALL PERSONS BY THESE PRESENTS that we _____ _____ as Principal, and _____ _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ Dollars ($_____), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal submitted to the City a certain Bid Proposal, attached hereto and hereby made a part hereof, to enter into a contract in writing for the **Orange County Great Park Signage and Wayfinding, CIP 361726** and will furnish all required certificates of insurance and bonds as required by the Contract.

NOW THEREFORE, if said Bid Proposal shall be rejected; or in the alternate, if said Bid Proposal shall be accepted, and the Principal shall execute and deliver a contract in the prescribed Form of Contract, shall deliver certificates evidencing that the required insurance is in effect and shall execute and deliver Performance and Payment Bonds in the forms prescribed, and shall in all other respects perform the Contract created by the acceptance of said Bid Proposal, then this obligation shall be void; otherwise this obligation shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall be the amount of this obligation as herein stated. In the event suit is brought upon this bond by City and judgment is recovered, Surety shall pay all costs incurred by City in said suit, including a reasonable attorney's fee to be fixed by the court.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by an extension of the time within which the City may accept such a Bid Proposal; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

FALSE CLAIMS

Bidder shall complete the **False Claims Act Certification** below or in the alternative, provide the information requested under **False Claims Act Violations** below. **Failure to certify or provide the requested information shall render the bid non-responsive.**

"False Claims Act" as used herein is defined as either or both the Federal False Claims Act, 31 U.S.C. § 3729, *et seq*., and the California False Claims Act, Government Code § 12650, et seq.

FALSE CLAIMS ACT CERTIFICATION

I _____ hereby certify that neither
Print name

_____
Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been determined by a court or tribunal of competent jurisdiction to have violated the False Claims Act as defined above.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) **(City and State)**

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

FALSE CLAIMS ACT VIOLATIONS

With regard to any determinations by a tribunal or court of competent jurisdiction that the False Claims Act, as defined above, has been violated by (1) the Contractor submitting this Bid Proposal or (2) the qualifying person licensed by the State Contractors License Board to perform the work described in this Bid Proposal, shall provide on a separate sheet the following information: (1) the date of the determination of the violation, (2) the identity of the tribunal or court, (3) the identity of the government contract or project involved, (4) the identity of the government department involved, (5) the amount of fine imposed, and (6) any exculpatory information of which the Agency should be aware.

CIVIL LITIGATION AND ARBITRATION HISTORY

Bidder shall provide the certification or information requested below. **Failure to certify or provide such certification or information shall render the bid non-responsive.**

For five (5) years preceding the submittal date of this Bid Proposal, identify civil litigation and arbitration arising out of the performance of a construction contract within the State of California in which the (1) Contractor submitting this bid proposal or (2) the qualifying person licensed by the State Contractors Licensing Board to perform the work described in this Bid Proposal was a named as a party in a lawsuit brought by or against the project owner or any action to confirm, vacate or modify an arbitration award involving an owner.

CIVIL LITIGATION AND ARBITRATION CERTIFICATION

If the Bidder has no civil litigation and arbitration history to report as described above, complete the following:

I _____ certify that neither
Print name

_____
Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been involved in civil litigation and arbitration as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) **(City and State)**

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

Do not include litigation and arbitration which are limited solely to enforcement of mechanics' liens or stop notices. Provide on a separate sheet (1) the name and court case identification number of each case, (2) the jurisdiction in which it was filed, and (3) the outcome of the litigation, e.g. whether the case is pending, a judgment was entered, a settlement was reached, or the case was dismissed.

CRIMINAL CONVICTIONS

Bidder shall provide the certification or information requested below. **Failure to certify or provide such certification or information shall render the bid non-responsive.**

CRIMINAL CONVICTION CERTIFICATION

If the Bidder has no criminal convictions to report as described above, complete the following:

I _____ hereby certify that neither
Print name

_____
Contractor name

nor _____
Name of qualifying person licensed by Contractors State License Board

has been convicted of a criminal violation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(Month and year) **(City and State)**

By _____
(Signature of owner, officer, manager or licensee responsible for submission of Bid Proposal)

For the five (5) years preceding the date of this Bid Proposal is due, identify on a separate sheet any criminal conviction in any jurisdiction in the United States for a violation of law arising out of the performance of a construction contract (1) by the Contractor submitting this Bid Proposal or (2) by the qualifying person licensed by the State Contractors License Board to perform the work described in the Bid Proposal.

Provide on the following page labeled “Criminal Convictions Information.” (1) the date of conviction, (2) the name and court case identification number, (3) the identity of the law violated, (4) the identity of the prosecuting agency, (5) the contract or project involved, (6) the punishment imposed, and (7) any exculpatory information of which the Agency should be aware.

VIOLATION OF LAW OR A SAFETY REGULATION

Has the Bidder, any officer of the Bidder, or any employee who has proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of a law or a safety regulation?

☐ **Yes** ☐ **No**

If the answer is yes, explain the circumstances in the following space.

Name of bidder (print)	Signature
Address	State Contractors' License No. & Classification
City Zip Code	Telephone

CONSTRUCTION CONTRACT
FOR CAPITAL IMPROVEMENTS

CITY OF IRVINE

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

This Contract made and entered into this _____ day of _____, 20__, by and between City of Irvine, a municipal corporation of the State of California, hereinafter referred to as "CITY" and _____, hereinafter referred to as "CONTRACTOR."

W I T N E S S E T H:

That the CITY and the CONTRACTOR, for the consideration hereinafter named, mutually agree as follows:

1. The complete Contract includes all of the Contract Documents, which are incorporated herein by this reference, to wit:
   a) Permits and Agreements
   b) Contract
   c) Addenda
   d) Instructions to Bidders, Proposal Requirements and Conditions
   e) Special Provisions
   f) Contract Plans
   g) Standard Plans
   h) Standard Specifications
   i) Reference Specifications

   The Contract Documents are complementary, and that which is required by one shall be as binding as if required by all.

2. CONTRACTOR shall provide and furnish all labor, materials, necessary tools, expendable equipment, and all utility and transportation services required for the following work of improvement: structural design of all signs including but not limited to all structures, supports, anchoring, footings and foundations, electrical connect of internally illuminated signs to an existing power source, internal construction of all signs, and installation at various locations as shown in the Sector Index.

3. CONTRACTOR agrees to perform all the said work and furnish all the said materials at his own cost and expense that are necessary to construct and complete in strict conformance with Contract Documents and to the satisfaction of the Engineer, the work hereinafter set forth in accordance with the Contract

therefore adopted by the City Council and as prepared by AECOM, 300 S. Grand Avenue, Los Angeles, CA 90071.

4. CITY agrees to pay and CONTRACTOR agrees to accept in full payment for performance of this work of improvement as described, the stipulated sum of _____ **DOLLARS ($_____)** the "Contract Price."

   CITY agrees to make progress payments and final payment in accordance with the method set forth in the Special Provisions.

5. CONTRACTOR agrees to commence construction of the work provided for herein within ten (10) Calendar Days after the date specified in the Notice to Proceed, and to continue diligently in strict conformance with Contract Documents and without interruption, and to complete the construction thereof within **Sixty (60) Working Days** after the date specified in the Notice to Proceed.

6. Time is of the essence of this Contract, and it is agreed that it would be impracticable or extremely difficult to ascertain the extent of actual loss or damage which the CITY will sustain by reason of any delay in the performance of this Contract. It is, therefore, agreed that CONTRACTOR will pay as liquidated damages to the CITY the following sum: **Three Thousand Five Hundred ($3,500) Dollars** per Calendar Day, for each and every Calendar Days delay in finishing the Work. If liquidated damages are not paid, as assessed by the CITY, the CITY may deduct the amount thereof from any money due or that may become due the CONTRACTOR under this Contract in addition to any other remedy available to CITY. By executing this Contract, CONTRACTOR agrees that the amount of liquidated damages is reasonable and shall not constitute a penalty.

7. In accordance with State of California Senate Bill No. 854, CONTRACTOR will maintain and will require all subcontractors to maintain valid and current Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project. CONTRACTOR shall notify the CITY in writing immediately, and in no case more than twenty-four (24) hours, after receiving any information that CONTRACTOR'S or any of its subcontractor's DIR registration status has been suspended, revoked, expired, or otherwise changed.

8. CONTRACTOR will pay, and will require all subcontractors to pay, all employees on said Contract a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations and wage standards applicable to this work, a copy of which is on file in the office of the City Clerk of the City of Irvine. Federal prevailing wage rates apply for federally funded projects. Travel and subsistence pay shall be paid in accordance with Labor Code § 1773.1.

9. CONTRACTOR shall be subject to the penalties in accordance with Labor Code of § 1775 for each worker paid (either by him or by any subcontractors under him) less than the prevailing rate described above on the work provided for in this Contract.

10. CONTRACTOR and subcontractors shall comply with Labor Code § 1810 and § 1811 which stipulates that eight hours labor constitutes a legal day's work, and § 1812 which stipulates that the CONTRACTOR and subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work performed under the terms of the Contract. Failure to comply with these sections of the Labor Code will subject the CONTRACTOR to penalty and forfeiture provisions of the Labor Code § 1813.

11. CONTRACTOR will comply with the provisions of Labor Code § 1777.5 pertaining to the employment of apprentices to the extent applicable to this Contract.

12. CONTRACTOR, by executing this Contract, hereby certifies:

> "I am aware of, and will comply with the Labor Code § 3700 by securing payment for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Agency before execution of the Contract. The CITY, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the CONTRACTOR to comply with this paragraph."

CONTRACTOR further agrees to require all subcontractors to carry Workers' Compensation Insurance as required by the Labor Code of the State of California.

13. CONTRACTOR shall, concurrent with the execution of this Contract, furnish two bonds approved by the CITY, one in the amount of One Hundred Percent (100%) of the Contract Price, to guarantee the faithful performance of the work "Performance Bond", and one in the amount of One Hundred Percent (100%) of the Contract Price to guarantee payment of all claims for labor and materials furnished "Payment Bond." This Contract shall not become effective until such bonds are supplied to and approved by the CITY.

14. CONTRACTOR shall, prior to commencing work, furnish certificates evidencing compliance with all requirements of the Contract Documents pertaining to insurance.

15. Any amendments to any of the Contract Documents must be in writing executed by the CONTRACTOR and the CITY. Any time an approval, time extension, or consent of the CITY is required under the Contract Documents, such approval, extension, or consent must be in writing in order to be effective.

16. This Contract contains all of the agreements and understandings of the parties and all previous understandings, negotiations, and contracts are integrated into and superseded by this Contract.

17. In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Contract shall be declared invalid or unenforceable by a valid judgment or decree of a court of competent jurisdiction,

such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Contract which are hereby declared as severable and shall be interpreted to carry out the intent of the parties hereunder.

18. The persons executing this Contract on behalf of the parties hereto warrant that they are duly authorized to execute this Contract on behalf of said parties and that, by so executing this Contract, the parties hereto are formally bound to the provisions of this Contract.

19. This Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors, and assigns.

20. In performing its obligations and duties under this Contract, each party shall comply with all applicable local, state, and federal laws, regulations, rules, standards and ordinances.

21. In the event any action is brought between the parties hereto relating to this Contract or the breach thereof, the prevailing party in such action shall be entitled to recover from the other party reasonable expenses, attorneys' fees and costs in connection with such action or proceeding.

22. This Contract may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

23. This Contract is to be governed by the laws of the State of California.

IN WITNESS WHEREOF, the said CONTRACTOR and the Director of Public Works, City Manager, Mayor and City Clerk of the CITY have caused the names of said parties to be affixed hereto, the day and year first above written.

_____
CONTRACTOR

(If Corporation, 2 signatures are required)

By _____

_____
Print Name

_____
Title

By _____

_____
Print Name

_____
Title

CITY OF IRVINE
A Municipal Corporation

Donald P. Wagner
Mayor of the City of Irvine

Sean Joyce
City Manager of the City of Irvine

Manuel Gomez
Director of Public Works

ATTEST:

Molly McLaughlin
City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

Jeffrey Melching

PERFORMANCE BOND

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

KNOW ALL PERSONS BY THESE PRESENTS that we _____ _____, as Principal, and _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ _____($_____ _____) (this amount being not less than one hundred percent (100%) of the total bid price of the contract awarded by the owner to the Principal), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a contract attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said Contract during the original terms thereof, and any extensions thereof that may be granted by the Owner with or without notice of the Surety, and during the life of any guarantee required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, then this obligation shall be void otherwise this obligation shall remain in full force and effect.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modifications of the Contract Documents and/or of the Work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time, and alterations or modifications of the contract documents and/or of the work to be performed thereunder.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by the City in successfully enforcing such obligation, and all to be taxed as costs and included in any judgment rendered by a court of law.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

PAYMENT BOND

ORANGE COUNTY GREAT PARK SIGNAGE AND WAYFINDING
CIP 361726
BID NO. 18-1355

KNOW ALL PERSONS BY THESE PRESENTS that we _____ _____, as Principal, and _____ as Surety, are held and firmly bound unto City of Irvine, hereinafter called the City in the sum of _____ _____($_____) (this amount being not less than one hundred percent (100%) of the total bid price of the contract awarded by the owner to the Principal), for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that whereas the Principal entered into a contract, attached hereto, with the City of Irvine.

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of each contract that may hereafter be made, then this obligation shall be void, otherwise this obligation shall remain in full force and effect.

The condition of this obligation is such that, if said Principal or his subcontractors, or heirs, executors, administrators, successors, or assigns thereof, shall fail to pay any of the persons named in the Civil Code § 9100 for any material used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or shall fail to pay any amount due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant or any amount required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors with respect to such work and labor, then said Surety will pay and, also, in case suit is brought upon the bond, will pay a reasonable attorney's fee to be fixed by the court. This bond shall inure to the benefit of all persons named in the aforesaid Civil Code § 9100 to give a right of action to them or their assigns in any suit brought upon the bond.

Further, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the Contract Documents or of the Work to be performed thereunder shall in any way affect its obligations on this bond; and it hereby waives notice of any and all such changes, extensions of time, and alterations or modifications of the Contract Documents and/or of the work to be performed thereunder.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this ____ day of _____, 20____, the name of each party being hereto written below and these presents duly signed by each party's undersigned representative, pursuant to authority of its governing body. This bond shall be authenticated by way of notarized acknowledgment, including a copy of the power of attorney, for the Surety.

ATTEST:

(Principal) _____

(Address) _____

_____

(By) _____

(Title) _____

ATTEST:

(Surety) _____

(Address) _____

_____

(By) _____

(Title) _____

SPECIAL PROVISIONS

A. THESE ADDITIONS, DELETIONS, AND AMENDMENTS MODIFY THE SPECIFICATIONS IN THE “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION”, 2015 EDITION.

B. THESE ADDITIONS, DELETIONS, AND AMENDMENTS SHALL TAKE PRECEDENCE IN THE EVENT OF A CONFLICT WITH ANY STANDARD SPECIFICATIONS.

C. AS A CONVENIENCE, THESE ADDITIONS, DELETIONS, AND AMENDMENTS HAVE BEEN ARRANGED IN A FORMAT THAT PARALLELS THE “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION”, 2015 EDITION.

PART 1 - GENERAL PROVISIONS

SECTION 1 - TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE AND SYMBOLS

1-1 GENERAL.

The word *provide* shall mean furnish and install.

1-2 TERMS AND DEFINITIONS.

Acceptance, Final Acceptance – Formal action by the Agency acknowledging the Work is complete.

Agency/Board/City – The City of Irvine, a municipal corporation.

Agency Representative – The person or engineering/architectural firm Agency authorizes to represent it during the performance of the Work by the Contractor and until Final Acceptance. The Agency Representative means the Agency Representative or his assistants.

Calendar Day – The 24-hour day denoted on the calendar.

Calendar Month – The period including the first through the last day of a month.

City – See Agency.

Clarification – Verbal or written interpretation of Contract Documents by the Agency Representative to clarify intent, procedures, materials or processes with no change in contract sum or time.

Engineer – The City Engineer acting either directly or through the Agency Representative.

Field Order – Authorization by Agency Representative to proceed with Change Order work after completion of negotiations, but before the issuance of the Change Order.

Laboratory – The laboratory authorized by the Agency or the Agency Representative to test material and work involved in the project.

Major Bid Item – A single Contract item constituting ten percent (10%) or more of the original Contract Price.

Request for Quotation – Contemplated revision of Contract Documents by the Agency requesting detailed information from the Contractor on impacts to contract sum or contract time.

State Standard Specifications – Standard Specifications issued by the State of California, Department of Transportation, 2015.

Traffic Control Devices – All signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street, highway, pedestrian facility, or bikeway, by authority of the Engineer.

1-3. ABBREVIATIONS

1-3.2 Common Usage.

Abbreviation	Word or Words
CSMP	Construction Site Monitoring Program
DBE	Disadvantaged Business Enterprise
ESA	Environmentally Sensitive Area
HMA	Hot Mix Asphalt
NOI	Notice of Intent
SWMP	Storm Water Management Plan
SWRCB	State Water Resources Control Board
WPCP	Water Pollution Control Program
WDID	Waste Discharge Identification Number
MUTCD	California Manual on Uniform Traffic Control Devices

1-3.3 Institutions. *MODIFY to ADD the following:*

Abbreviation	Word or Words
AI	The Asphalt Institute
AIA	American Institute of Architects
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance of Way Association
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
CRSI	Concrete Reinforcing Steel Institute
NFPA	National Fire Protection Association
PCA	Portland Cement Association
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code, Pacific Coast Building Officials Conference of the International Conference of Building Officials

SECTION 2 - SCOPE AND CONTROL OF THE WORK

2-2 ASSIGNMENT.

The performance of the Contract may not be assigned, except upon the written consent of the Agency. Consent will not be given to any proposed assignment that would relieve the original Contractor or its Surety of their responsibilities under the Contract, nor will the Agency consent to any assignment of any part of the Work under the Contract.

Assignment of this Contract shall contain a provision that the funds to be paid to the assignee under the assignment are subject to a prior lien for services rendered or materials supplied for performance of the work called for under the Contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

2-3 SUBCONTRACTS.

2-3.1 General.

If the Contractor subcontracts any part of this Contract, the Contractor shall be as fully responsible to the Agency for the acts and omissions of his subcontractor as he is for the acts and omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the Agency. The Contractor shall bind every subcontractor to be bound by the terms of the Contract Documents as applicable to his work.

Debarred contractors shall not be employed on the Work pursuant to the provisions of Labor Code § 1777.1 and the City of Irvine Council Ordinance No. 08-10. The Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations website: http://www.dir.ca.gov/dlse/debar.html

A list of individuals, firms and organizations debarred, suspended or who have voluntarily excluded themselves from Federal Procurement and Non-Procurement Programs is maintained by the US General Services Administration. This excluded parties list is available from the website: http://www.sam.gov

In accordance with SB 854, the Contractor and each of its subcontractors shall maintain a valid and current Department of Industrial Relations (DIR) Public Works Contractor registration during the term of this project.

Prior to including a subcontractor's name on the bid, the Contractor shall be responsible for verifying that each of its subcontractors are properly licensed and not debarred from performing the designated work.

This requirement shall be enforced as follows: Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the Contract.

If any subcontractor or person employed by the Contractor is deemed by the Engineer to be incompetent or to act in an improper manner, at the request of the Engineer, they shall be dismissed immediately from the job and shall not be employed again on the Work.

A copy of each subcontract is required to be filed with the Agency before the subcontractor begins work. Each subcontract shall contain a reference to the Contract between the Agency and the Contractor, and the terms of that Contract and all parts thereof shall be made a part of such subcontract insofar as applicable to the work covered thereby. Each subcontract shall provide for its annulment by the Contractor at the order of the Agency if in the Agency's opinion the subcontractor fails to comply with the requirements of the Contract.

2-3.2 Self Performance.
The Contractor shall perform, with its own organization, Contract work amounting to at least 15 percent of the Contract Price on building/facility contracts, and at least 50 percent of the Contract Price on all other Public Works contracts except that any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items" will be identified by the Agency in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

The provisions in 2-3.2 of these Special Provisions require that the Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original Contract Price is not changed by the Federal Aid requirement specified under "Required Contract Provisions Federal Aid Construction Contracts" of these Special Provisions that the Contractor perform not less than 30 percent of the original contract work with the Contractor's own organization.

2-3.3 Status of Subcontractors.
The City will not conduct business with an individual, firm or organization, and the Contractor shall not employ or otherwise use any subcontractor, supplier, or equipment vendor at any tier that is on the City's debarment list, the Department of Industrial Relations debarment list, or on the US General Services Administration "List of Parties Excluded from Federal Procurement and Non Procurement Programs."

2-5 PLANS AND SPECIFICATIONS.

2-5.1 General.
All work of the Contract including, but not limited to, the general nature and character of the work area and conducting of Contractors' operations shall be performed in accordance with the Standard Specifications for Public Works Construction, 2015 edition, and all supplements thereto, except as modified in these Special Provisions and as follows:

> Work to be performed which is directly related to the construction and/or modification of traffic, striping, signing, markings or signals; work within State right of way; and, work which is directly related to the construction of bridges and bridge appurtenances shall be performed in accordance with the State Standard Specifications, current edition as of bid date.

As applicable, unless modified elsewhere in these Special Provisions, Work of the Contract shall conform to current editions of: Uniform Building, Plumbing, Mechanical Codes; Uniform Fire Code; National Electrical Code; and, City of Irvine amendments thereto.

If the Contractor, either before commencing work or in the course of the work, finds any discrepancy between the Specifications and the Plans or between either of them and the physical conditions at the site of the work or finds any error or omission in any of the Plans or in any survey, the Contractor shall promptly notify the Agency of such discrepancy, error, or omission. If the Contractor observes that any plans or specifications are at variance with any applicable law, ordinance, regulation, order, or decree, he shall promptly notify the Agency in writing of such conflict.

The Agency, on receipt of any such notice, will investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after its discovery of such an error, discrepancy, or conflict that is directly or indirectly affected by such error, discrepancy, or conflict, will be at its own risk and it shall bear all cost arising therefrom.

The Agency will provide, free of charge, three (3) copies of Plans and Special Provisions for the Contractor and one (1) copy of Plans and Special Provisions for each subcontractor listed in the Bidder's Proposal. Any Plans or Special Provisions required by the Contractor/subcontractor in addition to the above can be provided by Agency at Contractor's expense. The Contractor shall keep one set of Plans and Special Provisions in good order and available to the Agency Representative at the site of the Work.

2-5.2 Precedence of Contract Documents.

a) Permits and Agreements
b) Change Orders and/or Supplemental Agreements; whichever occurs last
c) Contract
d) Addenda
e) Instructions to Bidders, Proposal Requirements and Conditions
f) Bid/Proposal
g) Special Provisions
h) Contract Plans
i) Standard Plans
j) Standard Specifications
k) Reference Specifications

ADD:

2-5.2.1 Interpretation of Plans and Specifications. Figured dimensions on Plans shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Specifications shall govern as to materials, workmanship, and installation procedures. Plans and Specifications requiring higher quality material or workmanship shall prevail. In the event

of any discrepancy between any drawings and the figures thereon, the figures shall be taken as correct. In the event of any doubt or question arising respecting the true meaning of the Specifications, reference shall be made to Engineer whose decision thereon shall be final.

2-5.3 Submittals.

2-5.3.1 General.

The review period begins a new upon each submittal or resubmittal.

In providing specified submittals, the Contractor certifies that they are complete in all respects and all materials, equipment, and other work shown thereon conforms to the Contract Documents.

Where a manufactured item is designed or engineered by the manufacturer, fabricator, subcontractor, consultant or designee, the drawings and supporting calculations shall be stamped and signed by an engineer registered by the State of California executing the design within the scope of his registration. Unless otherwise accepted by the Engineer, data shall be submitted only by the prime Contractor. Data that, in the opinion of the Engineer, are incomplete or have not been checked by the prime Contractor or are illegible will be considered as not complying with the Contract requirements and will be returned to the Contractor for resubmittal in the proper form. The City may make this determination at any time during the review period.

Data shall be submitted in a format similar to the arrangement of the applicable section(s) of the Specifications unless otherwise specified. Any submittal not following the format specified, and not conforming to the requirements listed below, will be returned for resubmittal without review.

a) Data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and operation of component materials and devices, the external connections, anchorages, and supports required, performance characteristics, dimensions needed for installation and correlation with other materials and equipment, and all additional information as required in the detailed section(s) of the Contract Documents. Identify field dimensions; show relation to adjacent or critical features, work or products.

b) Calculations to support the adequacy of the design in meeting specified performance ratings or requirements shall be submitted when required by the Specifications.

c) Each drawing or data sheet shall be clearly marked with the name of the project, the Contractor’s name, and references to applicable Specification paragraphs and Plan sheets. Submittals containing multiple drawings or data sheets shall be collated prior to submittal for review.

d) Data sheets, catalog cuts or drawings showing more than the particular item under consideration shall be marked to cross out all but the applicable information. Submit only pertinent pages; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

e) Data submitted shall include drawings showing wiring and/or pipe layouts. Any changes proposed by the Contractor shall be stated in a cover letter and essential details of such changes shall be clearly shown in the data submitted.

f) Present in a clear and thorough manner. Title each drawing with project name and number; identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

g) Provide manufacturer's preparation, assembly and installation instructions.

h) Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Engineer’s selection.

i) Submit samples to illustrate functional characteristics of products, including parts and attachments. Label each sample with identification required for transmittal letter. Approved samples which may be used in the Work are indicated in the Specification section.

j) Provide field samples of finishes for the Work, at location acceptable to Agency Representative, as required by individual Specifications section. Install each sample complete and finished. Finishes in place that have been accepted by the Agency Representative may be retained in completed work.

Submittals shall be accompanied by a letter of transmittal listing the contents of the submittal. Drawings shall show the name of the project, the name of the Contractor, and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted with sufficient time for Agency’s review and in orderly sequence in accordance with the progress schedule to cause no delay in prosecution of the Work. Drawings shall be submitted on 11”x17” or 24”x36” sheet sizes only. Any submittal not accompanied by such a transmittal, or where all applicable items on the form are not complete, will be returned for resubmittal.

A separate letter of transmittal shall be used for each specific item or class of materials or equipment for which a submittal is required. Transmittal of shop drawings on various items using a single letter of transmittal will be permitted only when the items taken together constitute a manufacturer’s “package” or are so functionally related that expediency indicates review of the group or package as a whole. Submittals transmitted by facsimile will not be accepted.

The Agency will return any submittal sent (1) without a transmittal letter, (2) with an incomplete form, or (3) by facsimile.

The Contractor shall assign a unique sequential number to each submittal package, which shall be clearly written in the space provided on the transmittal letter. This number shall be used in all correspondence to the Agency when referencing to a particular submittal. The Contractor shall be responsible for ensuring the same submittal number is not assigned to different submittal packages.

Resubmittals shall incorporate the original submittal number followed by the revision number (i.e., the first resubmittal of submittal #1 is numbered 1R1, the second 1R2, etc.). The Agency will return improperly numbered submittals without review. The Contractor shall indicate on the transmittal letter that either no exceptions to the Contract Documents are taken or deviations are submitted. All deviations indicated shall

be listed on the transmittal letter and the Contractor shall be solely responsible for any omitted deviations. If any deviations are omitted, the Agency will return the submittal and the engineering data without review for resubmittal. Any consequences from the resulting delay shall be fully borne by the Contractor.

The Engineer's review of the Contractor's submittals will cover only general conformity to the Contract Documents. The Engineer's acceptance of drawings returned marked NO EXCEPTION TAKEN or RESUBMITTAL NOT REQUIRED (CORRECTIONS ARE NOTED) shall not constitute a blanket approval of dimensions, qualities, and details of the materials, equipment, device, or item shown, and does not relieve the Contractor from any responsibility for errors, omission or deviations from conforming to the Contract Documents. The Agency reserves the right to subsequently reject any previously accepted equipment, material, and/or construction method that deviates from the Contract Documents. When the drawings and data are returned marked CORRECT AND RESUBMIT, the corrections shall be made as noted thereon and as instructed by the Engineer, resubmittal shall be made in the same manner as the original submittal.

If the Engineer rejects the submittals, the Contractor is responsible for any subsequent time delays at no additional compensation from the Agency. Subject to these requirements, drawings and data, after final processing by the Engineer, shall become a part of the Contract Documents, and the work shown or described thereby shall be performed in conformity therewith unless otherwise required by the Engineer. In the event of conflict between accepted submittals and the other Contract Documents, the most stringent requirements shall apply unless the Agency has agreed in writing to less stringent requirements in response to a deviation listed on a submittal letter of transmittal.

No portion of the work requiring a submittal shall be commenced until the submittal has been reviewed by the Engineer and returned to the Contractor with a notation indicating that resubmittal is not required.

The review by the Engineer is only of general conformance with the design concept of the project, and general compliance with the Contract Documents and shall not be construed as relieving the Contractor of these full responsibilities for providing materials, equipment, and work required by the Contract; the proper fitting and construction of the Work; the accuracy and completeness of the submittals; selecting fabrication processes and techniques of construction; and performing the Work in a safe manner.

2-6 WORK TO BE DONE.

The Contractor shall leave the Work area in a neat condition. Any work not shown in the Plans or Specifications but necessary to complete the Work according to law and governmental codes and regulations shall be performed by the Contractor as if in the Plans and Specifications.

The Contractor shall remove and dispose of all structures, debris, or other obstructions of any character necessary to accommodate the Work. Where such obstructions consist of improvements not required by law to be removed by the Agency thereof, all such improvements shall be removed, maintained, and permanently replaced by the Contractor at his expense.

2-8 RIGHT OF WAY.

Rights of way, easements, agreements, licenses, or rights of entry (all referred to as right of way) for the Work have been provided by the Agency. Temporary right-of-way to construct one or more portions of the Work may also have been acquired by the Agency. If temporary right of way was acquired, the documents or their contractual terms and obligations are included in the Contract Documents. The Contractor shall comply with all the terms and obligations related to the physical use of the temporary right of way and its eventual return of the property to the owner. The Contractor shall schedule the Work that may include landscape establishment, maintenance periods, and final acceptance within the temporary right of way to start and finish within the time allotted in each temporary right of way agreement. Should the Work be delayed through no fault of the Agency, the Contractor shall be responsible for all costs incurred by the Agency to extend use of the temporary right of way.

Work in the public right of way shall be done in accordance with the requirements of the permit issued by the public agency in whose right of way the Work is located in addition to conforming to the Contract Documents. If a permit or traffic control plan is not required, the Work shall conform to the standards set forth in the MUTCD.

The Contractor shall not allow his employees to use private property for any reason or to use water or electricity from such property without providing the City written permission from the owner. The Contractor shall comply with all applicable federal, state and local laws, ordinances, codes and regulations in performing any work or doing any activity on lands outside the public rights of way.

The Contractor shall hold harmless, indemnify, and defend the Agency, the Agency Representative and each of their officers, employees, and agents from all claims or suits for damages occasioned by such work or activity, whether done according to this section and with permission from the Agency or in violation of this section without permission from the Agency. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claims or suits.

The Contractor shall comply with City of Irvine Municipal Code § 5-9-521 Construction Site and Vacant Property Security, and be fully responsible for locating and obtaining permission to use equipment yards or material storage site(s). The Contractor shall assume full responsibility and costs for property rental, site preparation, maintenance and cleanup in a manner satisfactory to the City and the property owner.

If, through the failure of the Agency to acquire or clear right of way, the Contractor sustains loss which could not have been avoided by the judicious handling of forces, equipment and plant, the Contractor will be paid an amount as the Engineer may find to be a fair and reasonable compensation for such part of the Contractor's actual loss as, in the opinion of the Engineer, was unavoidable, determined as follows:

Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra work paid for as provided in 3-3 with the following exceptions:

a) The right of way delay factor for each classification of equipment shown in the State of California, Department of Transportation publication entitled “Equipment Rental

Rates and Labor Surcharge," current edition at the time of bid opening will be applied to such equipment rental rate.

b) The time for which such compensation will be paid will be the actual normal working time during which such delay condition exists, but in no case will exceed eight (8) hours in any day.

c) The days for which compensation will be paid will be the Calendar Days, excluding Saturdays, Sundays and legal holidays, during the existence of such delay.

Actual loss shall be understood to include no items of expense other than idle time of equipment and necessary payments for idle time of men, cost of extra moving of equipment, and cost of longer hauls. Compensation for idle time of equipment will be determined, as provided herein, and compensation for idle time of men will be determined as provided in 3-3.

If the performance of the Contractor's work is delayed as a result of the failure of the City to acquire or clear right of way, an extension of time determined pursuant to the provisions in 6-6 will be granted.

2-9 SURVEYING.

2-9.2 Survey Service.
The Agency will engage a licensed land surveyor or civil engineer registered in the State of California to perform surveying and calculations required by the Work of this Contract. All survey requests and directions to the survey team will be handled through the Agency Representative.

Staking will be in accordance with Chapter 12 "Construction Surveys" of the State of California, Department of Transportation "Survey Manual." A copy of the Manual is available at http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/12_Surveys.pdf.

Any construction stakes required in addition to those listed in the "Survey Manual", or any re-staking required by loss of stakes, or additional costs encountered by significant delays or conditions which cause the use of more difficult survey methods during field operations and which are, in the judgment of the Agency, caused by interference of Contractors' operations, equipment or materials, shall be paid for by the Contractor at the hourly rate schedule of the Agency's surveying firm. Costs shall be deducted from any monies due or to become due the Contractor and any delays due to the replacement or restoration of stakes shall be the responsibility of the Contractor.

The Contractor shall submit to the Agency Representative a completed City of Irvine construction staking form with an assigned sequential number, description of specific items, locations and date required, together with supplemental drawings and/or data as necessary to facilitate surveying as required.

ADD:

2-9.5 Conformity with Contract Documents. The Work shall conform to the lines, grades, dimensions, tolerances, and material and equipment requirements shown on the Contract Documents. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Contract Documents and his decision as to any allowable deviations therefrom shall be final.

If specific lines, grades, and dimensions are not shown on the Plans, those furnished by the Engineer shall govern.

2-10 AUTHORITY OF BOARD AND ENGINEER.
The Contractor is subject to the provisions of Government Code § 8546.7, which provides that this Contract and related documents are subject to the examination and audit of the State Auditor, at the request of the Agency or as part of any audit of the Agency, for a period of three (3) years after final payment under the Contract.

The Agency reserves the right to audit the Contractor's books, records, and documents related to the Contractor's performance and the Contractor's compliance with all of the terms and conditions of this Contract at any time. Upon request by Agency, Contractor shall prepare and submit to Agency any reports concerning Contractor's performance of the services rendered under this Contract. With 72 hours advance written notice delivered to Contractor, Agency shall have access to the books, records and documents of Contractor related to Contractor's performance of this Contract in the event any audit is requested.

All drawings, documents, and other materials prepared by Contractor in the performance of this Contract:

a) Shall be the property of Agency and shall be delivered at no cost to Agency upon request of Agency or upon the termination of this Contract, and

b) Are confidential and shall not be made available to any individual or entity without prior written approval of the Agency.

2-11 INSPECTION.
Inspection of the Work will be conducted by an Agency Representative and will include monitoring and enforcing compliance of materials, equipment, installations, workmanship, methods and requirements of the Contract Documents.

The Agency Representative shall, at all times, have safe access to the Work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials and equipment used and employed in the Work.

Whenever the Contractor varies the work hours in which inspection is required, the Contractor shall give at least two (2) Working Days written notice to the Agency Representative so that inspection may be made.

All installations which are to be backfilled or otherwise covered will be inspected by the Agency Representative prior to backfilling or covering. The Contractor shall give the Agency Representative a minimum of two (2) days advance notice prior to backfilling or covering any part of the Work.

Work or materials concealed or performed without the prior notice specified above, will be subject to such tests or exposure as may be necessary to prove to the satisfaction of the Engineer, that all materials used and the work done are in strict conformity with the Contract Documents. All labor and equipment necessary for exposing and testing shall be

furnished and paid for by the Contractor. The Contractor shall replace, without additional cost to the Agency, any materials or work damaged by exposure or testing.

Defective work shall be made good at the Contractor's expense including any unsuitable materials and equipment that may have been previously inspected by the Agency Representative, and/or that payment therefore has been included in an estimate for payment.

Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all requirements of the Contract.

All submittals and correspondence between the Agency and the Contractor, related to inspection of the Work of this Contract, shall be directed to the Engineer.

ADD:

2-11.1 Inspection Requirements. The Contractor shall notify the Agency Representative a minimum of 48 hours before inspection is required.

a) Unless specified elsewhere in the Special Provisions, inspection of the Work will be provided by the Agency between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday, exclusive of Agency holidays. Any inspections requested by or made necessary as a result of the actions of the Contractor beyond the hours stated above shall be paid for by the Contractor at the prevailing rate of 1-1/2 times the regular hourly wage rate, plus 21% for overhead costs.

   The Contractor shall submit a request to the Engineer for approval, a minimum five (5) Calendar Days, in advance of inspections requested by or made necessary as a result of the actions of the Contractor on Saturdays, Sundays or Agency and/or Federal holidays. The Contractor shall pay for these inspections at the prevailing rate of 1-1/2 times for Saturdays and 2 times the regular hourly wage rate for Sundays or Agency and/or Federal holidays plus associated overhead costs.

   For purposes of this section, the following holidays are observed by the Agency:

   New Year's Day
   Martin Luther King Jr. Day
   Presidents' Day
   Memorial Day
   Independence Day
   Labor Day
   Veterans Day
   Thanksgiving Day
   Day after Thanksgiving
   Christmas Eve
   Christmas Day

   A construction calendar showing the days that each of the above holidays will be observed is available upon request from the Engineer.

b) The Contractor shall telephone the designated Agency Representative at least two (2) Working Days prior to starting construction or resuming construction following suspension of the Work for any reason.

Prior to commencing any work on the Contract, the Contractor shall submit a completed Inspection Overtime Permit form provided by the City of Irvine.

c) In addition to any inspection required by Codes and/or Ordinances or Contract Documents, Contractor shall notify the Engineer a minimum of 2 days prior to the permanent concealment of any materials or work. The following list is typical but not all inclusive of such required inspections:

    1) Foundation/subgrade material, footing and slab beds
    2) Reinforcing for concrete, masonry and plaster
    3) Contact surface of concrete forms
    4) Concrete and masonry surfaces
    5) Piping and conduit
    6) Finish grade prior to paving, seeding or planting
    7) All soil mixes prior to installation
    8) All chemicals and amendments prior to installation or application

2-12 SPECIAL NOTICES.

Any notice required or given by one party to the other under the Contract shall be in writing and shall be dated and signed by the party giving such notice or by a duly authorized representative of such party. Any such notices shall not be effective for any purpose whatsoever, unless served in the following manner:

a) If the notice is given to the Agency, by personal delivery or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to the Agency, postage prepaid and registered.

b) If the notice is given by the Engineer to the Contractor by personal delivery to said Contractor or to his authorized representative or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to said Contractor at his regular place of business or such other address as may have been established for the conduct of the work under this Contract, postage prepaid and registered.

c) If notice is given to the surety or any other person by personal delivery to said surety or other person, or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to such surety or person at the address of said surety or person last communicated by him to the party giving the notice, postage prepaid and registered.

ADD:

2-13 CORRESPONDENCE. Unless specified otherwise or requested by the Engineer, the use of facsimile (fax) machines or internet email for the transmittal of routine correspondence, including submittals, shall not be allowed. The City will allow the use of fax machines or internet email for urgent matters such as notification of change of conditions. Unless otherwise allowed by the Engineer, all faxes or internet email shall be directed to the Engineer. The fax number and internet email address for the Engineer will be provided at the pre-construction meeting. Faxes or internet email received after 2:00 p.m. shall be considered as being received the following working day. All faxes or internet email shall be followed up with a paper copy that is mailed to the Engineer on the same day the fax or internet email is forwarded. The Engineer will not accept any illegible faxed or internet email correspondence.

ADD:

2-14 CONTRACT COORDINATION. The Contractor shall coordinate scheduling, submittals, and the Work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.

In addition to weekly progress meetings, as required by the Agency, the Contractor shall hold coordination meetings and pre-installation conferences with Agency Representatives and subcontractors to assure coordination of Work.

Should the Agency exercise partial Acceptance or beneficial occupancy of premises, the Contractor shall coordinate access to site to complete work or to correct defective work and work not in strict conformance with Contract Documents to minimize disruption of Agency's activities.

SECTION 3 - CHANGES IN WORK

3-1 CHANGES REQUESTED BY THE CONTRACTOR.

3-1.1 General.

The Contractor may initiate changes by submitting a written Change Order Request to the Engineer containing:

a) Description of the proposed changes.

b) Statement of the reason for making the changes.

c) Reference applicable specifications sections and specific plans in support of the request.

d) Statement of the effect on the Contract Price and Contract time.

e) Statement of the effect on the work of separate subcontractors.

f) Documentation supporting any change in Contract Price or Contract time as appropriate.

3-2 CHANGES INITIATED BY THE AGENCY.

3-2.1 General.

The Agency may issue a Change Order for modifications of Work including, but not limited to, the Plans, Specifications, character, quantity or time of Work. Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, and any adjustment in the Contract time of completion.

The Engineer may order minor changes in the Work not involving an increase or decrease in the contract amount, nor involving a change in the time for completion but consistent with the purposes for which the works are being constructed. If the Contractor believes that any order for minor changes in the work involves changes in the Contract Price or time of completion, the Contractor shall not proceed with the minor changes so ordered and shall immediately, upon the receipt of such order, notify the Engineer in writing of his estimate of the changes in the Contract Price and time of completion he believes to be appropriate.

No payment for changes in the Work will be made and no change in the time of completion by reasons of changes in the Work will be made, unless the changes are covered by a written Change Order approved by the Agency in advance of the Contractor's proceeding with the changed work.

Once a Change Order is finalized and executed by both parties, the Contractor waives its right to seek any additional compensation for the work covered by the Change Order or any project impacts. The Contractor agrees that all Change Orders constitutes full payment for the work covered by the Change Orders, including all direct and indirect overhead expenses.

Notwithstanding any other provision in the Contract Documents, the Agency’s issuance of a Change Order shall not constitute a waiver by the Agency of, or preclude the Agency in any way from, asserting any claim with respect to the same, including but not limited to, a claim of breach of contract or claim that the issued Change Order covers work included in

the scope of Work set forth in the Contract Documents for which the Contractor was not entitled to any additional funds.

A Change Order is approved when the Agency signs the Change Order.

A Contract Change Order approved by the Engineer may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in an approved Contract Change Order not executed by the Contractor, the Contractor shall proceed with the Change Order work in accordance with 3-5 of the Standard Specifications, and submit a written protest to the Engineer within fifteen (15) days after the receipt of the approved Contract Change Order. The protest shall state the points of disagreement citing the Specification references, quantities and costs involved. If a written protest is not submitted, payment will be made as set forth in the approved Contract Change Order, and that payment shall constitute full compensation for all work included therein or required thereby. Unprotested approved Contract Change Orders will be considered as executed Contract Change Orders.

The Engineer may initiate changes by submitting a Request for Quotation to Contractor. Such request will include detailed description of the change, products, and location of the change in the Work, supplementary or revised Plans and Specifications. Such request is for information only and is not an instruction to execute the changes, or to stop work in progress.

The Contractor shall support each quotation for a lump-sum proposal, and for each unit price that has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.

On request, the Contractor shall provide additional data to support time and cost computations, labor required, equipment required, products required, recommended source of purchase and unit cost, and quantities required, taxes, insurance and credit for work deleted from Contract, similarly documented, justification for any change in Contract time.

The Contractor shall support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information as follows:

a) Name of the Agency Representative who ordered the work, and date of the order.

b) Dates and times work was performed, and by whom.

c) Time record, summary of hours worked, and hourly rates paid.

d) Receipts and invoices for equipment used, listing dates and times of use, products used, listing of quantities, and subcontracts.

In lieu of a Request for Quotation, the Engineer may issue a written Field Order for the Contractor to proceed with a change for subsequent inclusion in a Contract Change Order. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change and will designate the method of determining any change in the Contract Price and any change in Contract time. Agency Representative will sign and date the Field Order as authorization for the Contractor to proceed with the changes. Contractor may sign and date the Field

Order to indicate agreement with the terms therein. Contractor shall proceed with the work so ordered prior to actual receipt of an approved Contract Change Order.

3-2.2 Contract Unit Prices.

3-2.2.1 General.
In the case of such an increase or decrease in a Major Bid Item, the use of this basis for the adjustment of payment will be limited to that portion of the change, which together with all previous changes to that item, is not in excess of twenty-five percent of the total cost of such item based on the original quantity and Contract Unit Price.

3-2.2.2 Increases of More than 25 Percent.
If payment for units of a bid item that exceeds125 percent of the price shown on the Bid Item List is less than $5,000 at the unit price, the Engineer may not adjust the unit price unless asked to do so in writing by the Contractor.

3-2.4 Agreed Prices.
Agreed prices shall be negotiated before commencement of the changed work.

3-3 EXTRA WORK.

3-3.2.1 General.
When the price for the extra work cannot be agreed upon prior to the commencement of the work, the Agency will pay for the extra work based on the accumulation of costs as provided herein.

3-3.2.2.3 Tool and Equipment Rental.
The rates to be used for determining equipment rental costs shall be those rates listed for such equipment in the State of California, Department of Transportation (Caltrans) publication entitled “Equipment Rental Rates and Labor Surcharge”, which is in effect on the date upon which the work is accomplished, regardless of ownership and any rental or other agreement entered into by the Contractor, if such may exist, for the use of such equipment. If it is deemed necessary by the Engineer to use equipment not listed in the said publication, the Engineer will establish a suitable rental rate for such equipment. The Contractor may furnish any cost data, which might assist the Engineer in the establishment of such rental rate. Equipment Rental Rates and Labor Surcharge publication is available from Caltrans at http://www.dot.ca.gov/hq/construc/equipmnt.html. Rental time will not be allowed while equipment is inoperative due to breakdowns.

Operators of rented equipment will be paid for as provided in 3-3.

3-3.2.3 Markup.

3-3.2.3.1 Work by Contractor.
The following percentages will be added to the Contractor’s costs as determined under 3-3.2.2 and shall constitute the markup for all overhead, increase in Contractor’s bonds, administrative expenses and profit on work by the Contractor:

a) Labor 20%
b) Materials 15%
c) Equipment Rental 15%
d) Other Items and Expenditures 15%

3-3.2.3.2 Work by Subcontractor.
When any part of the extra work is performed by a subcontractor, of any tier, the markup established in 3-3.2.3.1 shall be applied to the subcontractor's actual cost of such work. Contractor markup on subcontractor work shall be limited to five percent.

No payment shall be made for any item not set forth in 3-3.2.3.1 and 3-3.2.3.2, including without limitation, Contractor's overhead, general administrative expense, supervision or damages claimed for delay in prosecuting the remainder of the work.

This provision shall not be construed to preclude the recovery of damages by the Contractor stemming from delay for which the Agency is responsible, which is unreasonable under the circumstances involved, and which was not within the contemplation of the Agency and the Contractor.

3-3.3 Daily Reports by Contractor. *ADD the following after the 1st sentence:*
The Contractor shall notify the Agency Representative at the beginning of each day when extra work is in progress. No payment will be made for work not verified by the Agency Representative.

SECTION 4 - CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.1 General. *ADD the following before the 1st sentence in the 1st paragraph:*
The Contractor shall furnish all materials required to complete the Work, except materials that are designated in the Special Provision to be furnished by the Agency.

ADD:

4-1.1.1 Contractor Equipment and Plants. Only equipment and plants suitable to produce the quality of work and materials required will be permitted to operate on the project. Such equipment and plants shall be maintained in a good state of repair during the process of the Work. No obsolete or badly worn equipment and plants shall be used. Manufacturer's ratings shall not be exceeded.

Plants shall be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity to ensure a production rate of sufficient material to carry to completion within the time limit(s) specified in the Contract Documents, if any.

The Contractor, when ordered by the Engineer, shall remove unsuitable equipment from the work site and discontinue the operation of unsatisfactory plants and equipment.

ADD:

4-1.1.2 Adoption or Revision Date for Standards, Codes, and Tests. Whenever reference is made to a standard, code, specification, or test and the designation representing the date of adoption or latest revision thereof is omitted, it shall mean the latest revision of such standard, code; specification or test in effect on the day of the Notice Inviting Bids is dated.

In accordance with the Public Contract Code § 3400, the Contractor shall submit data substantiating requests for substitution of “equal” items within thirty-five (35) days of Contract award or before ten percent of the Contract Working Days have expired, whichever is less. This time is included in the number of Working Days allowed for the completion of the Work. The Engineer’s decision regarding the acceptability of the substitution is final.

Materials, equipment, and supplies provided shall, without additional charge to Agency, fully conform with all applicable local, State and Federal safety laws, rules and regulations, and orders, and it shall be the Contractor's responsibility to provide only such materials, equipment, and supplies notwithstanding any omission in the Contract Documents therefore on that particular material, equipment or supply as specified.

4-1.3 Inspection Requirements.
Materials to be used in the Work will be subject to inspection and tests by the Engineer. The Contractor shall furnish without charge such samples as may be required. The Contractor shall furnish the Engineer a list of his sources of materials and the locations at which such materials will be available for inspection a minimum of twenty (20) Calendar Days in advance of their intended use. The Engineer may inspect, sample or test materials at the source of supply or other locations, but such inspection, sampling

or testing will not be undertaken until the Engineer is assured by the Contractor of the cooperation and assistance of both the Contractor and the supplier of the material. The Contractor shall assure that the Engineer has free access at all times to the material to be inspected, sampled or tested. It is understood that such inspections and tests, if made at any point other than the point of incorporation in the Work, in no way shall be considered as a guarantee of acceptance of such material nor of continued acceptance of material presumed to be similar to that upon which inspections and tests have been made, and that inspection and testing performed by the Agency shall not relieve the Contractor or his suppliers of responsibility for quality control.

Manufacturers' warranties, guarantees, instruction sheets and parts lists, which are furnished with certain articles or materials incorporated in the Work, shall be delivered to the Engineer before acceptance of the Contract Work.

Reports and records of inspections made and tests performed when available at the site of the Work, may be examined by the Contractor.

4-1.3.1 General.
The Engineer may inspect the production of material, or the manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the Engineer is assured of the cooperation and assistance of both the Contractor and the material producer. The Engineer shall have free entry at all times to such parts of the plant as concerns the manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection. The Agency assumes no obligation to inspect materials at the source of supply.

4-1.4 Test of Materials.
The Contractor shall furnish the Agency Representative with a list of his sources of materials in sufficient time to permit proper inspection and testing of materials to be furnished for such listed sources in advance of their use. The Contractor shall furnish without charge such samples as may be required.

Inspection and tests will be made by the Agency Representative or his designated representative, but it is understood that such inspections and tests, if made at any point other than the point of incorporation in the work, in no way shall be considered as guarantee of acceptance of such materials nor of continued acceptance of materials, presumed to be similar to that upon which inspection and tests have been made.

Tests of materials will be made in accordance with commonly recognized procedures of technical organizations and such special procedures as prescribed in the Contract Documents. Materials will be sampled and tested at such times during the process of the Work as deemed desirable by the Engineer, the Contractor shall cooperate in obtaining the samples.

ADD:

4-1.4.1 Testing Laboratory. The Contractor shall employ and pay for services of an independent testing laboratory, subject to approval by the Agency, to perform other testing and inspections services required by the Contract Documents.

Prior to start of Work, the Contractor shall submit his testing laboratory name, address and telephone number, and names of full-time registered engineer and responsible officer.

Employment of testing laboratories will in no way relieve Contractor of its obligation to perform the Work in accordance with Contract Documents.

Laboratory field technicians employed by the Agency shall have no authority to release, revoke, alter, or enlarge on requirements of Contract Documents, or to approve, accept or stop any portion of the Work.

The Contractor shall:

a) Cooperate with laboratory personnel, provide access to work, arrange access to manufacturer's operations.

b) Provide the laboratory with preliminary representative samples of materials to be tested, in required quantities.

c) Furnish copies of mill test reports.

d) Provide casual labor and facilities for access to work being tested; obtain and handle samples at the site; facilitate inspections and tests; provide facilities for the laboratory's exclusive use for storage and curing of test samples.

e) Coordinate requests for testing through the Agency Representative. Notify Agency Representative a minimum of three (3) Working Days in advance of operations to allow for assignment of personnel and scheduling of tests.

f) Pay for additional laboratory inspections, sampling and testing required for Contractor's convenience and when initial tests indicate that work does not comply with Contract Documents.

g) When required by the Contract Documents, submit manufacturer’s certificate, executed by responsible officer, certifying that the product(s) meet or exceed specified requirements. Provide certification in duplicate.

4-1.6 Trade Names or Equals

The Contractor shall submit products list in accordance with the following:

a) Within the time specified in 4-1.1.2 of the Standard Specifications and these Special Provisions, transmit number of copies Contractor needs plus four (4) of a list of major products which are proposed for installation, including name of manufacturer. Tabulate products by specification section number, title and article number.

b) For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

c) The Engineer will reply in writing, stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.

The following limitations shall apply to substitutions:

a) During the bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this Subsection.

b) Requests for substitutions of products will be considered only within the time period specified in the Contract Documents. Subsequent requests will be considered only in the case of product unavailability or other conditions beyond control of Contractor. Material delivery schedules will not be considered justification for substitution.

c) Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request or when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.

d) Substitute products shall not be ordered or installed without written acceptance by the Engineer.

e) Only one request for substitution for each product line will be considered. When substitution is not accepted, provide specified product.

f) The Engineer will determine acceptability of substitutions.

Requests for substitutions shall conform to the following:

a) Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.

b) Identify product by specifications section and article numbers. Provide manufacturer's name and address, trade name or product, and model or catalog number. List fabricators and suppliers, as appropriate.

c) Give itemized comparison of proposed substitution with specified product, listing variations, and reference to specifications section and article numbers.

d) Give cost data comparing proposed substitution with specified product, and amount of net change to Contract sum.

e) List availability of maintenance services and replacement materials.

f) State effect of substitution on construction schedule, and changes required in other work or products.

Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product. The Contractor shall provide the same warranty for the substitution as for the specified product, shall coordinate installation of accepted substitute, making such changes as may be requested for Work to be complete in all respects, certifies that cost data presented is complete and includes all related costs under this Contract and waives claims for additional costs related to substitution which may later become apparent. The Contractor shall submit the number of copies the Contractor needs plus four of request for substitution. For accepted products, submit shop drawings, product data and samples, and tests conducted in accordance with 2-5.3.

ADD:

4-1.10 Agency-Furnished Materials. Materials which are listed as Agency-furnished materials in the Special Provisions will be available to the Contractor free of charge.

The Contractor shall submit a written request to the Engineer for the delivery of Agency-furnished material at least fifteen (15) Working Days in advance of the date of its intended use. The request shall state the quantity and the type of each material.

The locations at which Agency-furnished materials will be available to the Contractor free of charge will be designated in the Special Provisions. In those cases, the materials shall be hauled to the site of the Work by the Contractor at the Contractor's expense, including any necessary loading and unloading that may be involved. If the locations are not designated in the Special Provisions, the Agency-furnished materials will be furnished to the Contractor free of charge at the site of the Work. In either case, all costs of handling and placing Agency-furnished material shall be considered as included in the price paid for the contract item involving the Agency-furnished material.

The Contractor shall be responsible for Agency-furnished materials furnished to the Contractor, and shall pay all demurrage and storage charges. Agency-furnished materials, once furnished, delivered, or picked-up by the Contractor, that are lost or damaged from any cause whatsoever shall be replaced by the Contractor at the Contractor's expense. The Contractor shall be liable to the Agency for the cost of replacing Agency-furnished materials, and those costs may be deducted from any monies due or to become due the Contractor. All Agency-furnished material that is not used on the Work shall remain the property of the Agency, and the Contractor shall arrange with the Agency Representative for delivery back to the Agency at Contractor’s expense.

SECTION 5 - UTILITIES

5-0 GENERAL. For purposes of this Section 5, the terms referenced below are defined as follows:

An “unidentified” underground main or trunk line utility is one that is not indicated at all on the Plans, and a “misidentified” underground main or trunk line utility is one that is not indicated on the Plans with reasonable accuracy (a “misidentification”). An underground main or trunk line utility is indicated on the Plans with reasonable accuracy unless its actual location is substantially and materially different from that indicated on the Plans.

The term “rearrangement” of utilities means the relocation, alteration, reinstallation, and/or reconstruction of utilities (including removal of existing utilities incidental thereto) as necessary in order to accommodate the Work. Whenever in this Section 5 reference is made to any one or more of these rearrangement activities, such reference shall be deemed to include all other such activities as required in order to accommodate the Work.

5-1 LOCATION.
A list of utility companies that have facilities located within or near the construction area is included in the Special Provisions. The Engineer has endeavored to determine the existence of utility substructures at the site of the Work by reviewing the records of the owners of known utilities in that vicinity and consulting with those owners, and based on that information has indicated on the Plans those utility substructures (except for service connections) that may affect the Work.

The Contractor acknowledges that the utility information provided on the Plans and Special Provisions has not been verified and may not be accurate or complete. Except as expressly provided in this Section 5, the Contractor may not rely upon such utility information and the City assumes no responsibility for its accuracy or completeness. Changed conditions within the scope of 3-4 do not include utilities.

The Contractor shall determine the exact location (both horizontal and vertical), type and size of all existing utilities, including service connections, prior to commencing work which could result in damage to such utilities or could otherwise affect or be affected by such utilities or interfere with the service they provide. Where underground main distribution conduits such as water, gas, sewer, electric power, telephone or cable television are shown on the Plans, the Contractor shall assume that every adjacent property parcel will be served by a service connection for each type of utility shown. The Contractor shall do such investigation, research, surveys and potholing as the Contractor deems necessary to make such determinations. The Contractor shall immediately notify the Engineer as to any utility discovered by it which is in a different position than indicated on the Plans or is not indicated at all on the Plans.

The Contractor's cost of locating any unidentified or misidentified underground main or trunk line utility will be paid for as an addition to the Work in accordance with Section 3; provided, however, that the Contractor will not be entitled to such additional compensation if the existence and location (with reasonable accuracy) of such utility was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. The cost of locating all other utilities shall be considered as included in prices in the Bid for other items of the Work.

The information regarding underground and internal utilities and appurtenances which the Contractor is required to record in the Record Documents as specified in 7-16 shall include (but not be limited to) the accurate locations of underground utilities determined pursuant to this 5-1 and remaining in place, as well as utilities rearranged by either the Contractor or the utility owners.

At least two (2) Working Days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California [USA] at 1-800-422-4133) to obtain an inquiry identification number. The Contractor shall comply in all respects with California Government Code § 4216 *et seq.*

Caltrans is not required by Section 4216 *et seq.* to become a member of the regional notification center. The Contractor shall contact Caltrans for the location of its subsurface installations. In addition, the Contractor shall be aware that non-pressurized sewer lines, non-pressurized storm drains, and other non-pressurized drain lines are not required by § 4216 *et seq.* to be marked by the respective owners. The Contractor shall contact those utility owners as necessary to locate their subsurface installations.

The Contractor shall request the City of Irvine Traffic Operations Division at 949-724-7649 to locate any existing traffic signal conductors and interconnect within the construction area before performing Work that may affect or be affected by the existing facilities.

Except as expressly provided in this Section 5 with respect to unidentified or misidentified underground main or trunk line utilities, the failure of any utility company to accurately mark its facilities shall not be justification for a time extension or for additional compensation from the City.

The Contractor shall obtain photographs of all markings made by its forces as well as all USA markings. All such photographs shall show the subject markings in relation to one or more identifiable landmarks that will remain in place after completion of the Work and completion of any utility removal and/or rearrangement work in the vicinity.

The right is reserved to governmental agencies and to the owner of utilities to enter at any time upon any street, alley, right of way, or easement for the purpose of maintaining and making repairs to their property.

5-1.2 Payment.
Payment for utility location by the Contractor shall be included in the various items of work and no additional compensation will be allowed therefor.

5-2 PROTECTION.
The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or direction from the Engineer. Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities potentially impacted by the Work, the Contractor shall, unless otherwise specified on the Plans or in the Special Provisions, furnish and place the necessary protection and support.

Any additional cost incurred by the Contractor for protecting and supporting an unidentified underground main or trunk line utility or resulting from the misidentification of an underground main or trunk line utility will be paid for as an addition to the Work in accordance with Section 3, unless such utility's existence and location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. The cost of protecting and supporting all other utilities shall be considered as included in prices in the Bid for other items of the Work.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged in the course of the Work. The Contractor shall, if directed by the Engineer, restore, repair or replace any such disturbed or damaged utility.

For any unidentified or misidentified underground main or trunk line utility that is disturbed or damaged in the course of the Work, the cost of restoration, repair or replacement incurred by the Contractor, if not made necessary by the Contractor's failure to perform its obligations pursuant to the Contract Documents (including without limitation Section 5-1) or to otherwise exercise reasonable care, will be paid for as an addition to the Work in accordance with Section 3. Except where additional compensation is allowed pursuant to this paragraph, all utilities disturbed or damaged in the course of the Work shall be restored, repaired or replaced at the Contractor's cost and expense, either by the utility owner or by the Contractor.

To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any claims or liabilities (as defined therein) that may be asserted or claimed by any person or entity arising out of any disturbance or damage to utilities caused by the act or omission of the Contractor, whether or not such utilities are accurately marked either on the Plans or by the utility owner in the field, and whether or not there is concurrent active or passive negligence on the part of City and/or City Personnel, but excluding any such claims or liabilities arising from the sole active negligence or willful misconduct of City or City Personnel. All claims and liabilities for which the Contractor is responsible pursuant to this paragraph are sometimes referred to herein as "Utility Damage Claims."

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:

a) Furnish and install a 2-inch (50 mm) cushion of expansion joint material or other similar resilient material; or

b) Provide a sleeve or other opening which will result in a 2-inch (50 mm) minimum-clear annular space between the concrete and the utility; or

c) Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for a structure which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer, shall arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system, and shall implement such procedures at the Contractor's expense.

5-4 RELOCATION.
If utilities are found to interfere with the Work after award of the Contract, such utilities will be rearranged by the respective utility owners, or the Engineer may order the Contractor to perform such rearrangement, as an addition to the Work in accordance with Section 3. Alternatively, the Engineer may order changes in the Work to avoid such interference, in accordance with Section 3. All work by the Contractor on utilities shall be done to the reasonable satisfaction of the utility owner as well as complying with the requirements of the Contract Documents.

When the Plans or Special Provisions provide for the Contractor to rearrange a utility as part of the Work, all costs for such work shall be considered included in the Bid for the items of work necessitating such work. However, if an underground main or trunk line utility to be rearranged by the Contractor is misidentified in the Plans, any additional cost incurred by the Contractor for such work resulting from the misidentification shall be treated as an addition to the Work in accordance with Section 3, unless the utility's location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. Except as provided in this paragraph, the Contractor shall not be entitled to any additional compensation on account of inaccuracies in the Plans with respect to rearrangements of utilities that are included in the Work.

Temporary or permanent rearrangement of utilities requested by the Contractor for its convenience shall be its responsibility and the Contractor shall make all arrangements necessary for such work and bear all related costs. The Contractor shall not be entitled to any additional compensation on account of any such utilities or work.

The provisions of this paragraph are subject to the provisions of the previous paragraph. Where the Plans or Special Provisions provide for the Contractor to rearrange any service connections, such work is considered included in the Bid for the items of work necessitating such work.

5-5 DELAYS.
The construction schedule developed in accordance with 6-1 shall allow adequate time for the necessary protection, removal and rearrangement of utilities by either the utility owner or the Contractor, as applicable. For work to be performed by a utility owner, the construction schedule shall allow for the time period required by the utility owner for such work. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or rearrangement of utilities, and shall obtain the Engineer's approval of such changes.

The Contractor will not be entitled to any extensions of the Contract time or compensation for damages incurred due to delays attributable to utilities at the site of the Work except as

otherwise provided in 6-6.1 or as provided below. Delays described below will not be considered delays for which the City is responsible within the meaning of 6-6.3.

a) Subject to 6-6.2 and 6-6.4, the Contractor shall be entitled to an extension of the Contract time to the extent that any delay in the Work is directly attributable to an

unidentified underground main or trunk line utility or the misidentification of an underground main or trunk line utility in the Plans, unless the utility's location (with reasonable accuracy) was (or should have been) known to the Contractor as of the date on which the Bids were due or could otherwise have been inferred at that time from the presence of visible facilities such as buildings, meters, junction boxes or identifying markers. If the Contractor is entitled to such a time extension, the Contractor also shall be entitled to compensation for idle time of equipment on account of such delay, determined by the Engineer in the same manner as determinations are made for equipment used in the performance of Extra Work in accordance with Section 3. The Contractor shall not be entitled to any other compensation or damages on account of such delay.

b) The Contractor may be given an extension of time (but no additional compensation) for unforeseen delays attributable to failure of a utility owner to complete utility rearrangement work within the time period reasonably scheduled for such work in the construction schedule, or to timely complete utility rearrangement work which the Contract Documents indicate will be completed in advance of the Contractor's construction operations.

The Contractor shall not be entitled to any time extension or additional compensation for any delays or losses described in 5-5: (a) to the extent resulting from the Contractor's actions or omissions or which could have been avoided by any reasonable means, such as the judicious handling of forces, equipment or plant, or (b) arising in connection with utilities being rearranged for the Contractor's convenience. The determination of what damages the Contractor could have avoided will be made by the Engineer.

The Contractor shall immediately notify the Engineer of any delays to the Contractor's operations described in 5-5. Delays described in 5-5 are not considered right of way delays within the scope of 2-8.

5-7 CONTRACTOR RESPONSIBILITIES.

The Contractor shall:

a) Cooperate with utility personnel; provide access to work site.

b) Coordinate Work of the Contract with affected utilities. All USA markings shall be removed after completion of the work for which the markings were provided, and before Agency's Acceptance and/or approval of the Work.

c) Asphalt concrete pavement not overlaid or slurry sealed as part of the project bid items which is damaged by trenching, potholing or where the contractor otherwise damages pavement shall be slurry sealed after the pavement section is repaired. "Perpendicular" street cuts shall be slurry sealed ten (10) feet each side of the cut and for "longitudinal" cuts shall be slurry sealed from pavement lane to pavement lane line for the entire damaged area or as directed by the Agency Representative. Type I slurry shall be used on non-arterial streets and Type II slurry shall be used on arterial streets. Damaged traffic striping, legends and markers shall also be replaced if damaged. "Patchwork" application of slurry shall be avoided by joining closely grouped areas of slurry applications. Compensation for this requirement shall be considered as included in the prices paid for the related items of work and no additional compensation will be allowed therefor.

5-8 PERMANENT UTILITIES. Contractor shall contact and make all arrangements with utility owners and coordinate all provisions for installation and connection of all permanent utilities that are necessary for the Work, such as, but not limited to, natural gas, electricity, water, sewer, and telephone. All costs for such installation and connection, as well as costs for operating permanent utilities prior to acceptance of the Work by the Agency, shall be considered as included in the prices in the Bid for the related items of work.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

The Contractor shall begin the Work on or before the date stipulated in the Notice to Proceed and shall diligently prosecute the Contract to completion within the time limit provided in the Contract.

The Contractor shall notify the Engineer of his intent to begin work at least two (2) Working Days prior to the start of any work.

The Contractor may, upon written approval from the Agency, begin work in advance of the date in the Notice to Proceed; however, no work shall be started in advance of the complete execution of the Contract and acceptance of the Contractor's construction schedule by the Agency. The Agency may, but shall not be required to, provide access to the site prior to the date specified in the Notice to Proceed.

Unless specified elsewhere in these Special Provisions, within ten (10) days after execution of the Contract, the Contractor shall deliver to the Agency Representative a construction progress schedule employing the critical path method, in a form satisfactory to the Engineer, showing the proposed dates of commencement and completion of each item of the Work and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule.

The schedule format shall be as follows:

a) Prepare schedules as horizontal bar chart with separate bar for each portion of work or operation in accordance with approved schedule of values, identifying first workday of each week. Allow space for updating.

b) Sequence of Listings: Chronological order of the start of each item of work.

c) Sheet Size: Multiple of 8-1/2 x 11 inches.

d) Provide a two week look-ahead schedules (updated weekly).

The content of the schedules shall:

a) Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction. Include any special sequencing specified in the Contract Documents.

b) Show lane closures notifications and lane closure dates.

c) Provide sub-schedules to define major and significant portions of entire schedule.

d) Show accumulated percentage of completion of each item, and total percentage of Work completed as of first day of each month.

e) Provide separate schedule of dates for product procurement and delivery dates, shop drawing submittals and equipment installation. Show decision dates for selection of finishes, if applicable.

f) Show delivery dates for Agency-furnished products, if applicable.

g) Show the critical path.

Revisions to schedules shall:

a) Indicate progress of each activity to date of submittal, and projected completion date of each activity.

b) Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

c) Provide written report to define any problem areas, anticipated delays, and impact on schedule. Report corrective action taken, or proposed, and its effect.

d) Revise periodically as directed by the Agency Representative. Failure to comply with directive will be considered as grounds to delay progress payment.

e) Show the revised critical path.

Required submittals:

a) Submit initial schedules within ten (10) days after execution of the Contract. If requested, resubmit required revisions within seven (7) days of request.

b) Submit an update schedule on or before the first day of each month, beginning one month after the initial schedule as outlined in (a) above. If requested, resubmit required revisions within seven (7) days of request.

c) Submit four (4) copies of schedules to Agency Representative.

d) Submit under transmittal letter.

Contractor shall:

a) Distribute copies of current schedules to job site file subcontractors, suppliers and other concerned parties.

b) Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

Payment for conforming to these requirements shall be included in the various items of work and no additional compensation will be allowed therefor.

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

The Contractor shall begin the Work on or before the date stipulated in the Notice to Proceed and shall diligently prosecute the Contract to completion within the time limit provided in the Contract.

The Contractor shall notify the Agency Representative of his intent to begin work at least two (2) Working Days prior to the start of any work.

The Contractor may, upon written approval from the Agency, begin work in advance of the date in the Notice to Proceed; however, **no work shall be started in advance of the completed execution of the Contract and approval of the construction progress schedule by the Agency**. The Agency may, but shall not be required to, provide access to the site prior to the date specified in the Notice to Proceed.

6-1.1 General. Within ten (10) days after the date of the City's execution of the Contract, the Contractor shall submit a proposed construction schedule to the Engineer for approval. The construction schedule shall be in accordance with 6-1.2 and 6-1.3 and shall be in sufficient detail to show chronological relationship of all activities of the Work.

These include, but are not limited to, estimated starting and completion dates of various activities, submittal of shop drawings to the Engineer for approval, utility relocation efforts, procurement of materials and scheduling of equipment.

Prior to issuing the Notice to Proceed, the Engineer will schedule a Pre-Construction Meeting with the Contractor to review the proposed construction schedule and delivery dates, arrange utility coordination and clarify inspection procedures.

Notwithstanding any other provisions of the contract, the Contractor shall not be obligated to perform any work and the City shall not be obligated to accept or pay for any work performed by the Contractor prior to delivery of the Notice to Proceed. The City's knowledge of work performed prior to the delivery of the Notice to Proceed shall not obligate the City to accept or pay for such work. The Contractor shall provide the required contract bonds and evidences of insurance prior to commencing work at the site.

6-1.2 Definitions. The following definitions shall apply to this section:

a) ACTIVITY — a task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

b) BASELINE SCHEDULE — the initial schedule representing the Contractor's work plan on the first working day of the project.

c) CONTRACT COMPLETION DATE — the current extended date for completion of the contract shown on the Weekly Statement of Working Days furnished by the Engineer in conformance with the provisions in 6-7.

d) CRITICAL PATH — the longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

e) CRITICAL PATH METHOD (CPM) — a network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

f) DATA DATE — the day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned."

g) FLOAT — the difference between the earliest and latest allowable start or finish times for an activity.

h) FRAGNET — a fragnet is defined as the sequence of new activities that are proposed to be added to the existing schedule, to demonstrate either added scope, or a change and the corresponding impact. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities.

i) MILESTONE — an event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

j) NEAR CRITICAL PATH — a chain of activities with total float exceeding that of the critical path but having no more than ten (10) Working Days of total float.

k) SCHEDULED COMPLETION DATE — the planned project finish date shown on the current accepted schedule.

l) TOTAL FLOAT — the amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

m) UPDATE SCHEDULE — a current schedule developed from the baseline or subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

6-1.3 General Requirements. The Contractor shall meet with the Engineer on a date mutually agreed by the parties with the intent of discussing the schedule requirements. This meeting shall happen before the Contractor begins the work on the Baseline schedule.

The Contractor shall submit to the Engineer baseline, monthly update, look-ahead schedules and final update schedules, each consistent in all respects with the time and order of work requirements of the contract. The project work shall be executed in the sequence indicated on the current accepted schedule.

Schedules shall show the order in which the Contractor proposes to carry out the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling operation or operations. The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

The Contractor shall produce schedules using computer software and shall furnish compatible software for the Engineer's exclusive possession and use. The Contractor shall furnish network diagrams and schedule data as parts of each schedule submittal.

The schedule shall be prepared using the latest version of Oracle’s Primavera P6 scheduling tool or approved equal. Any tool other than Primavera shall first require approval from the Engineer.

The Contractor shall not sequester float through strategies such as extending activity duration estimates to consume available float, using preferential logic, using extensive crew/resource constraints, using special lead/lag logic restraints, using imposed dates or other float suppression techniques.

Schedules shall include, but not be limited to, applicable activities that show the following:

a) Project characteristics, salient features, or interfaces, including those with outside entities that could affect time of completion.

b) Project start date, scheduled completion date and other milestones.

c) Work performed by the Contractor, subcontractors and suppliers.

d) Submittal development, delivery, review and approval, including those from the Contractor, subcontractors and suppliers.

e) Procurement, delivery, installation and testing of materials, plants and equipment.

f) Testing and settlement periods.

g) Utility notification and relocation.

h) Erection and removal of false work and shoring.

i) Lane closures, ramp closures, etc.

j) Major traffic stage switches.

k) Finishing roadway and final cleanup.

l) Schedule shall further include the following:

    1) A clear and legible description for each activity.

    2) A detailed Work Breakdown Structure (WBS) or Activity Coding Structure, sufficient to clearly organize, sort and filter activities as needed.

    3) A duration of not less than one (1) Working Day, except for event activities, and not more than twenty (20) Working Days, unless otherwise authorized by the Engineer.

    4) At least one predecessor and one successor activity, except for project start and finish milestones.

    5) Required constraints.

The Engineer's review and acceptance of schedules shall not waive any contract requirements and shall not relieve the Contractor of any obligation thereunder or responsibility for submitting complete and accurate information. Schedules that are rejected shall be corrected by the Contractor and resubmitted to the Engineer within five (5) Working Days of notification by the Engineer, at which time a new review period of one week will begin.

Errors or omissions on schedules shall not relieve the Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Engineer, either the Contractor or the Engineer discover that any aspect of the schedule has an error or omission, it shall be corrected by the Contractor on the next update schedule.

The Contractor shall include the following for each schedule submittal:

a) Two sets of originally plotted, time-scaled network diagrams.

b) Two copies of a narrative report.

c) Two copies of each of three (3) sorts of the CPM software-generated tabular reports.

d) Electronic copy of the schedule data.

The time-scaled network diagrams shall conform to the following:

a) Show a continuous flow of information from left to right.

b) Be based on early start and early finish dates of activities.

c) Clearly show the primary paths of criticality using graphical presentation.

d) Include a title block and a timeline on each page.

Tabular reports shall be software-generated and provide information for each activity included in the project schedule. Three different reports shall be sorted by (1) activity ID, (2) early start and (3) total float. Tabular reports shall be 8 ½" x 11" in size and shall include, as a minimum, the following applicable information:

a) Data date
b) Activity number and description
c) Predecessor and successor activity and numbers and descriptions
d) Activity codes
e) Scheduled, or actual and remaining durations (work days) for each activity
f) Earliest start (calendar) date
g) Earliest finish (calendar) date
h) Actual start (calendar) date
i) Actual finish (calendar) date
j) Latest start (calendar) date
k) Latest finish (calendar) date
l) Free float (working days)
m) Total float (working days)
n) Percentage of activity completed and remaining duration for incomplete activities
o) Lags
p) Required constraints

Schedule submittals will only be considered complete when all documents and data have been provided as described above.

6-1.4 Computer Software. The software shall be the current version of Oracle's Primavera P6 for Windows or equal. If the Contractor proposes to use a different software than Primavera, the Contractor shall submit to the Engineer for approval a description of proposed software. All software shall be compatible with the latest Windows operating system.

The Contractor shall furnish schedule software and all original software instruction manuals to the Engineer with submittal of the baseline schedule. The furnished schedule software will be returned to the Contractor upon Project Acceptance.

The Contractor shall instruct the Engineer in the use of the software and provide software support until the contract is accepted. Within twenty (20) Working Days of approval of the Contract, the Contractor shall provide a commercial 16-hour training session and training manuals for 3 City employees in the use of the software at a location acceptable to the Engineer. It is recommended that the Contractor also send at least 3 employees to the same training session to facilitate development of similar knowledge and skills in the use of the software.

6-1.5 Schedule Submittals, Network Diagrams and Reports.
The Contractor shall:

a) Submit the Baseline Schedule within twenty (20) Working Days after the approval of the Contract. Review 6-1.6 for more details on the Baseline Schedule requirements.

b) Contractor shall incorporate any revisions deemed necessary by the City after the City's review of the Baseline Schedule.

c) Once the City approves the Baseline Schedule, the Contractor shall submit two (2) color plots on "E" size sheets (approximately 34" x 44") of each required schedule, four (4) copies of the schedule in 11" x 17" format. A computer copy of the schedule data in the native file format should also be presented.

d) Submit the Monthly Updated Schedules and reports along with the computer copy of the schedule file, on or within the first working day of each month. The Monthly Updated Schedule shall incorporate the Project's actual progress (or as-built information) as of the data date indicated on the update into the Baseline Schedule or the latest monthly update as appropriate.

e) Submit a 3-Week Look-Ahead Schedule weekly and at every progress meeting during construction.

f) Submit Final As-Built Schedule upon completion of the entire Project.

6-1.6 Baseline Schedule. The Contractor shall submit to the Engineer a baseline schedule within ten (10) days after the date of the City's execution of the Contract. The Contractor shall allow three (3) weeks for the Engineer's review after the baseline schedule and all support data are submitted. Beginning the week the baseline schedule is first submitted, the Contractor shall meet with the Engineer weekly to discuss and resolve schedule issues until the baseline schedule is accepted.
The baseline schedule shall include the entire scope of work and shall show how the Contractor plans to complete all work contemplated. The baseline schedule shall clearly identify the activities that define the critical path. Multiple critical paths and near-critical paths shall be kept to a minimum. Not more than 30 percent of the baseline schedule activities shall be critical or near critical, unless otherwise authorized by the Engineer.
The baseline schedule shall not extend beyond the number of Working Days originally provided in these Special Provisions. The baseline schedule shall have a data date of the first working day of the contract and not include any completed work to date. The baseline schedule shall not attribute negative float or negative lag to any activity.

Each baseline schedule submittal shall include the following:

a) A Baseline Narrative report which must include the following information:

    1) Explanation of the Contractor's general approach to this project and an explanation of what the Contractor considers as key factors to successfully complete the project within the contractual time.

    2) A brief explanation of where the work will begin and the how the work and crews will flow through the project.

    3) Describe how the Agency's jurisdictional requirements regarding working times and lane closures have been factored in the schedule.

4) A general explanation of the anticipated workdays per week, number of shifts per day, number of hours per shift, and holidays observed.
5) A description of problems, risks or issues anticipated.
6) Typical crew sizes and major equipment to be used in the job.
7) Long lead items.

b) Hard copy of the schedule in 11” x 17” format.
c) Color plots in “E” sheet (Approximately 34” x 44”.)

6-1.7 Update Schedule. The Contractor shall submit an update schedule and meet with the Engineer to review contract progress, on or before the first day of each month, beginning one month after the baseline schedule is accepted. The Contractor shall allow two (2) weeks for the Engineer's review after the update schedule and all support data are submitted, except that the review period shall not start until any previous month's required schedule is accepted. Update schedules that are not accepted or rejected within the review period will be considered accepted by the Engineer.

The update schedule shall have a data date of the last date of the reporting period month or other date established by the Engineer. The update schedule shall show the status of work actually completed to date and the work yet to be performed as planned. The following shall be included with each monthly update:

a) The electronic copy of the schedule file in the native file format.
b) Hard copies of the schedule in 11” x 17” format and color plots in “E” sheet size.
c) A critical path report, showing only the longest path in the project.
d) A list and detailed description of all changes made to the schedule.
e) A narrative report. The narrative report shall be organized in the following sequence with all applicable documents included:
    1) Contractor’s transmittal letter.
    2) Work completed during the period.
    3) Identification of unusual conditions or restrictions regarding labor, equipment or material; including multiple shifts, 6-day work weeks, specified overtime or work at times other than days or hours.
    4) Description of the critical path method.
    5) Changes to the critical path and scheduled completion date since the last schedule submittal.
    6) Description of the problem areas.
    7) Current and anticipated delays:
        (a) Cause of Delay.
        (b) Impacts of delay on other activities, milestones and completion dates.
        (c) Corrective action and schedule adjustments to correct the delay.
    8) Pending Items and status thereof:

(a) Permits

(b) Change Orders

(c) Time adjustments

(d) Non-compliance notices

9) Reasons for an early or late schedule completion date in comparison to the contract completion date.

6-1.8 Look-Ahead Schedule. The Contractor shall prepare and issue a 3-Week Look Ahead schedule to provide a more detailed day-to-day plan of upcoming work identified on the Baseline/Monthly Update. Each task in the Look Ahead Schedule shall be referenced back to a relevant Activity ID on the Master Schedule (Either the Baseline or the latest Monthly Update). Activities shall not exceed five (5) Working Days in duration and have sufficient level of detail to assign crews, tools and equipment required to complete the work. The Contractor shall update this schedule weekly.

6-1.9 Time Impact Analysis (TIA). The Contractor shall submit a written TIA to the Engineer with each request for adjustment of contract time, or when the Contractor or Engineer consider that an approved or anticipated change may impact the critical path or contract progress. The Contractor shall submit the TIA for review within ten (10) Working Days after the date of the alleged delay impact to the schedule or within ten (10) Working Days after receiving a written request for TIA from the Engineer. Delays of any non-critical Work shall not be the basis for an extension of Contract time until the delays consume the float associated with that non-critical work activity and cause the work activity to become critical The City will not grant time extensions unless substantiated by the CPM Schedule, and then not until the project float becomes zero. If the Contractor fails to submit a TIA within the aforementioned time specified, then the City shall deem the Contractor to have agreed that there is no time impact and that the Contractor has irrevocably waived its rights to any additional Contract time.

For each TIA the Contractor shall provide information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay. Each TIA shall be in a form and content suitable to the Engineer and include the following:

a) The TIA shall illustrate the impacts of each change or delay on the current schedule completion date or internal milestones, as appropriate.

b) The TIA shall include a written narrative. The narrative shall detail the proposed methodology for creating the Fragnet, include a chronology of events leading to the delay, and an explanation of how the delay impacted the critical path.

c) The analysis shall use the accepted schedule that has a data date closest to and prior to the event. If the Engineer determines that the accepted schedule used does not appropriately represent the conditions prior to the event, the accepted schedule shall be updated to the day before the event being analyzed.

d) The TIA shall include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and completion date of the accepted schedule, the difference between schedule completion dates of the two schedules shall be equal to the adjustment of Contract time. The Engineer may

construct and utilize an appropriate project schedule or other recognized method to determine adjustments in Contract time until the Contractor provides the TIA.

The Contractor shall allow the Engineer 2 weeks after receipt to approve or reject the submitted TIA. If the TIA is accepted, the contract completion time shall be adjusted accordingly. All approved TIA schedule changes shall be shown on the next update schedule.

If the TIA submitted by the Contractor is rejected by the Engineer, the Contractor shall meet with the Engineer to discuss and resolve issues related to the TIA. If agreement is not reached, the Contractor will be allowed 15 days from the meeting with the Engineer to give notice in conformance with the provisions in Section 3. The Contractor shall only show actual as-built work, not unapproved changes related to the TIA, in subsequent update in schedules. If agreement is reached at a later date, approved schedule changes shall be shown on the next update schedule.

6-1.10 Final Update Schedule. The Contractor shall submit a final update, as-built schedule with actual start and finish dates for the activities, within thirty (30) Calendar Days after completion of the Work. The Contractor shall provide a written certificate with this submittal signed by the Contractor's project manager and an officer of the company stating, “To my knowledge and belief, the enclosed final update schedule reflects the actual start and finish dates of the actual activities for the project contained herein.” An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

6-1.11 Retention. The City will retain an amount equal to 25 percent of the estimated value of the Work performed during each estimate period in which the Contractor fails to submit an acceptable schedule conforming to the requirements of these Special Provisions as determined by the Engineer. Schedule retentions will be released for payment on the next monthly estimate for partial payment following the date that acceptable schedules are submitted to the Engineer or as otherwise specified herein. Upon completion of all contract work and submittal of the final update schedule and certification, any remaining retained funds associated with this section, “Progress Schedule (Critical Path Method),” will be released for payment. Retentions held in conformance with this section shall be in addition to other retentions provided for in the contract. No interest will be due the Contractor on retention amounts.

6-1.12 Payment. Payment for Construction Schedule (critical path method) shall be at the contract unit price per Lump Sum and shall include full compensation for furnishing all labor, materials, equipment, and incidentals, including computer software, and for doing all the work involved in preparing, furnishing, and updating schedules, and instructing and assisting the Engineer in the use of computer software, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Payment for the construction schedule (critical path method) contract item will be made progressively as follows:

a) A total of 25 percent of the item amount will be paid upon achieving all of the following:

    1) Completion of 5 percent of all contract item work.

2) Software training for Agency staff.

3) Acceptance of all schedules and any time impact analyses required at the time 5 percent of all contract item work is complete.

b) A total of 50 percent of the item amount will be paid upon completion of 25 percent of all contract item work and acceptance of all schedules and time impact analyses required at the time 25 percent of all contract item work is complete.

c) A total of 75 percent of the item amount will be paid upon completion of 50 percent of all contract item work and acceptance of all schedules and time impact analyses required at the time 50 percent of all contract item work is complete.

d) A total of 100 percent of the item amount will be paid upon completion of all percent of all contract item work and acceptance of all schedules and time impact analyses required at the time all percent of all contract item work is complete, and submittal of the certified final update schedule.

If the Contractor fails to complete any of the work or provide any of the schedules required by this section, the Engineer shall make an adjustment in the compensation in conformance with the provisions in Section 3 “Changes of Work,” of the Standard Specifications for the work not performed. Adjustments in compensation for schedules will not be made for any increased or decreased work ordered by the Engineer in furnishing schedules.

Should the Contractor fail to meet the requirements under 6-1 of these Special Provisions, the Engineer reserves the right to withhold payment for work being performed. Furthermore, if after notice is given to the Contractor to perform work to meet these requirements, and the Contractor refuses or for any reason fails to perform sufficiently to meet these schedules, City may withhold or deny payment for work being performed.

6-2 PROSECUTION OF THE WORK.

6-2.1 Time of Completion and Forfeiture Due to Delay. The Contractor shall complete the Work called for under the Contract within the time set forth in the Special Provisions.

In accordance with Government Code § 53069.85, Contractor agrees to forfeit and pay to the Agency the amount per day set forth in the Contract for each and every day of delay which shall be deducted from any payments due or to become due the Contractor.

The Agency has endeavored to identify all areas of the site which may contain hazardous waste, as defined by Health and Safety Code § 25117, and unless otherwise noted said hazardous waste in these areas has been mitigated. However, the parties expressly acknowledge the possibility of the existence of further hazardous waste not previously identified. If, during the course of his work, the Contractor encounters any such hazardous waste, he shall promptly notify the Agency through its designated representative. If the material is indeed “hazardous waste” pursuant to Health and Safety Code § 25117, the Agency has the option to have the mitigation work performed by the Contractor or by a separate contract from the work being performed. If the Contractor performs said mitigation work, the cost will be paid for as an addition to the work in accordance with Section 3. To the maximum extent permitted by law, the

Agency shall not be liable for any damages beyond an appropriate time extension for delays occasioned by the existence of hazardous waste conditions contemplated herein.

No forfeiture due to delay shall be made because of any delays in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor (including but not restricted to acts of nature or of the public enemy, acts of the government, acts of the Agency, or acts of another contractor in the performance of a contract with the Agency, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather). Any such delays, except for acts of the Agency, shall not entitle the Contractor to any additional compensation. The sole remedy of the Contractor shall be an extension of time obtained in accordance with this section.

The Contractor shall, within ten (10) Calendar Days from the beginning of any such delay, notify the Agency Representative in writing of the cause of delay, whereupon the Agency Representative will ascertain the facts and extent of the delay and extend the time for completing the Work if, in his judgment, the findings of the fact justify such an extension, and the Agency Representative's findings of facts thereon shall be final and conclusive.

6-2.2 Order of Work Requirements. When required by these Special Provisions or the Plans, the Contractor shall follow the sequence of operations and restrictions as set forth therein.

The Work shall be performed in conformance with the **Phasing Schedule and Phasing Map** included in **Appendix A** attached hereto and made a part of. Subject to approval by the Engineer, non-conflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction and availability of the property. The Engineer's approval of any Contractor-requested modifications to the order of work or staging of the work shall not be grounds for a Change Order request or time extension request by the Contractor. If the Contractor deviates from the specified order of work, it does so at its own risk and shall assume all time impacts and cost associated with such deviations.

6-3 SUSPENSION OF THE WORK.

6-3.1 General.

The Engineer shall have the authority to suspend the Work wholly or in part, for any time period as the Engineer deems necessary in the interest of Agency, for Agency's convenience, or due to the failure on the part of the Contractor to carry out orders given, or to perform any provision of the Contract. The Contractor shall immediately comply with the written order of the Engineer to suspend the Work wholly or in part. The suspended work shall be resumed as ordered or approved in writing by the Engineer.

Resumption of work shall be predicated on receipt of the following from the Contractor:

a) A revised schedule showing each task yet to be accomplished and the time line to accomplish each – until final completion.

b) The work force projections attached to each task listed per workweek.

c) The cost expenditures attached to each task summarized per each workweek.

d) Lien releases from each subcontractor, supplier, and vendor to which the Contractor has requested materials, equipment or any other service recognizing the payments received.

e) An Income and Expense Statement projecting how the Contractor will finance the reminder of the project.

Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in 6-6.3. For purposes of 6-6.3, delays resulting from suspensions ordered by the Engineer due to the failure on the part of the Contractor to carry out orders given, or to perform any provision of the Contract, shall not be delays for which the Agency is responsible.

In the event that a suspension of Work is ordered as provided above, the Contractor, at the Contractor's expense, shall do all the work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public traffic during the period of that suspension as provided in 7-10, and as specified in these Special Provisions. In the event that the Contractor fails to perform the work above specified, the Agency will perform that work and, if the suspension is due to Contractor's failure to carry out orders given or to perform any provision of the Contract, the cost thereof will be deducted from monies due or to become due the Contractor.

If a suspension of work is ordered by the Engineer, in accordance with this subsection, the days on which the suspension order is in effect shall be considered working days if those days are working days within the meaning of the definition set forth in 6-7.2.

The suspension of Work shall not relieve the Contractor of the responsibilities as set forth in the Contract Documents.

6-4 TERMINATION OF THE CONTRACT FOR DEFAULT.

In the event this Contract is terminated for grounds which are later determined not to justify a termination for breach, such termination shall be deemed to constitute a Termination of the Contract for Convenience pursuant to 6-5.

6-5 TERMINATION OF THE CONTRACT FOR CONVENIENCE.

The Agency reserves the right to terminate the Contract at any time upon a determination by the Engineer that termination of the Contract is in the best interest of the Agency.

If the Agency elects to terminate the Contract, the termination of the Contract and the total compensation payable to the Contractor shall be governed by the following:

a) The Engineer will issue the Contractor a signed written notice, specifying that the Contract is to be terminated. Upon termination of the Contract, the Contractor will be relieved of further responsibility for damage to the Work (excluding materials) as specified in 4-1.2 of the Standard Specifications, 7-16 of these Special Provisions and, except as otherwise directed in writing by the Engineer, the Contractor shall:

    1) Stop all work under the Contract except that specifically directed to be completed prior to Acceptance.

    2) Perform work the Engineer deems necessary to secure the project for termination.

3) Remove equipment and plant from the site of the Work.

4) Take action that is necessary to protect materials from damage.

5) Notify all subcontractors and suppliers that the Contract is being terminated and that their contracts or orders are not to be further performed unless otherwise authorized in writing by the Engineer.

6) Provide the Engineer with an inventory list of all materials previously produced, purchased or ordered from suppliers for use in the Work and not yet used in the Work, including its storage location, and such other information as the Engineer may request.

7) Dispose of materials not yet used in the Work as directed by the Engineer. It shall be the Contractor's responsibility to provide the Agency with good title to all materials purchased by the Agency hereunder, including materials for which partial payment has been made as provided in 9-3.2 and with bills of sale or other documents of title for those materials.

8) Subject to the prior written approval of the Engineer, settle all outstanding liabilities and all claims arising out of subcontracts or orders for materials terminated hereunder. To the extent directed by the Engineer, the Contractor shall assign to the Agency all the right, title and interest of the Contractor under subcontracts or orders for materials terminated hereunder.

9) Furnish the Engineer with the documentation required to be furnished by the Contractor under the provisions of the Contract including, on projects as to which Federal funds are involved, all documentation required under the Federal requirements included in the Contract.

10) Take other actions directed by the Engineer.

b) Acceptance of the contract as hereinafter specified shall not relieve the Contractor of responsibility for damage to materials. The Contractor shall continue to be responsible for damage to materials after issuance of the Notice of Termination, except as follows:

1) The Contractor's responsibility for damage to materials for which partial payment has been made as provided in 9-3.2 and for materials furnished by the Agency for use in the Work and unused shall terminate when the Engineer certifies that those materials have been stored in the manner and at the locations the Engineer has directed.

2) The Contractor's responsibility for damage to materials purchased by the Agency subsequent to the issuance of the notice that the Contract is to be terminated shall terminate when title and delivery of those materials has been taken by the Agency.

When the Engineer determines that the Contractor has completed the Work under the Contract directed to be completed prior to termination and such other work as may have been ordered to secure the project for termination, the Engineer will formally accept the Contract, and immediately upon and after the acceptance by the Engineer, the Contractor will not be required to perform any further work thereon.

c) Termination of the Contract shall not relieve the surety of its obligation for any just claims arising out of the work performed.

d) Where Agency terminates the Contract for Agency's convenience and not due to the fault of Contractor, the total compensation to be paid to the Contractor shall be determined by the Engineer based on the following:

1) The reasonable cost to the Contractor, without profit, for all work performed under the contract, including mobilization, demobilization and work done to secure the project for termination. In determining the reasonable cost, deductions will be made for the cost of materials to be retained by the Contractor, amounts realized by the sale of materials, and for other appropriate credits against the cost of the work. When, in the opinion of the Engineer, the cost of a contract item of work is excessively high due to costs incurred to remedy or replace defective or rejected work, the reasonable cost to be allowed will be the estimated reasonable cost of performing that work in compliance with the requirements of the Plans and Specifications and the excessive actual cost shall be disallowed.

2) A reasonable allowance for profit on the cost of the work performed as determined under part (1) above, provided the Contractor establishes to the satisfaction of the Engineer that it is reasonably probable that the Contractor would have made a profit had the Contract been completed and provided further, that the profit allowed shall in no event exceed 4 percent of the cost.

3) The reasonable cost to the Contractor of handling material returned to the vendor, delivered to the Agency or otherwise disposed of as directed by the Engineer.

4) A reasonable allowance for the Contractor's administrative costs in determining the amount payable due to termination of the Contract.

All records of the Contractor and the Contractor's subcontractors, necessary to determine compensation in conformance with the provisions in this Section 6-5, shall be open to inspection or audit by representatives of the Agency at all times after issuance of the notice that the Contract is to be terminated and for a period of 3 years, thereafter, and those records shall be retained for that period.

After acceptance of the Work by the Agency, the Engineer may make payments on the basis of interim estimates pending issuance of the final estimate in conformance with the provisions in 9-3.2 and 9-4, when, in the Engineer's opinion, the amount thus paid, together with all amounts previously paid or allowed, will not result in total compensation in excess of that to which the Contractor will be entitled. All payments, including payment upon the final estimate shall be subject to deduction for prior payments and amounts, if any, to be kept or retained under the provisions of the Contract.

THE PROVISIONS IN THIS SECTION 6-5 SHALL BE PHYSICALLY INCLUDED IN ALL SUBCONTRACTS.

6-6.2 Extension of Time.

The Agency may extend the time fixed for completion of the Work under the Contract from time to time. All applications for extensions of time shall be in writing and shall be

filed with the Agency before the expiration of the original time fixed in the Contract or as previously extended.

An extension of time may be granted by the Agency after the expiration of the time originally fixed in the Contract or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration. Any extension of time shall not release the sureties upon any bond required under the Contract nor effect forfeitures due to delay.

No extension of time will be granted for delays that are not on the critical path.

6-8.1 Completion.
When the Contractor considers the Work, or a designated portion of Work, if specified in the Contract Documents, is complete, the Contractor shall submit a written request to the Engineer for inspection. By submittal of such request, Contractor certifies that:

a) Contract Documents have been reviewed by the Contractor.

b) Work has been completed in accordance with Contract Documents and is ready for inspection.

c) Equipment and systems have been tested, adjusted/balanced and are fully operational.

The Contractor shall submit the request a minimum of five (5) Working Days in advance of requested inspection date. Contractor shall be responsible for allowing sufficient time during the Contract period to complete inspections and make any corrections. Each day beyond the time prescribed to complete the Contract will be subject to assessment of liquidated damages in accordance with 6-9.

Should Agency Representative's inspection find Work incomplete, Agency Representative will notify the Contractor in writing, listing observed deficiencies. The Contractor shall remedy listed deficiencies immediately and send a request for final inspection. Failure of the Contractor to remedy deficiencies may, at the Agency's option, result in reinspection(s) of the work to identify additional deficiencies, if any. Agency’s costs associated with reinspection(s) are subject to provisions of 6-8.2.

When the Agency confirms Work is complete and, closeout submittals, as referred to in 6-8.3 have been provided, Agency Representative will notify Contractor of date of completion on the Weekly Statement of Working Days.

6-8.4 Reinspections. Should status of completion of Work require reinspection(s) by Agency due to failure of the Contractor to make corrections on initial inspection, Agency may deduct the amount of compensation for reinspection services from final payment to Contractor. Observed deficiencies in excess of ten (10) will be reason for reinspection.

Inspections initiated at the request of the Agency will not be subject to provisions of this Subsection.

6-8.5 Closeout Submittals.
Contractor shall submit:

a) Project Record Documents clearly marked with all changes to Plans within thirty (30) Calendar Days of Final Acceptance

b) Operation and Maintenance Data
c) Warranties and Bonds
d) Spare Parts and Maintenance Materials, as specified
e) Evidence of Payment and Release of Stop Payment Notices
f) Other data and materials as may be required in the Contract Documents

6-9 LIQUIDATED DAMAGES.
Liquidated damages shall be as specified in the Contract.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-1 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

7-1.1 General

The Contractor shall render its machinery and equipment inoperable at all times except during actual construction. The Contractor shall be responsible for construction means, controls, techniques, sequences, procedures and construction safety.

ADD:

7-1.1.1 Equipment. Contractor shall stencil or stamp at a clearly visible location on each piece of equipment except hand tools, an identifying number and:

a) On compacting equipment, its make, model number, and empty gross weight that is either the manufacturer's rated weight or the scale weight.

b) On meters and on the load-receiving element and indicators of each scale, the make, model, serial number, and manufacturer's rated capacity.

The Contractor shall submit a list describing each piece of equipment and its identifying number before commencement of the Work.

Upon request, the Contractor shall submit manufacturer's information that designates portable vehicle scale capacities.

The Contractor's measuring devices shall be tested and approved under California Test 109 in the Agency's presence or by any of the following:

a) County Sealer of Weights and Measures

b) Certified Scale Service Agency

c) Division of Measurement Standards Official

7-1.2 Temporary Utility Services.

The Contractor shall, at its own expense, make all arrangements to furnish, install and maintain temporary water, electricity, telephone, and sanitary facilities for construction needs throughout construction period. Materials may be new or used, but must be adequate for the purposes intended, and must not violate requirements of applicable codes, specifications or standards.

The Contractor shall maintain systems to provide continuous services, modify, and extend services, as work progress requires. The Contractor shall completely remove temporary materials and equipment when construction needs can be met by use of permanent utility facilities.

The Contractor shall clean and repair damage caused by installation or use of temporary facilities, restore existing facilities used for temporary services to original or better condition, and restore permanent facilities used for temporary services to original condition.

For water, the Contractor shall:

a) Provide adequate supply of water suitable for construction usage and needs.

Water Source: Irvine Ranch Water District (IRWD)

a) Obtain meter, inspections and approvals prior to use of existing system.

b) Comply with IRWD requirements.

Conservation:

a) Minimize water use whenever possible.

b) Maintain watering equipment in good working order.

c) Repair leaks promptly.

When necessary to maintain pressure, provide temporary pumps, tanks and compressors.

For electricity, the Contractor shall:

a) Provide portable power plants and/or connection to existing system for construction needs.

b) Source of existing power: Southern California Edison Company (SCE). Prior to connecting to existing system:

    1) Obtain permit from City of Irvine, Community Development Department for installation of temporary power pole and/or system.

    2) Arrange for required inspections and coordinate temporary meter installation with City and SCE.

For sanitary facilities, the Contractor shall:

a) Furnish and maintain portable toilet units in a clean, operable and sanitary condition for use by construction personnel.

b) Place units in conformance with applicable laws, codes and regulations.

Pay all fees and charges for applications, non-City permits and inspections, installations, temporary meters, utility usage, service charges, maintenance, removals and restoration.

Contractor shall use standard products of service companies. At Contractor's option with prior approval by the Agency, patented specialty devices may be used, when in compliance with applicable codes and service company requirements.

7-2.3 Payroll Records.

The Contractor and all its subcontractors shall submit to the City and the Labor Commissioner (Division of Labor Standards Enforcement) certified payroll records every Friday until Notice of Completion is filed and recorded.

7-3 INSURANCE.

7-3.1 General.

Without limiting Contractor's indemnification obligations, the Contractor shall not commence work until he procures and maintains, at his sole cost and for the duration of this Contract, insurance coverage as provided below, against all claims for injuries against persons or damages to property which may arise from or in connection with the performance of the Work hereunder by Contractor, its agents, representatives, employees,

and/or subcontractors. In the event that Contractor subcontracts any portion of the Work in compliance with 2-3 of the Standard Specifications and Special Provisions, the Contract between the Contractor and such subcontractor shall require the subcontractor to maintain the same policies of insurance that the Contractor is required to maintain pursuant to 7-3.

Insurance policies shall be deemed not be in compliance if they include any limiting provision or endorsement that has not been submitted for approval in accordance with 7-3.

The Contractor's insurance shall be "occurrence" rather than "claims made" insurance, except for Professional Liability insurance, which may be for claims made and shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

The insurance coverage required for General Liability, Automobile Liability and Contractor's Pollution Liability shall contain the following provisions or be endorsed to provide the following:

The Contractor shall name as additional insured the City of**;** their elected officials, officers, employees, volunteers, boards and representatives shall be additional insured with regard to liability and defense of suits or claims arising out of the performance of the Contract.

Additional Insured Endorsements shall not:

a) Be limited to "Ongoing Operations"
b) Exclude "Contractual Liability"
c) Restrict coverage to the "Sole" liability of contractor
d) Contain any other exclusion contrary to the Contract

This insurance shall be primary and any other insurance, deductible, or self-insurance available to the insured added by endorsement shall be in excess of and shall not contribute with this insurance.

The Contractor shall immediately report all claims to its insurance carrier and acknowledge receipt within thirty (30) Calendar Days.

No officer, employee, or agent of the Agency, Agency Representative, the Engineer, or their consultants shall be personally responsible for any liability arising under or by virtue of the Contract.

To the maximum extent permitted by law, Contractor shall hold harmless, indemnify, and defend the City of, their representatives and each of their officers, employees, and agents from and against any and all actions, suits, claims, demands, judgments, attorney's fees, costs, damages to persons or property, losses, penalties, obligations, expenses or liabilities (herein "claims" or "liabilities") that may be asserted or claimed by any person or entity arising out of the willful or negligent acts, errors or omissions of Contractor, its employees, agents, representatives or subcontractors in the performance of any tasks or services for or on behalf of Agency, whether or not there is concurrent active or passive negligence on the part of Agency and/or Agency Personnel, but excluding such claims or liabilities arising from the active negligence or willful misconduct of Agency or Agency Personnel. In connection therewith:

a) Contractor shall defend any action or actions filed in connection with any such claims or liabilities, and shall pay all costs and expenses, including attorney's fees incurred in connection therewith.

b) Contractor shall promptly pay any judgment rendered against Agency or any Agency Personnel for any such claims or liabilities.

c) In the event Agency and/or any Agency Personnel is made a party to any action or proceeding filed or prosecuted for any such damages or other claims arising out of or in connection with the negligent performance or a failure to perform the work or activities of Contractor, Contractor shall pay to Agency any and all costs and expenses incurred by Agency or Agency Personnel in such action or proceeding, together with reasonable attorney's fees and expert witness fees. So much of the money due to the Contractor under and by virtue of the Contract as shall be considered necessary by the Agency may be retained by the Agency until disposition has been made of such actions or claims for damages as aforesaid.

Any deductibles or self-insured retentions must be declared to and approved by Agency prior to the execution of this Contract by Agency. Prior to commencing work, the Contractor will provide the Agency, in accordance with 7-3, written confirmation of the deductible for each insurance coverage required by this contract or in the case of no deductible.

All policies shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to Agency by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided.

In lieu of this endorsement, the Contractor shall either:

a) Submit a letter, signed by the insurance agent or broker, certifying that he/she shall notify the City should the coverage be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to Agency by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided; or

b) Submit evidence that the insurance premium has been paid in full for the life of the policy.

The City project title or description MUST be included in the “Description of Operations” box on the certificate.

Certificate Holder:
City of Irvine
c/o EXIGIS Risk Management Services
P.O. Box 4668 - ECM #35050
New York, NY 10163-4668

The City’s insurance certificate tracking services provider, EXIGIS, LLC, will send Contractor an email message providing instructions for submitting insurance certificates and endorsements.

7-3.2 General Liability Insurance.
General Liability (including premises, operations and mobile equipment, products and completed operations, broad form property damage including completed operations, explosion, collapse and underground hazards, contractual liability, personal injury, independent contractors' liability): with a minimum limit of Two Million Dollars ($2,000,000) for each occurrence (combined single limit for bodily injury and property damage). Minimum limit of Two Million Dollars ($2,000,000) aggregate for products–completed operations and with a minimum limit of Four Million Dollars ($4,000,000) general aggregate. This general aggregate limit shall apply separately to the Contractor's work under this Contract.

Products-Completed Operations: Contractor shall procure and submit evidence of insurance in accordance with 7-3 of the Standard Specifications and these Special Provisions for a period of at least three (3) years from the time that all Work under this Contract is completed.

7-3.3 Workers' Compensation Insurance.
Workers' Compensation and Employer's Liability: Workers' Compensation Insurance in an amount required by the laws of the State of California (Statutory Limits). Employer's Liability Insurance with a minimum limit of One Million Dollars ($1,000,000) per occurrence.

In the event Contractor has no employees requiring Contractor to provide Workers' Compensation Insurance, Contractor shall so certify to Agency in writing prior to Agency's execution of this Contract. Agency and Agency Personnel shall not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this section or with the provisions of law relating to Workers' Compensation.

If Contractor is providing on-site staffing services, then the Workers' Compensation insurance shall include an Alternative Employers Endorsement.

7-3.5 Contractor's Pollution Liability. Contractors Pollution Liability Insurance covering all of the contractor's operations to include onsite and offsite coverage for bodily injury, property damage, defense costs, cleanup costs, coverage for offsite disposal facilities with minimum limits of Five Million Dollars ($5,000,000) each loss and Ten Million Dollars ($10,000,000) in the aggregate.

Prior to commencing work, the Contractor shall provide the City the names and locations of disposal facilities for approval by the City.

7-3.7 Professional Liability Insurance. At its own expense, the successful Contractor will be required to obtain, pay for, and maintain, for the duration of the Agreement and for a minimum of five (5) years thereafter, a Professional Liability Insurance Policy (that includes errors and omissions, and professional malpractice) with a minimum limit of Two Million Dollars ($2,000,000) per claim. The policy shall provide coverage for any loss arising out of or caused by the Contractors performance of the Agreement.

7-3.8 Self-Insurance. Self-insurance will be subject to the Agency's review and prior approval. If the Contractor uses any form of self-insurance, it shall submit:

a) A notice of election to self-insure.

b) The coverages for which self-insurance applies.

c) The amount of self-insurance.

d) Declaration under the penalty of perjury by a certified public accountant certifying the accountant has applied Generally Accepted Accounting Principles (GAAP) guidelines and the Contractor has sufficient funds or other resources to cover the self-insurance amounts.

e) Copy of its commercial general liability policy and its excess policy, including the declarations page, all amendments, riders, endorsements and other modifications in effect at the time of contract execution, for those amounts not covered by self-insurance.

Self-insurance programs and self-insured retentions in insurance policies are subject to separate annual review and approval by the Agency of evidence of the Contractor's financial capacity to respond. Additionally, self-insurance programs or retentions must provide the Agency with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

7-5 PERMITS.

7-5 PERMITS AND LICENSES. Except as otherwise specified in the Special Provisions, the Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the Work. These permits and licenses shall be obtained in sufficient time to prevent delays to the Work. The Contractor shall maintain a copy of all permits on the site. The Contractor shall furnish the Agency with copies of permits and licenses within one (1) Working Day of obtaining them. The Contractor shall comply with all rules and regulations included in permits. Should the Contractor fail to conform to said rules and regulations, the Agency reserves the right to perform the work necessary to conform to the rules and regulations and the cost of such work will be deducted from any monies due or to become due to the Contractor.

The Contractor and all subcontractors shall obtain within five (5) Calendar Days of executing the Contract, a current City of Irvine Business License and maintain such license(s) throughout the term of the Contract.

In the event that the Agency has obtained permits, licenses or other authorizations applicable to the Work, the Contractor shall obtain a rider, pay all fees and comply with the provisions of said permits, licenses and other authorizations.

7-6 THE CONTRACTOR'S REPRESENTATIVE.

Said authorized representative shall be present at the site of the Work at all times while Work is actually in progress on the Contract. When Work is not in progress and during periods when Work is suspended, arrangements acceptable to the Agency Representative shall be made for any emergency work, which may be required.

Whenever the Contractor or his authorized representative is not present on any particular part of the Work where it may be desired to give direction, orders will be given by the Agency Representative, which shall be received and obeyed by the superintendent or

supervisor who may have charge of the particular work in reference to which the orders are given.

The Agency reserves the right to approve the Contractor's Superintendent. Once approved, the Superintendent shall remain on the project for the duration of the project so long as he is in the employment of the Contractor.

7-7 COOPERATION AND COLLATERAL WORK.

Nothing in the Contract shall be interpreted as granting to the Contractor exclusive occupancy of the site of the project. The Contractor must ascertain to his own satisfaction the scope of the project and the nature of any other contracts that have been or may be awarded by the Agency in the construction of the project, to the end that the Contractor may perform this Contract in the light of such other constraints, if any.

The Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on or adjacent to the project. If the performance of any Contract for the project is likely to be interfered with by the simultaneous performance of some other contract or contracts, the Engineer will decide which contractor shall cease work temporarily and which contractor shall continue or whether the work under the contracts can be coordinated so that the Contractors may proceed simultaneously. On all questions concerning conflicting interest of Contractors performing related work, the decision of the Engineer shall be binding upon Contractors concerned. The Agency, the Engineer, the Agency Representative, and each of their officers, employees, and agents shall not be responsible for any damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award of performance or attempted performance of any other contract or contracts on the project or caused by a decision or omission of the Engineer respecting the order of precedence in the performance of the contracts.

If, through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage on the Work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration, if such other contractor or subcontractor will so settle. If such other contractor or subcontractor shall assert any claim against the Agency, the Engineer, the Agency Representative, or their consultants on account of any damage alleged to have been so sustained, the Agency will notify the Contractor. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of the assertion of any such claims or liabilities against the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents against any such claim.

7-7.1 Coordination. It is anticipated that work by other contractors, utility companies and City of Irvine forces will be underway adjacent to or within the limits of this project during progress of the Work on this contract.

It is anticipated that construction projects including, but not limited to, the following may be in progress concurrently with this project:

a) The subject project area is located in the development area of the Orange County Great Park

The Contractor shall coordinate his operations with the operations of other contractors during stage construction, traffic shifts, opening of new lanes, closing of lanes, roads or ramps, detours, traffic signal facilities, shared irrigation facilities for landscaped areas and during any other operation that may affect or have influence on adjacent projects including, but not limited to, those identified in this subsection.

7-8 WORK SITE MAINTENANCE.*:*
Section 7-8 includes specifications for performing work site maintenance, including spill prevention and control, material management, waste management, water pollution control and nonstormwater management.

Projects are required to comply with the City of Irvine Resolution No. 07-18, which establishes requirements for recycling and diversion of construction and demolition waste.

The Contractor shall implement effective handling, storage, usage, and disposal practices to control material pollution and manage waste and nonstormwater at the job site before they come in contact with storm drain systems and receiving waters.

Linear sediment barriers must comply with 7-8.6.2 of the Standard Specifications and the Contract Special Provisions.

7-8.1.1 Construction Cleaning. The Contractor shall:

a) Initiate and maintain a daily program to prevent accumulation of debris on-site and along access roads and haul routes. Maintain areas under Contractor's control free of waste materials, debris, weeds 6” high, and rubbish. Maintain site in a clean and orderly condition.

b) Provide suitable covered containers for deposit of debris and rubbish. Dispose of accumulation of extraneous materials, prohibit overloading of trucks to prevent spillages on access and haul routes and provide daily inspection of haul routes to enforce requirements.

c) The Contractor shall supply self-loading motorized street sweepers equipped with a functional water spray system as part of his daily program.

d) Schedule at a minimum, weekly collection and disposal of debris. Provide additional collections and disposals of debris whenever the weekly schedule is inadequate to prevent accumulation.

The Contractor shall remove debris from closed or remote spaces prior to closing the space, control cleaning operations to minimize dust and other particulates and immediately remove clay and earth which adhere to the paved surface of the roadway.

Remove by hand scraping, washing, sweeping, and/or other method(s) which will leave a clean non-skid surface without impairing, injuring or loosening the surface.

The Contractor shall remove waste materials, debris, vegetation, other rubbish, and non-recyclable materials as required by the Contract Documents, and dispose of off-site in an approved disposal site or recycling center.

Unless otherwise specified in the Special Provisions, all concrete, asphalt, aggregate or sand base material, cement block, trees, shrubs, bushes, and all other recyclable material generated during cleaning, demolition, clearing and grubbing or other phases of the work is to be disposed of at appropriate recycling centers. The Contractor shall be responsible for removing reinforcing steel, wood, or other deleterious materials as required by the recycling center for acceptance of recycled materials. The Contractor shall supply proof of disposal at a recycling center. The proof of disposal shall include verification of tonnage by certified weigh masters tickets. If weigh masters tickets are not feasible, the Contractor and Agency Representative shall estimate the tonnage prior to disposal at the recycling centers.

Known recycling centers:

Ewles Materials
16081 Construction Circle West
Irvine

The Contractor is required to control dust throughout the life of the Contract. The control may be required by job conditions or Agency Representative. In any case, the Contractor shall use water or other means to control the dust. No chemical agents may be used without written authorization from the Agency. The Contractor shall be solely responsible for safety problems, accidents or any other complications or claims arising from inadequate dust control.

No separate payment will be made for any work performed or material used to control dust resulting from the Contractor's performance of the Work, or by public traffic, either inside or outside the right of way. Full compensation for such dust control will be considered as included in the price paid for the various items of work involved.

No separate payment will be made for any work performed or material used in cleaning the project. Full compensation for such cleaning shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

7-8.1.2 Final Cleaning. The Contractor shall execute cleaning prior to inspection for completion of the Work. The Contractor shall use materials which will not create hazards to health or property, and which will not damage surfaces, remove debris from and otherwise clean exposed-to-view surfaces, remove temporary protection and labels not required to remain, clean finishes free of foreign substances, remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean, clean other exterior surfaces and where applicable:

a) Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

b) Vacuum clean carpeted and similar soft surfaces.

c) Clean resilient and hard surface floors.

d) Clean surfaces of equipment; remove excess lubrication.

e) Clean plumbing fixtures to a sanitary condition.

f) Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.

g) Clean light fixtures and lamps.

h) Remove waste, foreign matter, and debris from roofs, gutters, areaways, and drainage systems.

7-8.4.3 Material Management.

7-8.4.3.1 General. The Contractor shall minimize or eliminate discharge of material into the air, storm drain systems, and receiving waters while taking delivery of, using, or storing the following materials:

a) Hazardous chemicals, including acids, lime, glues, adhesives, paints, solvents, and curing compounds

b) Soil stabilizers and binders

c) Fertilizers

d) Detergents

e) Plaster

f) Petroleum materials, including fuel, oil, and grease

g) Asphalt and concrete components

h) Pesticides and herbicides

The Contractor's employees trained in emergency spill cleanup procedures must be present during the unloading of hazardous materials or chemicals.

The Contractor shall use less hazardous materials if practicable.

The following activities must be performed at least 100 feet from concentrated flows of stormwater, drainage courses, and inlets if within the floodplain and at least 50 feet if outside the floodplain, unless otherwise authorized:

a) Stockpiling materials

b) Storing pile-driving equipment and liquid waste containers

c) Washing vehicles and equipment in outside areas

d) Fueling and maintaining vehicles and equipment

7-8.4.3.2 Material Storage. If materials are stored by the Contractor, he shall:

a) Store liquids, petroleum materials, and substances listed in 40 CFR 110, 117, and 302 and place them in secondary containment facilities as specified by USDOT for storage of hazardous materials.

b) Ensure that secondary containment facilities are impervious to the materials stored there for a minimum contact time of 72 hours.

c) Cover secondary containment facilities during nonworking days and whenever precipitation is forecasted. Secondary containment facilities must be adequately ventilated.

d) Keep secondary containment facilities free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, collect accumulated liquid and place it into drums within 24 hours. Handle the liquid as hazardous waste in accordance with subsection 7-8 of the Standard Specifications and these Special Provisions.

e) Not store incompatible materials, such as chlorine and ammonia, in the same secondary containment facility.

f) Store materials in their original containers with the original material labels maintained in legible condition. Immediately replace damaged or illegible labels.

g) Ensure that secondary containment facilities have the capacity to contain precipitation from a 24-hour-long, 25-year storm, plus 10 percent of the aggregate volume of all containers or the entire volume of the largest container within the facility, whichever is greater.

h) Store bagged or boxed material on pallets. Protect bagged or boxed material from wind and rain during nonworking days and whenever precipitation is forecasted.

i) Provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas must be kept clean, well-organized, and equipped with cleanup supplies appropriate for the materials being stored.

j) Repair or replace perimeter controls, containment structures, covers, and liners as necessary. Inspect storage areas before and after precipitation and at least weekly during other times.

7-8.4.3.3 Stockpile Management. The Contractor shall minimize stockpiling of materials at the job site.

The Contractor shall implement water pollution control practices within 72 hours of stockpiling material or before a forecasted storm event, whichever occurs first. If stockpiles are being used, do not allow soil, sediment, or other debris to enter storm drains, open drainages, and watercourses.

Active and inactive soil stockpiles must be:

a) Covered with soil stabilization material or a temporary cover

b) Surrounded with a linear sediment barrier

Stockpiles of asphalt concrete and PCC rubble, HMA, aggregate base, or aggregate sub base must be:

a) Covered with a temporary cover
b) Surrounded with a linear sediment barrier

Stockpiles of pressure-treated wood must be:

a) Placed on pallets
b) Covered with impermeable material

Stockpiles of cold mix asphalt concrete must be:

a) Placed on an impervious surface
b) Covered with an impermeable material
c) Protected from stormwater run-on and runoff

The Contractor shall control wind erosion year round.

The Contractor shall repair or replace linear sediment barriers and covers as needed to keep them functioning properly. Whenever sediment accumulates to 1/3 of the linear sediment barrier height, remove the accumulated sediment.

7-8.5.3 Spill Prevention and Emergency Response Plan.

7-8.5.3.1 Spill Prevention and Control. The Contractor shall keep material or waste storage areas clean, well-organized, and equipped with enough cleanup supplies for the material being stored.

The Contractor shall implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site. Whenever the Contractor spills or leaks chemicals or hazardous substances at the job site, he is responsible for all associated cleanup costs and related liability.

The Contractor shall report minor, semi significant, and significant or hazardous spills to the WPC manager and the WPC manager must notify the Engineer immediately.

As soon as it is safe, the Contractor shall contain and clean up spills of petroleum materials and sanitary and septic waste substances listed under 40 CFR, parts 110, 117, and 302.

7-8.5.3.2 Minor Spills. Minor spills consist of quantities of oil, gasoline, paint, or other materials that are small enough to be controlled by a first responder upon discovery of the spill.

The Contractor shall clean up a minor spill using the following procedures:

a) Contain the spread of the spill
b) Recover the spilled material using absorption
c) Clean the contaminated area
d) Dispose of the contaminated material and absorbents promptly and properly

Significant Spills. Semi significant spills consist of spills that can be controlled by a first responder with help from other personnel.

The Contractor shall clean up a semi significant spill immediately using the following procedures:

a) Contain the spread of the spill.

b) On paved or impervious surfaces, encircle and recover the spilled material with absorbent materials. Do not allow the spill to spread widely.

c) If the spill occurs on soil, contain the spill by constructing an earthen dike and dig up the contaminated soil for disposal.

d) If the spill occurs during precipitation, cover the spill with 10-mil plastic sheeting or other material to prevent contamination of runoff.

e) Dispose of the contaminated material promptly and properly.

7-8.5.3.4 Significant or Hazardous Spills. Significant or hazardous spills consist of spills that cannot be controlled by job site personnel.

The Contractor shall immediately notify qualified personnel of a significant or hazardous spill and take the following steps:

a) Do not attempt to clean up the spill until qualified personnel have arrived.

b) Notify the Engineer and follow up with a report.

c) Obtain the immediate services of a spill contractor or hazardous material team.

d) Notify local emergency response teams by dialing 911 and county officials by using the emergency phone numbers retained at the job site.

e) Notify the California Emergency Management Agency State Warning Center at 916-845-8911.

f) Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under 40 CFR 110, 119, and 302.

g) Notify other agencies as appropriate, including:

    1) Fire Department
    2) Public Works Department
    3) Coast Guard
    4) Highway Patrol
    5) City Police or County Sheriff's Department
    6) Department of Toxic Substances
    7) California Division of Oil and Gas
    8) Cal/OSHA
    9) Regional Water Resources Control Board

The Contractor shall prevent a spill from entering stormwater runoff before and during cleanup activities and shall not bury or wash the spill with water.

7-8.5.4 Waste Management.

7-8.5.4.1 Paint Waste. The Contractor shall clean water-based and oil-based paint from brushes or equipment within a contained area in a way that does not contaminate soil, receiving waters, or storm drain systems. Handle and dispose of the following as hazardous waste: paints, thinners, solvents, residues, and sludges that cannot be recycled or reused. When thoroughly dry, dispose of the following as solid waste under: dry latex paint, paint cans, used brushes, rags, absorbent materials, and drop cloths.

7-8.5.4.2 Concrete Waste. The Contractor shall use practices to prevent the discharge of asphalt concrete, PCC, and HMA waste into storm drain systems and receiving waters.

The Contractor shall collect and dispose of asphalt concrete, PCC, and HMA waste at locations where:

a) Concrete material, including grout, is used.

b) Concrete dust and debris result from demolition.

c) Saw cutting, coring, grinding, grooving, or hydro-concrete demolition creates a residue or slurry.

d) Concrete trucks or other concrete-coated equipment is cleaned at the job site.

7-8.5.4.3 Sanitary and Septic Waste. The Contractor shall not bury or discharge wastewater from a sanitary or septic system anywhere at the site of Work. A sanitary facility discharging into a sanitary sewer system must be properly connected and free from leaks. The Contractor shall place a portable sanitary facility at least 50 feet away from storm drains, receiving waters, and flow lines.

The Contractor shall comply with local health agency provisions if using an on-site disposal system.

7-8.5.4.4 Liquid Waste. The Contractor shall use practices that will prevent job-site liquid waste from entering storm drain systems and receiving waters. Liquid wastes include the following:

a) Drilling slurries or fluids

b) Grease-free and oil-free wastewater and rinse water

c) Dredgings, including liquid waste from cleaning drainage systems

d) Liquid waste running off a surface, including wash or rinse water

e) Other nonstormwater liquids not covered by separate permits

The Contractor shall hold liquid waste in structurally sound, leak-proof containers, such as roll-off bins or portable tanks.

Liquid waste containers must be of sufficient quantity and volume to prevent overflow, spills, and leaks.

The Contractor shall store containers at least 50 feet from moving vehicles and equipment.

The Contractor shall remove and dispose of deposited solids from sediment traps in accordance with 7-8 of the Standard Specifications and these Special Provisions. Liquid waste may require testing to determine hazardous material content before disposal.

The Contractor shall dispose of drilling fluids and residue.

If an authorized location is available within the job site, fluids and residue exempt under 23 CA Code of Regs § 2511(g) may be dried by evaporation in a leak-proof container. The Contractor shall dispose of the remaining solid waste in accordance with 7-8 of the Standard Specifications and these Special Provisions.

7-8.5.5 Nonstormwater Management.

7-8.5.5.1 Water Control and Conservation. The Contractor shall manage water used for work activities in a way that will prevent erosion and the discharge of pollutants into storm drain systems and receiving waters. Obtain authorization before washing anything at the job site with water that could discharge into a storm drain system or receiving waters. Report discharges immediately.

The Contractor shall implement water conservation practices if water is used at the job site. Inspect irrigation areas. Adjust watering schedules to prevent erosion, excess watering, or runoff. Shut off the water source to broken lines, sprinklers, or valves and repair breaks within 24 hours. Reuse water from waterline flushing for landscape irrigation if practicable. Sweep and vacuum paved areas. Do not wash paved areas with water.

The Contractor shall direct runoff water, including water from water line repair, from the job site to areas where it can infiltrate into the ground. Do not allow runoff water to enter storm drain systems and receiving waters. Do not allow spilled water to escape filling areas for water trucks. Direct water from off-site sources around the job site if practicable. Minimize the contact of off-site water with job site water.

7-8.5.5.2 Illicit Connection and Illegal Discharge Detection and Reporting. Before starting work, the Contractor shall inspect the job site and the job site's perimeter for evidence of illicit connections, illegal discharges, and dumping. After starting work, inspect the job site and perimeter on a daily schedule for illicit connections and illegal dumping and discharges.

Whenever illegal connections, discharges, or dumping are discovered, The Contractor shall notify the Engineer immediately, should take no further action unless ordered and assume that unlabeled or unidentifiable material is hazardous.

The Contractor shall look for the following evidence of illicit connections, illegal discharges, and dumping:

a) Debris or trash piles
b) Staining or discoloration on pavement or soils
c) Pungent odors coming from drainage systems
d) Discoloration or oily sheen on water
e) Stains and residue in ditches, channels, or drain boxes

f) Abnormal water flow during dry weather

g) Excessive sediment deposits

h) Nonstandard drainage junction structures

i) Broken concrete or other disturbances at or near junction structures

7-8.5.5.3 Vehicle and Equipment Cleaning. The Contractor shall limit vehicle and equipment cleaning or washing at the job site except for what is necessary to control vehicle tracking or hazardous waste. The Contractor shall notify the Engineer before cleaning vehicles and equipment at the job site with soap, solvents, or steam and contain and recycle or dispose of resulting waste under 7-10.4.4. The Contractor shall not use diesel to clean vehicles or equipment and minimize the use of solvents.

The Contractor shall clean or wash vehicles and equipment in a structure equipped with disposal facilities. The Contractor may wash vehicles in an outside area if the area is:

a) Paved with asphalt concrete, HMA, or PCC

b) Surrounded by a containment berm

c) Equipped with a sump to collect and dispose of wash water

The Contractor shall use as little water as practicable whenever washing vehicles and equipment with water and hoses used must be equipped with a positive shutoff valve.

The Contractor shall discharge liquid from wash racks to a recycling system or to another authorized system. Remove liquids and sediment as necessary.

7-8.5.5.4 Vehicle and Equipment Fueling and Maintenance. If practicable, the Contractor shall perform maintenance on vehicles and equipment off-site.

If fueling or maintenance must be done at the job site, the Contractor shall assign a site or sites, and obtain authorization before using them. The Contractor shall minimize mobile fueling and maintenance activities. The Contractor's fueling and maintenance activities must be performed on level ground in areas protected from stormwater run-on and runoff.

The Contractor shall use containment berms or dikes around fueling and maintenance areas. Keep adequate quantities of absorbent spill-cleanup material and spill kits in the fueling or maintenance area and on fueling trucks. The Contractor shall dispose of spill-cleanup material and kits immediately after use and use drip pans or absorbent pads during fueling or maintenance.

The Contractor shall not leave fueling or maintenance areas unattended during fueling and maintenance activities. The Contractor's fueling nozzles must be equipped with an automatic shutoff control. The Contractor shall use equipment with vapor-recovery fueling nozzles where required by the Air Quality Management District, secure nozzles in an upright position when not in use and shall not top off fuel tanks.

The Contractor shall recycle or properly dispose of used batteries and tires.

If leaks cannot be repaired immediately, the Contractor shall remove the vehicle or equipment from the job site.

7-8.5.5.5 Material and Equipment Used Over Water. The Contractor shall place drip pans and absorbent pads under vehicles and equipment used over water, keep an adequate supply of spill-cleanup material with vehicles and equipment, place drip pans or plastic sheeting under vehicles and equipment on docks, barges, or other surfaces over water whenever vehicles or equipment will be idle for more than one (1) hour.

The Contractor shall furnish watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools and shall secure material to prevent spills or discharge into the water due to wind.

The Contractor shall report discharges to receiving waters immediately upon discovery and shall submit a discharge notification.

7-8.5.5.6 Structure Removal Over or Adjacent to Water. The Contractor shall not allow demolished material to enter storm drain systems and receiving waters, use authorized covers and platforms to collect debris, use attachments on equipment to catch debris during small demolition activities and empty debris-catching devices daily and dispose of debris in accordance with 7-8 of the Standard Specifications and these Special Provisions.

7-8.5.5.7 Paving, Sealing, Saw Cutting, Grooving, and Grinding Activities. The Contractor shall prevent material from entering storm drain systems and receiving waters including:

a) Cementitious material
b) Asphaltic material
c) Aggregate or screenings
d) Saw cutting, grooving, and grinding residue
e) Pavement chunks
f) Shoulder backing
g) Methacrylate
h) Sandblasting residue

The Contractor shall cover drainage inlets and use linear sediment barriers to protect downhill receiving waters until paving, sealing, saw cutting, grooving, and grinding activities are completed and excess material has been removed and cover drainage inlets and manholes during the application of seal coat, tack coat, slurry seal, or fog seal.

Whenever precipitation is forecasted, the Contractor shall limit paving, saw cutting, and grinding to places where runoff can be captured.

The Contractor shall not start seal coat, tack coat, slurry seal, or fog seal activities whenever precipitation is forecasted during the application and curing period and shall not excavate material from existing roadways during precipitation.

The Contractor shall use a vacuum to remove slurry immediately after slurry is produced and shall not allow the slurry to run onto lanes open to traffic or off the pavement.

The Contractor shall collect the residue from PCC grooving and grinding activities with a vacuum attachment on the grinding machine. The Contractor shall not leave the residue on the pavement or allow the residue to flow across pavement.

The Contractor shall not coat asphalt trucks and equipment with substances that contain soap, foaming agents, or toxic chemicals.

The Contractor shall park paving equipment over drip pans or plastic sheeting with absorbent material to catch drips if the paving equipment is not in use.

7-8.5.5.8 Thermoplastic Striping and Pavement Markers. The Contractor shall not preheat, transfer, or load thermoplastic within 50 feet of drainage inlets and receiving waters.

The Contractor shall not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets and receiving waters.

The Contractor shall collect and dispose of bituminous material from the roadway after removing markers.

7-8.5.5.9 Pile Driving. The Contractor shall keep spill kits and cleanup materials at pile driving locations; park pile driving equipment over drip pans, absorbent pads, or plastic sheeting with absorbent material; protect pile driving equipment by parking on plywood and covering with plastic whenever precipitation is forecasted.

The Contractor shall store pile driving equipment on level ground and protect it from stormwater run-on when not in use. Use vegetable oil instead of hydraulic fluid if practicable.

7-8.5.5.10 Concrete Curing. The Contractor shall not overspray chemical curing compounds and shall not allow runoff of curing compounds.

The Contractor shall minimize the drift by spraying as close to the concrete as practicable, cover drainage inlets before applying the curing compound, and minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture when concrete is curing.

7-8.5.5.11 Concrete Finishing. The Contractor shall collect and dispose of water and solid waste from high-pressure water blasting, collect and dispose of sand and solid waste from sandblasting. Before sandblasting, the Contractor shall cover drainage inlets within 50 feet of sandblasting, and shall minimize the drift of dust and blast material by keeping the nozzle close to the surface of the concrete. If the character of the blast residue is unknown, the Contractor shall test it for hazardous materials and dispose of it properly.

The Contractor shall inspect containment structures for concrete finishing for damage before each day of use and before forecasted precipitation and remove liquid and solid waste from containment structures after each work shift.

7-8.5.5.12 Sweeping. The Contractor shall sweep by hand or mechanical methods, such as vacuuming, and shall not use methods that use only mechanical kick brooms.

The Contractor shall sweep paved roads at construction entrance and exit locations and paved areas within the job site:

a) During clearing and grubbing activities
b) During earthwork activities
c) During trenching activities
d) During pavement structure activities
e) When vehicles are entering and leaving the job site
f) After soil-disturbing activities
g) After observing off-site tracking of material
h) As deemed necessary by the Engineer

The Contractor shall monitor paved areas and roadways within the project and sweep within:

a) 1 hour whenever sediment or debris is observed during activities that require sweeping.
b) 24 hours whenever sediment or debris is observed during activities that do not require sweeping.

The Contractor shall remove collected material, including sediment, from paved shoulders, drain inlets, curbs and dikes, and other drainage areas, may stockpile collected material at the job site, and shall dispose of collected material at least once per week if stockpiled.

The Contractor shall keep dust to a minimum during street sweeping activities and use water or a vacuum whenever dust generation is excessive or sediment pickup is ineffective.

The Contractor shall remove and dispose of trash collected during sweeping.

7-8.5.5.13 Dewatering. Dewatering consists of discharging accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities.

The Contractor shall perform dewatering work as specified for the work items involved, such as temporary active treatment system or dewatering and discharge.
If dewatering and discharging activities are not specified under a work item and the Contractor performs dewatering activities, he shall:

a) Conduct dewatering activities under the Caltrans' *Field Guide for Construction Site Dewatering*.
b) Ensure that any dewatering discharge does not cause erosion, scour, or sedimentary deposits that could impact natural bedding materials.

c) Discharge the water within the project limits if approved by the Engineer. Dispose of the water if it cannot be discharged within project limits due to site constraints or contamination.

d) Not discharge stormwater or nonstormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface.

e) Notify the Engineer immediately upon discovering any such condition.

7-8.6 Water Pollution Control.

7-8.6.1 General.

This project is Risk Level 2.

7-8.6.1.1 Definitions and Abbreviations.

Active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 15 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMPs: Best Management Practices are water pollution control practices.

Construction phase: Construction phases are (1) Highway Construction including work activities for building roads and structures, (2) Plant Establishment including maintenance on vegetation installed for final stabilization, and (3) Suspension where work activities are suspended and areas are inactive.

NAL: Numeric Action Level.

NEL: Numeric Effluent Limit.

Normal working hours: The hours the Contractor normally works on this project.

Preparation Manual: The Caltrans' "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual."

QSD: Qualified SWPPP Developer.

QSP: Qualified SWPPP Practitioner.

Qualified rain event: A qualified rain event is a storm that produces at least 0.5 inch of precipitation with a 48 hour or greater period between storms.

REAP: Rain Event Action Plan.

SAP: Sampling and Analysis Plan.

SSC: Suspended Sediment Concentration.

SWRCB: State Water Resources Control Board.

WPC: Water Pollution Control.

WPC Manager: The Contractor's Water Pollution Control Manager. The WPC Manager implements water pollution control work described in the SWPPP and oversees revisions and amendments to the SWPPP.

7-8.6.1.2 Summary. Section 7-8.6 includes general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water.

Information on forms, reports, and other documents can be found in the following Caltrans manuals:

a) *Field Guide for Construction Site Dewatering*

b) *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual*

c) *Construction Site Best Management Practices (BMP) Manual*

d) *Construction Site Monitoring Program (CSMP) Guidance Manual*

For the above-referenced manuals, go to the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control at (Informationhttp://www.dot.ca.gov/hq/construc/stormwater/) or the Caltrans' publication distribution unit.

The Contractor shall not start job site activities until:

a) The WPCP or SWPPP, in accordance with 7-8.6.3 of the Special Provisions, is authorized.

b) The waste discharge identification number is issued if the project requires a SWPPP.

c) WPCP or SWPPP review requirements have been fulfilled. If the RWQCB requires time for review, allow 30 days for the review.

If the Contractor operates a Contractor-support facility, the Contractor shall protect stormwater systems or receiving waters from the discharge of potential pollutants by using water pollution control practices.

Contractor-support facilities include:

a) Staging areas

b) Storage yards for equipment and materials

c) Mobile operations

d) Batch plants for PCC and HMA

e) Crushing plants for rock and aggregate

f) Other facilities installed by the Contractor for his, such as haul roads

Discharges from manufacturing facilities, such as batch plants and crushing plants, must comply with the general waste discharge requirements for *Order No. 97-03-DWQ, NPDES General Permit No. CAS000001*, issued by the State Water Resources Control Board for "*Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities*" and referred to herein as "General Industrial Permit." For the General Industrial Permit, go to the website for the State Water Resources Control Board.

If the Contractor operates a batch plant to manufacture PCC, HMA, or other material or a crushing plant to produce rock or aggregate, the Contractor shall obtain coverage

under the General Industrial Permit. The Contractor must be covered under the General Industrial Permit for batch plants and crushing plants located:

a) Outside of the job site

b) Within the job site that serve 1 or more contracts

If the Contractor obtains or disposes of material at a noncommercially operated borrow or disposal site, the Contractor shall prevent water pollution due to erosion at the site during and after completion of his activities. Upon completion of his work, the Contractor shall leave the site in a condition such that water will not collect or stand therein.

The Agency does not pay for water pollution control practices at Contractor-support facilities and noncommercially operated borrow or disposal sites.

7-8.6.1.3 Submittals. Within 48 hours after the conclusion of a storm event resulting in a discharge, after a nonstormwater discharge, or after receiving a written notice or an order from the RWQCB or another regulatory agency, the Contractor's WPC manager must submit the following information:

a) Date, time, location and nature of the activity and the cause of the notice or order

b) Type and quantity of discharge

c) Water pollution control practices in use before the discharge or before receiving the notice or order

d) Description of water pollution control practices and corrective actions taken to manage the discharge or cause of the notice

The Contractor shall submit water pollution control training records for all employees and subcontractors who will be working at the job site as an informational submittal that includes the training subjects, training dates, ongoing training, and tailgate meetings with the submittal. The Contractor shall submit records for:

a) Existing employees within 5 business days of obtaining SWPPP or WPCP authorization

b) New employees within 5 business days of receiving the training

c) Subcontractor's employees at least 5 business days before a subcontractor starts work

At least Five (5) business days before operating any Contractor-support facility, the Contractor shall submit:

a) A plan showing the location and quantity of water pollution control practices associated with the Contractor-support facility

b) A copy of the notice of intent approved by the RWQCB and the WPCP or SWPPP approved by the RWQCB if the Contractor will be operating a batch plant or a crushing plant under the General Industrial Permit

7-8.6.1.4 Quality Control and Assurance.

Training

The Contractor shall employees must receive water pollution control training before starting work at the job site.

For the Contractor's project managers, supervisory personnel, subcontractors, and employees involved in water pollution control work:

a) The Contractor shall provide stormwater training in the following subjects:
    1) Water pollution control rules and regulations
    2) Implementation and maintenance for:
        (a) Temporary soil stabilization
        (b) Temporary sediment control
        (c) Tracking control
        (d) Wind erosion control
        (e) Material pollution prevention and control
        (f) Waste management
        (g) Nonstormwater management
b) The Contractor shall conduct weekly training meetings covering:
    1) Deficiencies and corrective actions for water pollution control practices
    2) Water pollution control practices required for work activities during the week
    3) Spill prevention and control
    4) Material delivery, storage, usage, and disposal
    5) Waste management
    6) Nonstormwater management procedures

Training for personnel who collect water quality samples must include:

a) CSMP review
b) Health and safety review
c) Sampling simulations

7-8.6.1.5 Water Pollution Control Manager.

General

The Contractor's WPC manager must be a QSP if the project requires a WPCP. The Contractor's WPC manager must be a QSD if the project requires a SWPPP.

The Contractor shall assign one (1) WPC manager to implement the WPCP or SWPPP, whichever is applicable for the project.

Qualifications

The Contractor's QSD must:

a) Have completed the stormwater management training described in the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control Information
b) Be registered or certified for at least one of the following:

1) California registered civil engineer
2) California registered professional geologist or engineering geologist
3) California licensed landscape architect
4) Professional hydrologist registered through the American Institute of Hydrology
5) Certified Professional in Erosion and Sediment Control (CPESC)™ registered through Enviro Cert International, Inc.
6) Certified Professional in Storm Water Quality (CPSWQ)™ registered through Enviro Cert International, Inc.
7) Professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET)

The Contractor's QSP must comply with the qualifications for a QSD or must:

a) Have completed the storm water management training described in the Caltrans' website for the Division of Construction, Storm Water and Water Pollution Control Information
b) Be certified for at least one of the following:
    1) Certified Erosion, Sediment and Storm Water Inspector (CESSWI)™ registered through Enviro Cert International, Inc.
    2) Certified Inspector of Sediment and Erosion Control (CISEC) registered through CISEC, Inc.

Responsibilities

The Contractor's WPC manager must:

a) Be responsible for water pollution control work
b) Be the primary contact for water pollution control work
c) Oversee:
    1) Maintenance of water pollution control practices
    2) Inspections of water pollution control practices identified in the SWPPP or WPCP
    3) Inspections and reports for visual monitoring
    4) Preparation and implementation of REAPs
    5) Sampling and analysis
    6) Preparation and submittal of:
        (a) NAL exceedance reports
        (b) NEL violation reports
        (c) SWPPP annual certification
        (d) Annual reports
        (e) BMP status reports

a) Oversee and enforce hazardous waste management practices, including spill prevention and control measures
b) Have authority to mobilize crews to make immediate repairs to water pollution control practices
c) Ensure that all employees have current water pollution control training
d) Implement the authorized SWPPP or WPCP
e) Amend the SWPPP or WPCP if required
f) Be at the job site within 2 hours of being contacted
g) Have the authority to stop construction activities damaging water pollution control practices or causing water pollution

7-8.6.1.6 Construction.

General

The Contractor shall install facilities and devices used for water pollution control practices before performing work activities. The Contractor shall install soil stabilization materials for water pollution control practices in all work areas that are inactive and before storm events.

The Contractor shall repair or replace water pollution control practices within 24 hours of discovering any damage, unless a longer period is authorized.

The Agency will not pay for the cleanup, repair, removal, disposal, or replacement of water pollution control practices due to improper installation or the Contractor's negligence.

The Contractor shall retain a printed copy of the authorized WPCP or SWPPP at the job site at all times.

Monitoring

The Contractor shall monitor the National Weather Service's forecast on a daily basis. For the National Weather Service's forecast, go to the website for the National Weather Service.

Inspections

The Contractor shall use the *Stormwater Site Inspection Report* form for documenting site inspections.

The Contractor's WPC manager must oversee:

a) Inspections of water pollution control practices identified in SWPPP or WPCP:
    1) Before a forecasted storm event
    2) After a qualifying rain event that produces site runoff
    3) At 24-hour intervals during extended storm events
    4) On a predetermined schedule of at least once a week
b) Daily inspections of:

1) Storage areas for hazardous materials and waste
2) Hazardous waste disposal and transporting activities
3) Hazardous material delivery and storage activities

c) Inspections of:

1) Vehicle and equipment cleaning facilities:
   (a) Daily if vehicle and equipment cleaning occurs daily
   (b) Weekly if vehicle and equipment cleaning does not occur daily
2) Vehicle and equipment maintenance and fueling areas:
   (a) Daily if vehicle and equipment maintenance and fueling occurs daily
   (b) Weekly if vehicle and equipment maintenance and fueling does not occur daily
3) Vehicles and equipment at the job site for leaks and spills on a daily schedule. Verify that operators are inspecting vehicles and equipment each day of use.
4) Demolition sites within 50 feet of storm drain systems and receiving waters daily.
5) Pile driving areas for leaks and spills:
   (a) Daily if pile driving occurs daily
   (b) Weekly if pile driving does not occur daily
6) Temporary concrete washouts:
   (a) Daily if concrete work occurs daily
   (b) Weekly if concrete work does not occur daily
7) Paved roads at job site access points for street sweeping:
   (a) Daily if earthwork and other sediment or debris-generating activities occur daily
   (b) Weekly if earthwork and other sediment or debris-generating activities do not occur daily
   (c) Within 24 hours of precipitation forecasted by the National Weather Service
8) Dewatering work:
   (a) Daily if dewatering work occurs daily
   (b) Weekly if dewatering work does not occur daily
9) Temporary active treatment system:
   (a) Daily if temporary active treatment system activities occur daily
   (b) Weekly if temporary active treatment system activities do not occur daily
10) Work over water:

(a) Daily if work over water occurs daily

(b) Weekly if work over water does not occur daily

Deficiencies

Whenever the Contractor or the Engineer identify a deficiency in the implementation of the authorized WPCP or SWPPP, The Contractor shall correct the deficiency:

(a) Immediately, unless a later date is authorized

(b) Before precipitation occurs

The Agency may correct the deficiency and deduct the cost of correcting the deficiency from payment if the Contractor fails to correct the deficiency by the agreed date or before the onset of precipitation.

7-8.6.2 Best Management Practices (BMPs). *MODIFY to ADD the following:*
BMPs shall be maintained and/or added based on the REAP and any exceedances of Numeric Action Levels (NALs) and Numeric Effluent Limitations (NELs). The Contractor shall make any necessary changes to the SWPPP and implement additional BMPs that will result in effluent levels below that of NALs.

7-8.6.3 Storm Water Pollution Prevention Plan (SWPPP). *DELETE in its entirety and SUBSTITUTE with the following:*

7-8.6.3 Water Pollution Control Plan (WPCP).

7-8.6.3.1 General.

Summary

The Contractor shall prepare a water pollution control plan that includes developing and implementing the WPCP, providing a WPC manager, conducting water pollution control training, and monitoring, inspecting and correcting water pollution control practices.

The Contractor may assign a QSP other than the WPC manager to develop the WPCP.

Submittals

Within 7 days after Contract approval:

a) The Contractor shall submit two (2) copies of his WPCP for review. The Engineer provides comments and specifies the date when the review stopped if revisions are required.

b) The Contractor shall resubmit a revised WPCP within 7 days of receiving the Engineer's comments. The Agency's review resumes when the complete WPCP has been resubmitted.

c) When the Engineer authorizes the WPCP, the Contractor shall submit an electronic copy and 3 printed copies of the authorized WPCP.

d) If the RWQCB requires review of the authorized WPCP, the Engineer submits the authorized WPCP to the RWQCB for its review and comment.

e) If the Engineer orders changes to the WPCP based on the RWQCB's comments, the Contractor shall amend the WPCP within 3 business days.

The WPCP must comply with the Caltrans' *Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual* and must:

a) Show the location of disturbed soil areas, water bodies, and water conveyances

b) Describe the work involved in the installation, maintenance, repair, and removal of temporary water pollution control practices

c) Show the locations and types of water pollution control practices that will be used for:

    1) Stormwater and nonstormwater in areas outside the job site but related to work activities, including:

        (a) Staging areas

        (b) Storage yards

        (c) Access roads

    2) Activities or mobile activities related to all NPDES permits

    3) Contractor-support facilities

d) Show the locations and types of temporary water pollution control practices that will be used in the work for each construction phase

e) Show the locations and types of water pollution control practices that will be installed permanently under the Contract

f) Include a schedule showing when:

    1) Work activities will be performed that could cause the discharge of pollutants into stormwater

    2) Water pollution control practices associated with each construction phase will be implemented

    3) Soil stabilization and sediment control practices for disturbed soil areas will be implemented

g) Include a copy of any permits obtained by the Agency, including Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 certifications, aerially deposited lead variance from the Department of Toxic Substance Control, aerially deposited lead variance notification, and RWQCB waste discharge requirements for aerially deposited lead reuse

The Contractor shall amend the WPCP whenever:

a) Changes in work activities could affect the discharge of pollutants

b) Water pollution control practices are added by Change Order work

c) Water pollution control practices are added at the Contractor's discretion

d) Changes in the quantity of disturbed soil are substantial

e) Objectives for reducing or eliminating pollutants in stormwater discharges have not been achieved

f) Project receives a written notice or order from the RWQCB or any other regulatory agency

The Contractor shall allow the same review time for amendments to the WPCP as for the original WPCP.

7-8.6.3.2 Construction. The Contractor shall manage work activities in a way that reduces the discharge of pollutants to surface waters, groundwater, and separate municipal storm sewer systems.

The Contractor shall monitor and inspect water pollution control practices at the job site.

The Contractor shall notify the Engineer within 6 hours whenever any of the following occurs:

a) The Contractor identifies discharges into receiving waters or drainage systems that are causing or could cause water pollution

b) The Contractor receives a written notice or order for the project from the RWQCB or any other regulatory agency

The Contractor shall continue WPCP implementation during any suspension of work activities.

The Contractor is responsible for delays and must pay all costs associated with submitting a SWPPP due to his actions that result in one of the following:

a) 1 or more acres of soil disturbance on projects without an Erosivity Waiver

b) More than 5 acres of soil disturbance on projects with an Erosivity Waiver

c) Failure to comply with the schedule for soil disturbing activities for projects with an Erosivity Waiver if the delays void the Erosivity Waiver

7-8.6.3.3 Payment. Payment for WATER POLLUTION CONTROL PROGRAM (WPCP) shall be per the Lump Sum (LS) price bid and shall include full compensation for furnishing all labor, materials, tools, equipment to perform all the work involved in 7-8.6, including preparing and modifying a WPCP, permitting fees, Agency filing and processing, furnishing, installing, maintaining and removing BMPs, monitoring and reporting, and all incidentals for doing all the work involved as described herein or as otherwise required by the permit process, and shall be included in the contract lump sum price in the bid. No additional compensation shall be allowed therefor.

Payment will be issued by the Agency as follows:

a) 25% - upon WPCP approval.

b) 25% - upon installation of project BMPs

c) 50% - to be paid monthly as a percentage of the total working days expended for monitoring, maintenance, testing, reporting and all other requirements as outlined in these Special Provisions.

7-8.6.4 Dewatering.

Submittals

Before the Contractor starts dewatering, he shall submit a dewatering and discharge work plan. The dewatering and discharge work plan must include:

a) Title sheet and table of contents
b) Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge point
c) Estimated schedule for dewatering and discharge start and end dates of intermittent and continuous activities
d) Discharge alternatives, such as dust control or percolation
e) Visual monitoring procedures with inspection log
f) Copy of written approval to discharge into a sanitary sewer system at least 5 business days before starting discharge activities

The Contractor shall submit the following informational submittals:

a) MSDS at least 5 business days before material is used or stored
b) Monthly inventory records for material used or stored

The Contractor shall submit written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system.

7-8.6.5 Payment.
Payment for implementation and maintenance of BMPs and dewatering shall be included in the Contract Lump Sum price paid for WPCP

7-8.7 Drainage Control. The Contractor shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when necessary. Such dams shall be removed from the site as soon as their use is no longer necessary.

The Contractor shall ensure that storm and drainage water does not pond due to the temporary blockage of existing drainage facilities. To this end, the Contractor shall provide temporary works that allow for the passage of storm and drainage water in a manner equivalent to the existing drainage system.

No separate payment will be made for any work performed or material used in drainage control. Full compensation for such controls shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

7-8.8 Graffiti Control. Throughout all phases of Work, including suspension of Work, and until final acceptance, the Contractor shall keep Work, all equipment, field offices, storage facilities, fences, signs, and other facilities free of graffiti. Within twenty-four (24) hours after notification by the Agency Representative, graffiti shall be water blasted and cleaned to original surface or repainted if previously painted.

No separate payment will be made for any work performed or material used in graffiti control. Full compensation for such cleaning shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefor.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS.
Material shown on the Plans or designated in the Special Provisions which is to be salvaged or used in the reconstructed work and which has been damaged or destroyed as a result of the Contractor's operations, shall be repaired or replaced by the Contractor at his expense.

7-9.1 Preservation of Property. The Contractor shall exercise due care to avoid injury to existing improvements or facilities, utility facilities, adjacent property, and trees and shrubbery that are not to be removed.

All damage done to existing improvements by the Contractor shall be repaired by him to the satisfaction of the Engineer. Where sidewalks, curbs or gutters are to be repaired, the repairs shall be made by removing and replacing the damaged section back to the nearest scoring lines.

All trees and shrubbery that are not to be removed, and pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and waterlines, all highway or street facilities, and any other improvements of facilities within or adjacent to the work shall be protected from injury or damage, and the Contractor shall provide and install suitable safeguards to protect such objects from injury or damage. If such objects are injured or damaged by reason of the Contractor's operation, they shall be replaced or restored at the Contractor's expense to a condition as good as when the Contractor entered upon the work or as good as required by the Plans and Specifications if any such objects are a part of the work being performed.

The fact that any such pipe or other underground facility is not shown on the Plans shall not relieve the Contractor of his responsibility under this article. It shall be the Contractor's responsibility to ascertain the existence of any underground improvement or facilities which may be subject to damage by reason of his operations.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site of the work which are in any way affected by the excavations or other operations connected with the performance of the Work.

Whenever any notice is required to be given by the Agency or the Contractor to any adjacent or adjoining landowner or other party before commencement of any work, such notice shall be given by the Contractor.

7-9.2 Video Recording and Photographing of Pre-existing Conditions. The Contractor shall video record and photograph pre-existing conditions of the project site prior to any construction activities such as, but not limited to:

a) Property markers
b) Right of way and easement conditions
c) Utility markings and USA markings
d) Existing property damages
e) Survey conditions
f) Pavement conditions, markings, and striping
g) Adjacent property conditions
h) Sidewalk, median, curb, and gutter conditions
i) Safety conditions
j) Unusual conditions or equipment
k) Existing landscape conditions (including vegetation and irrigation) along the project limit.

The Contractor shall submit recordings/photographs on CD, DVD or USB media to the Engineer no later than (five) 5 Working Days after Notice to Proceed.

Payment for video recording and photographing services shall be included in the various Bid Items and no additional compensation will be allowed therefor.

7-10.4.1.2 Work Site Safety Official.
Failure by the Contractor to provide the required Work Site Safety Official shall be grounds for the Agency to direct the cessation of all work activities and operations at no cost to the Agency until the Contractor is in compliance.

7-10.4.1.3 Emergencies. Unusual conditions may arise on the Work which will require that immediate and unusual provisions be made to protect the public from danger or loss or damage to life and property, due directly or indirectly to the prosecution of the Work, and it is part of the service required of the Contractor to make such provisions and to furnish such protection.

The Contractor shall use such foresight and shall take such steps and precautions as his operations make necessary to protect from danger or damage, or loss of life or property, which would result from the interruption or contamination of public water supply, irrigation or other public service, or from failure or partly completed work.

Whenever, in the opinion of the Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured by process of construction on account of such neglect; and whenever in the opinion of the Engineer, immediate action shall be considered necessary in order to protect public or private, personal or property interest, or prevent likely loss of human life or damage on account of the operations under the Contract, then and in that event the Agency may provide suitable

protection to said interest by causing such work to be done and material to be furnished as, in the opinion of the Agency Representative may seem reasonable and necessary.

The cost and expense of said labor and material, together with the cost and expense of such repairs as may be deemed necessary, shall be borne by the Contractor, and if he shall not pay said cost and expense upon presentation of the bills therefor, duly certified by the Agency Representative, then said cost and expense will be paid by the Agency and shall thereafter be deducted from any amounts due, or which may become due to the Contractor. Failure of the Agency, however, to take such precautionary measure, shall not relieve the Contractor of his full responsibility for public safety.

The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the Agency.

7-10.4.2.1 General.

The Contractor shall submit to the Engineer, as a condition of obtaining City issued permits and in advance of excavation, a permit from the Division of Occupational Safety and Health pursuant to Chapter 6 (commencing with Section 6500) of Part 1 of Division 5 of the Labor Code along with a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five (5) feet or more in depth. The plan shall be prepared by a registered civil or structural engineer. As a part of the plan, a notice shall be included stating that the registered civil or structural engineer certifies that the plan complies with the CAL/OSHA Construction Safety Orders. A copy of the plan and permit shall be submitted to the Engineer.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions on the job site, including safety of all persons and property during performance of the Work, and the Contractor shall fully comply with all local, county, state and federal laws, rules, regulations, and orders relating to safety of the public and workers.

The Contractor shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents from civil or criminal penalties resulting from a failure to comply with applicable safety laws, rules, regulations and orders. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the event of any such failure to comply with applicable safety laws, rules, regulations or orders.

The duty, if any, of the Agency Representative to conduct construction review or inspection of the Contractor's performance is not intended to include review or inspection of the adequacy of the Contractor's safety measures in, on, or near the construction site.

7-10.5.3 Steel Plate Covers.

The Contractor shall protect transverse or longitudinal cuts, voids, trenches, holes, and excavations in the right-of-way that cannot be properly completed within one (1) Working Day by adequately designed barricades and structural steel plates (plates) that will support legal vehicle loads in such a way as to preserve unobstructed traffic flow.

The Contractor shall secure approval, in advance, from Engineer concerning the use of any bridging proposed on the Work.

The Contractor shall adequately shore trenches to support the bridging and traffic loads.

The Contractor shall design plates for HS 20-44 truck loading in accordance with Caltrans Bridge Design Specifications Manual.

For the minimum thickness of plates refer to Table 7-10.5.3(A):

Table 7-10.5.3(A) - Trench Width/Minimum Plate Thickness

Trench Width	Minimum Plate Thickness
10"	1/2"
1'-11"	3/4"
2'-7"	7/8"
3'-5"	1"
5'-3"	1 1/4"

For spans greater than 5’-3", submit a structural design prepared by a California Registered Civil Engineer to the Engineer.

The surface of the plates shall be skid-resistant with a nominal Coefficient Of Friction (COF) of 0.35 as determined by California Test Method 342.

The plates shall extend a minimum 12” beyond the edges of the trench.

Plates must provide complete coverage to prevent any person, bicycle, motorcycle or motor vehicle from being endangered due to plate movement causing separations or gaps.

Install and secure plates against movement or displacement by using adjustable cleats, shims, welding, or other devices in a manner that will minimize noise.

The Contractor shall Install plates as follows:

Mill the pavement to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate.

Alternative installation method may be submitted in accordance with 2-5.3, “Submittals” for the Engineer’s approval.

The Contractor is responsible for maintenance of the plates and shoring, or any other approved device used to secure the plates. The Contractor shall immediately mobilize necessary personnel and equipment after being notified by the Agency Representative, the Agency Code Enforcement or Police Department of a repair needed e.g., plate movement, noise, anchors, and asphalt ramps. Failure to respond to the emergency

request within 2 hours will be grounds for Agency to perform necessary repairs that will be invoiced at actual cost including overhead or $500 per incident, whichever is greater.

When plates are removed, the Contractor shall repair any damage to the pavement with fine graded asphalt concrete mix or slurry seal satisfactory to the Engineer.

Payment for Steel Plate Covers is included in the various bid items of work.

7-11 PATENT FEES AND ROYALTIES.
The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work and shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents from all claims, suits or actions of every nature for or on account of the use of any patented materials, equipment devices, or processes. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claim, suit or action.

7-13 LAWS TO BE OBSERVED.
The Contractor shall keep itself fully informed of all existing and future State and National laws and County and Municipal ordinances and regulations which in any manner affect those engaged or employed in the Work or the materials used in the Work or which in any way affect the conduct of the Work and of all such order and decrees of bodies or tribunals having any jurisdiction or authority in the Plans, Specifications, or Contract for the Work in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same to the Agency Representative in writing.

The Contractor shall at all times observe and comply with and shall cause all its agents, employees, and subcontractors to observe and comply with all such existing and future laws, ordinances, regulations, orders, and decrees even though such requirements may not be specifically mentioned in the specifications or shown on the Plans, and shall hold harmless, indemnify, and defend the Agency, the Engineer, the Agency Representative and each of their officers, employees, and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by itself, its employees, its agents, or its subcontractors. To the maximum extent permitted by law, all obligations of the Contractor stated in 7-3.2 shall apply in the case of any such claim or liability.

As a material part of this Contract, Contractor's and subcontractors' owners and employees agree to be bound by and adhere to the Federal Department of Transportation (DOT) regulations found in Title 49 CFR 382. All Contractor's and subcontractors' owners and employees who are required to hold commercial licenses and/or who are in safety sensitive positions shall be subject to the provisions of the DOT regulations.

7-14.1 Property Rights in Materials. Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the Work or the soil, or after payment has been made for materials delivered to the site of the Work, or stored subject to or under the control of the Agency.

7-14.2 Warranty of Title. No materials, supplies or equipment for the Work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants clear and good title to all materials,

supplies, and equipment installed and incorporated in the Work and agrees upon completion of all Work to deliver the premises together with all improvements and appurtenances constructed or placed thereon by him to the Agency free from any claims, liens, encumbrances, or charges and further agrees that neither he nor any persons, firm, or corporation furnishing any material or labor for any work covered by the Contract shall have any right to a lien upon the premises or any improvement or appurtenance thereon, provided that this shall not preclude the Contractor from installing metering devices or other equipment of utility companies or of municipalities, the title of which is commonly retained by the utility company or the municipality. Nothing contained in this article, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection, or any right under any law permitting such persons to look to funds due the Contractor in the hands of the Agency.

The provisions of this subsection shall be physically inserted in all subcontracts and material contracts and notices of its provision shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

7-15 CONTRACTOR'S RESPONSIBILITY FOR THE WORK. Until Acceptance of the Work, the Contractor shall have the responsibility, charge and care of the Work and of the materials to be used therein (including materials for which it has received partial payment or materials which have been furnished by the Agency) and shall bear the risk of injury, loss or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work.

The Contractor shall rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the work or the material occasioned by any cause before its completion and acceptance and shall bear the expense thereof. Where necessary to protect the work or materials from damage, the Contractor shall at his expense provide suitable drainage and erect such temporary structures as are necessary to protect the work or materials from damage. The suspension of the work from any cause whatever shall not relieve the Contractor of his responsibility for the work and materials as herein specified. If ordered by the Agency Representative, the Contractor shall at his expense properly store materials which have been partially paid for by the Agency or which have been furnished by the Agency. Such storage by the Contractor shall be on behalf of the Agency, the Agency shall at all times be entitled to the possession of such materials, and the Contractor shall promptly return the same to the site of the work when requested. The Contractor shall not dispose of any of the materials so stored, except on written authorization from the Agency.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorizations, is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act as though instructed to do so by the Agency.

7-16 PROJECT RECORD DOCUMENTS.

7-16.1 Maintenance of Documents and Samples. The Contractor shall maintain one record copy of:

a) Contract Drawings

b) Specifications

c) Addenda

d) Change Orders and Other Modifications to the Contract

e) Reviewed Shop Drawings, Product Data, and Samples

f) Field Test Records

g) Construction Schedules

h) Manufacturer's Certificates

The Contractor shall maintain documents in clean, dry, legible condition and not used for construction purposes.

The Contractor shall keep Record Documents and samples accessible for inspection by Agency Representative. Applications for partial payment will not be approved if the Record Documents are not kept current. The Agency Representative must so verify prior to submittal of each Application for Payment.

7-16.2 Recording. The Contractor shall record changes to the plans and discoveries of buried objects at the Work on Record Documents with red ball-point pen, label each Document “PROJECT RECORD” in large printed letters, record information concurrently with construction progress, not conceal any work until required information is recorded and legibly mark each item on Contract Drawings and Shop Drawings to record actual construction, including:

a) Measured depths of elements in relation to fixed datum point

b) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements

c) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction

d) Field changes of dimension and detail

e) Changes made by Contract modifications

f) Details not on original Contract Drawings

g) Previously unknown buried objects

The Contractor shall legibly mark each item to record actual construction, including:

a) Manufacturer, Trade Name, and Catalog Number of each product actually installed, particularly optional items and substitute items

b) Changes made by Addenda or modifications

The Contractor shall maintain other documents per requirements of individual specifications sections.

7-16.3 Submittals. At Contract closeout the Contractor shall deliver Record Documents and samples as specified in 7-16.1. Request for final payment will not be approved until all Record Documents have been delivered.

The submittals shall be transmitted with cover letter with signature of Contractor or authorized representative, listing date, project title and number and number and title of each Record document.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

Not part of this project.

SECTION 9 - MEASUREMENT AND PAYMENT

9-2 LUMP SUM WORK.

9-2.1 Detailed Schedule. The Contractor shall furnish the Agency a cost break-down for all contract lump sum items. Cost break-down tables shall be submitted to the Agency Representative for acceptance within fifteen (15) days after award of Contract. Cost break-down tables will be approved, in writing, by the Agency Representative before any partial payment will be made for the applicable items involved.

The Contractor shall determine the quantities required to complete the Work shown on the Plans. The quantities and their values shall be included in the cost break-downs submitted to the Agency Representative for approval. The Contractor shall be responsible for the accuracy of the quantities and values used in the cost break-downs submitted for approval.

The sum of the amounts for the line items of work listed in each cost break-down table for each lump sum item shall be equal to the contract lump sum price bid. Overhead and profit shall be included in each individual line item of work listed in a cost break-down table.

No adjustment in compensation will be made in the contract lump sum prices due to differences between the quantities shown in the cost break-downs furnished by the Contractor and the quantities required to complete the Work as shown on the plans and as specified in the Special Provisions.

Individual line item values in the approved cost break-down tables will be used to determine partial payments during the progress of the Work and as the basis for calculating an adjustment in compensation for the contract lump sum items due to changes in line items of work ordered by the Engineer. When the total of ordered changes to line items of work increases or decreases the lump sum price bid by more than twenty-five percent, the adjustment in compensation for the applicable lump sum item will be determined in the same manner specified for increases and decreases in the total pay quantity of an item of work in Section 3 of the Standard Specifications and the Special Provisions.

9-3 PAYMENT.

9-3.1 General.

The cost of items of work not listed in the “Schedule of Work and Prices” in the Bidders Proposal shall be considered to be included in the cost of the other work that is listed and no additional compensation will be allowed therefor.

When an item of work is designated as (F) or (S-F) in the “Schedule of Work and Prices”, the estimated quantity for that item of work shall be the final pay quantity, unless the dimensions of any portion of that item are revised by the Engineer, or the item or any portion of the item is eliminated. If the dimensions of any portion of the item are revised, and the revisions result in an increase or decrease in the estimated quantity of that item of work, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions. If a final pay item is eliminated, the

estimated quantity for the item will be eliminated. If a portion of a final pay item is eliminated, the final pay quantity will be revised in the amount represented by the eliminated portion of the item of work.

The estimated quantity for each item of work designated as (F) or (S-F) in the "Schedule of Work and Prices" shall be considered as approximate only, and no guarantee is made that the quantity which can be determined by computations, based on the details and dimensions shown on the Plans, will equal the estimated quantity. No allowance will be made in the event that the quantity based on computations does not equal the estimated quantity.

In case of discrepancy between the quantity shown in the "Schedule of Work and Prices" for a final pay item and the quantity or summation of quantities for the same item shown on the Plans, payment will be based on the quantity shown in the "Schedule of Work and Prices."

9-3.1.1 Application for Payment. The Contractor shall use the City of Irvine Certified Invoice for Progress Payment Form; furnished to the Contractor.

The Contractor shall type the required information, follow the schedule of work and bid prices in accepted Bidder's proposal for unit price contract, execute certification by signature of an authorized officer, use data on accepted Schedule of Values for lump sum work, provide dollar value in each column for each line item for portion of work performed, list each authorized Change Order number and dollar amount and adjusted Contract Price, and obtain the Agency Representative concurrence on invoiced amounts prior to submittal for payment.

The Contractor shall follow the following submittal procedures: Submit original and one (1) copy of each Application for Payment at times stipulated in 9-3.2; submit under transmittal letter; include submittal date, project title and number and submit updated Progress Schedule with Application for verification of progress. Incomplete application for payment will be rejected.

When Agency Representative requires substantiating information, the Contractor shall submit data justifying line item amounts in question.

The Contractor shall provide one copy of data with cover letter for each copy of submittal, show application number and date, and line item by number and description.

9-3.2 Partial and Final Payment.
Payment for services will be made monthly on approved invoices, with payment terms of net thirty (30) days upon receipt of invoice. The Contractor shall submit invoices within fifteen (15) days from the end of each month on the form (Certified Invoice For Progress Payment) provided by the Agency. This estimate shall include the value of the total amount of the work completed by the Contractor during the calendar month previous to that in which the estimate is made.

When the Work has been completed to the satisfaction of the Engineer, the Contractor shall make a final estimate of the total amount of work done thereunder and the amount to be paid therefor under the terms of the Contract and shall certify to the Agency the amount of the final estimate. If the Agency finds the Work has been completed according to the

Contract, the Agency will accept the work, will file a notice of completion, and will pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be retained under the provisions of the Contract and upon receiving signed unconditional releases upon final payment from all subcontractors and material suppliers. All prior progress estimates and payments shall be subject to correction in the final estimate and payment. The project retention release will not be due and payable until the expiration of the 60 days from the date of filing a notice of completion of the Work by the Agency.

Interest penalties are not required on payment delays due to disagreement between the Agency and Contractor over the payment amount or other issues involving contract compliance.

It is mutually agreed between the parties to the Contract that no certificate given or payment made under the Contract shall be conclusive evidence of performance of the Contract and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment and acceptance of the final amount due under the Contract shall release the Agency, the Agency Representative, the Engineer, and their consultants from any and all claims or liability arising out of the Contract.

9-3.2.1 Agency's Right to Withhold Certain Amounts and Make Application Thereof. In addition to the amount which the Agency may retain under the above article on progress payments, the Agency may withhold a sufficient amount or amounts from any payment otherwise due to the Contractor as in the Agency's judgment may be necessary to cover:

a) Payments which may be past due and payable for just claims against the Contractor or any subcontractors for labor or materials furnished in or about the performance of the Work on the project under this Contract.

b) Estimated or actual costs for correcting defective work not remedied.

c) Amounts claimed by the Agency as forfeiture due to delay or other offsets.

d) Any other amounts the Agency is authorized to withhold under the Contract Documents or under applicable law.

The Agency may apply such withheld amount or amounts to the payment of such claims in its discretion. In so doing, the Agency shall be deemed the agent of the Contractor and any payments so made by the Agency shall be considered as a payment made under the Contract by the Agency to the Contractor, and the Agency shall not be liable to the

Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. The Agency will render to the Contractor a prior account of such funds disbursed in behalf of the Contractor.

9-3.2.2 Substitution of Securities. Upon the Contractor's request, the Agency will make payment of funds withheld from progress payments pursuant to the requirements of Public Contract Code Section 22300 if the Contractor deposits in escrow with a bank acceptable to the Agency, securities eligible for the investment of State funds under Government

Code Section 16430 or bank or savings and loan certificates of deposit, upon the following conditions:

a) The Contractor shall bear the expense of the Agency and the Escrow Agent in connection with the escrow deposit made.

b) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the Contractor pursuant to this section.

c) The Contractor shall enter into an escrow agreement satisfactory to the Agency, such agreement shall include provisions governing inter alia;

    1) The amount of securities to be deposited,

    2) The providing of powers of attorney or other documents necessary for the transfer of the securities to be deposited,

    3) Conversion to cash to provide funds to meet defaults by the Contractor including, but not limited to, termination of the Contractor's control over the Work, stop notices filed pursuant to law, assessment of liquidated damages or other amounts to be kept or retained under the provisions of the Contract,

    4) Decrease in value of securities on deposit, and

    5) The termination of the escrow upon completion of the Contract.

d) The Contractor shall obtain the written consent of the surety of such agreement.

9-3.4 Mobilization

9-3.4.1 General. Mobilization shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, materials and incidentals to the project site necessary for work on the project and for all other work and operations which must be performed or costs incurred including bonds, insurance, and financing prior to beginning work on the various contract items on the project site.

Mobilization shall also include the cost, time and labor to move the necessary construction equipment to and from the job site, supervisory time on the job by the Contractor's personnel to keep the construction site in a safe condition and all other related work as required for all non-working days during the course of construction. Contractor is responsible for securing an adequate storage site for equipment and materials.

The Contractor shall have on the work site at all times, as its agent, a competent English speaking superintendent capable of reading and thoroughly understanding the plans, specifications, other related documents, and directions from Agency's Representative.

9-3.4.2 Measurement and Payment. Mobilization is eligible for partial payment if the Contract includes a bid item for mobilization. Payment for **Mobilization** shall be per the **Lump-Sum (LS)** price bid and shall include obtaining and paying for all permits and business licenses as required from the City of Irvine, State of California and other agencies. The City of Irvine will waive its permit fee. The Contractor shall comply with the requirements specified by each license or permit. No payment for Mobilization will

be made until the Contractor's Construction Schedule has been submitted, reviewed and accepted and is current. Progress payments for this item shall be paid in accordance with the percentage completion of the project, and shall include the costs of such mobilization and administration for the entire contract period including construction schedule as specified in these specifications. Payments shall be made upon the basis of the following:

a) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 5 percent or more of the original contract amount, 50 percent of the contract item price for mobilization or 5 percent of the original contract amount, whichever is the lesser, will be included in the estimate for payment.

b) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 10 percent or more of the original contract amount, the total amount earned for mobilization shall be 75 percent of the contract item price for mobilization or 7.5 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.

c) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 20 percent or more of the original contract amount, the total amount earned for mobilization shall be 95 percent of the contract item price for mobilization or 9.5 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.

d) When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is 50 percent or more of the original contract amount, the total amount earned for mobilization shall be 100 percent of the contract item price for mobilization or 10 percent of the original contract amount, whichever is the lesser, and that amount will be included in the estimate for payment.

e) Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 10 percent of the original contract amount shall be paid.

9-4 RESOLUTION OF CONSTRUCTION CLAIMS. Any claims submitted by the Contractor against the Agency for Work covered by this Contract in the amount of $375,000 or less shall be subject to the procedures specified in Public Contract Code § 20104, *et seq*.

9-5 PROMPT PAYMENT. In addition to requirements specified elsewhere, the following shall also apply: Subsection (f) of Section 20104.50 of the Public Contract Code, Article 1.7 of Part 3 of Division 2.

ARTICLE 1.7
§ 20104.50 Timely progress payments; legislative intent; interest; payment requests:

a) It is the intent of the Legislature in enacting this section to require all local governments to pay their Contractors on time so that these Contractors can meet their obligations. In requiring prompt payment by all local governments, the Legislature hereby finds and declares that the prompt payment of outstanding

receipts is not merely a municipal affair, but is instead a matter of statewide concern.

b) It is the intent of the Legislature in enacting this article to fully occupy the field of public policy relating to the prompt payment of local governments' outstanding receipts. The Legislature finds and declares that all government officials, including those in local government, must set a standard of prompt payment that any business in the private sector which may contract for services should look towards for guidance.

c) Any local agency which fails to make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract shall pay interest to the contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

d) Upon receipt of a payment request, each local agency shall act in accordance with both of the following:

    1) Each payment request shall be reviewed by the local agency as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.

    2) Any payment request determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request in not proper.

e) The number of days available to a local agency to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which a local agency exceeds the seven-day return requirement set forth in paragraph (2) of subsection (c).

f) For purposes of this article:

    1) A "local agency" includes, but is not limited to, a city, including a charter city, a county, and a city and county, and is any public entity subject to this part.

    2) A "progress payment" includes all payments due Contractors, except that portion of the final payment designated by the Contract as retention earnings.

    3) A payment request shall be considered properly executed if funds are available for payment for the payment request, and payment is not delayed due to an audit inquiry by the financial officer of the local agency.

g) Each local agency shall require that this article, or a summary thereof, be set forth in the terms of any contract subject to this article.

PART 2 - CONSTRUCTION MATERIALS

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201-1.1.2 Concrete Specified by Class and Alternate Class. *ADD the following to Table 201-1.1.2:*

Foundation and footing , Concrete Class 560-C-3250

PART 3 - CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300-4.1 General. *MODIFY to ADD the following:*
Fill should consist of approved earth materials free of trash debris, roots, vegetation, or other deleterious material.

300-4.2 Preparation of Placement Areas.
DELETE the last part of the 2nd sentence and SUBSTITUTE with the following:
. . . to a relative compaction of at least 90 percent.

PART 6 – TEMPORARY TRAFFIC CONTROL

SECTION 600 – ACCESS

600-2 VEHICULAR ACCESS

Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time. If backfill has been completed to the extent that safe access may be provided, and the street is opened to local traffic, the Contractor shall immediately clear the street and driveways and provide and maintain access.

Safe, adequate, continuous and unobstructed vehicular access shall be maintained to fire hydrants, residences, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, bus stops, hospitals, etc., unless otherwise approved by the Engineer.

During non-working hours or when work is not scheduled, all roadway lanes shall be returned to their full traffic use by backfilling and paving open trenches unless otherwise approved by the Engineer. At the end of the workday, the Contractor shall remove all Traffic Control Devices not in use.

The Contractor shall replace vehicle loop detectors damaged by the Contractor's operations, at its own expense within 24 hours of the damage. The Contractor shall replace existing loop detectors, shown on the plans to be replaced, within 24 hours from when they are removed from service.

Should the Contractor fail to replace the vehicle loop detectors within 24 hours from when they are damaged or removed from service, or the installed signal loops are not functional, the Agency, at its option and at the Contractor's sole cost and expense, may install such temporary detection methods as may be necessary. The Agency will deduct cost of such work from any monies due the Contractor. Failure of the Agency, however, to install such temporary detection methods, shall not relieve the Contractor of his full responsibility for public safety per 7-10 of the Standard Specifications and the Special Provisions.

If the Contractor proposes temporary alternate detection methods, video or wireless, the Contractor shall provide submittals of the alternate methods for acceptance by the Engineer in accordance with 2-5.3 of the Standard Specifications and the Special Provisions. The cost for providing all temporary detection methods shall be as included in the various items of Work and no additional compensation will be allowed therefor.

600-3 PEDESTRIAN ACCESS.

Safe, adequate, continuous and unobstructed pedestrian access shall be maintained to sidewalks, cross walks, residences, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, hospitals, etc., unless other arrangements satisfactory to the Agency have been made by the Contractor and accepted by the Agency. Pedestrian access and paths shall meet federal, state and Agency ADA requirements.

600-4 CONSTRUCTION PARKING CONTROL. The Contractor shall control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, owners operations, or construction operations, and monitor parking or construction personnel private vehicles by maintaining free vehicular access to and through parking areas and prohibit parking on or adjacent to access roads, or in non-designated areas.

600-5 SITE ACCESS. When entering or leaving roadways carrying public traffic, contractors' equipment, whether empty or loaded, shall in all cases yield to public traffic.

The Contractor shall comply with the following City of Irvine truck route restrictions:

DESIGNATED TRUCK ROUTES - ORD. NO. 92-09

Name of Street	Portion Designated
a) Alton Parkway	Sand Canyon Avenue to Irvine Boulevard
b) Bake Parkway	Rockfield Boulevard to easterly City limit
c) Barranca Parkway	Red Hill Avenue to Jamboree Road
d) Campus Drive	Jamboree Road to MacArthur Boulevard
e) Irvine Boulevard	Culver Drive to Jeffrey Road
f) Irvine Boulevard	Alton Parkway to easterly City limit
g) Jamboree Road	Warner Avenue to MacArthur Boulevard
h) Laguna Canyon Road	Alton Parkway to State Route 133
i) Laguna Freeway (133)	
j) MacArthur Boulevard	Daimler Street. to Campus Drive
k) MacArthur Boulevard	Jamboree Road to Ford Road
l) Main Street	Jamboree Road to westerly City limit
m) Red Hill Avenue	Barranca Parkway to San Diego Fwy. (I-405)
n) Rockfield Boulevard	Bake Parkway to easterly City limit
o) Sand Canyon Avenue	San Diego Fwy. (I-405) to northerly City limit
p) San Diego Fwy. (I-405)	
q) Santa Ana Fwy. (I-5)	

RESTRICTED ROUTES, SEVEN TON (14,000 POUNDS) GROSS WEIGHT - ORD. NOS. 92-09 AND 98-16

	Name of Street	Portion Designated
a)	Campus Drive	Jamboree Road to University Drive
b)	Culver Drive	Santa Ana Fwy. (I-5) to northerly City limit
c)	Jeffrey Road	Irvine Center Drive to Santa Ana Fwy. (I-5)
d)	Jeronimo Road	Goodyear to 400 feet westerly of Bake Pkwy.
e)	Toledo Way	Goodyear to 400 feet westerly of Bake Pkwy.
f)	Trabuco Road	400 feet easterly of the northbound Santa Ana Freeway off-ramp near Culver Drive and the easterly City limits
g)	Walnut Avenue	Harvard Avenue to Culver Drive
h)	Harvard Avenue	Walnut Avenue to Irvine Center Drive

THREE TON (6,000 POUNDS) GROSS WEIGHT - ORD. NO. 92-09

	Name of Street	Portion Designated
a)	Bonita Canyon Road/Shady Canyon	Newport Coast Drive to Sunnyhill
b)	Culver Drive	Michelson Drive to Bonita Canyon Road
c)	University Drive	Ridgeline Drive to Harvard Avenue

SECTION 601 – WORK AREA TRAFFIC CONTROL

601-1 GENERAL.
The Contractor shall provide and maintain all construction area traffic controls in accordance with Part 6 of the Standard Specifications, the latest version of the (MUTCD), and Work Area Traffic Control Handbook (WATCH), and these Special Provisions.

Portable delineators (traffic cones are not allowed) which conform to the current California Manual of Uniform Traffic Control Devices (CA MUTCD) shall be spaced as necessary for proper delineation of the travel way. The spacing between delineators shall not exceed 50 feet. The minimum lane transitions shall be a 50 to 1 taper unless otherwise shown on the plans. Double base delineators will be required.

If the portable delineators are damaged, displaced or are not in an upright position, from any cause, said portable delineators shall immediately be replaced or restored to their original location, in an upright position, by the Contractor.

Where construction detours and signing conflict with existing signing, the Contractor shall cover existing signs in a manner approved by the Agency's Representative. The Contractor shall also provide temporary traffic delineation per 602 at the conclusion of each working day, if not sooner, as directed by the Agency's Representative, for any centerline, painted median or lane line which is obliterated by construction.

The Contractor shall provide temporary delineation as directed/accepted. Temporary delineation shall include removal of conflicting markings by accepted means; installation and removal of temporary centerlines or lane lines, detour signing, barricading; and replacement of traffic lines and markings in their proper locations upon termination of the detour. Conflicting existing and temporary striping, as required for traffic control during construction, shall be removed by the Contractor by methods accepted by the Engineer. Blacking out the pavement will not be allowed. Temporary reflective striping tape may be used, except that it shall not be applied to final asphalt surfaces. Tape shall be removed from temporary surfaces prior to placement of additional asphalt.

The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and shall furnish to the Agency's Representative, names and telephone numbers of three persons responsible for this emergency service. In the event the Contractor does not promptly respond when notified, the Agency may make corrections at Contractor’s expense.

Each workday, the Contractor shall ensure traffic control is in place prior to starting construction.

Should the Contractor appear, in the opinion of the Engineer, to be lacking in providing adequate warning devices and protective measures as above provided, the Engineer may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor, at his/her expense. Should the Engineer point out the inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety or abrogate its obligation to furnish and pay for these devices.

The Contractor shall notify local Police and Fire Departments of its intent to begin work at each location at least ten (10) days before work is to begin. The Contractor shall cooperate with local authorities relative to handling traffic through the area. The Contractor shall also coordinate with OCTA to ensure the safe operation of buses and access to bus stops in the construction area.

No work that interferes with public traffic shall be performed except during the hours specified for lane closures 601-6.6.

Existing traffic loop detector replacement shall be required as necessary such that no traffic signal loop is out of operation at the end of the workday. The cost for providing all temporary traffic signal loop detectors shall be included into the various related items of work and no additional compensation will be allowed; this includes traffic signal loop detectors damaged by the Contractor's operations not designated for replacement in the contract plans.

Areas requiring edge cold mill shall be cold milled not more than three (3) Calendar Days prior to AC paving. Areas requiring digouts shall be repaved and open for traffic at the end of the same day.

The Contractor shall maintain access to all driveways at all times.

601-3 PAYMENT.
The contract Lump Sum price paid for **Traffic Control** includes full compensation for furnishing all labor, materials, tools, equipment and incidentals and doing all the work involved in all temporary traffic control related work involving placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of traffic control system, complete in place, temporary Asphalt Concrete including installation and removal; all associated temporary signing and striping; flashing arrow signs; flagging and/or flagger costs; and project notifications, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

601-4 STREET CLOSURE, DETOURS, BARRICADES. Unless shown on the plans, no street closure shall be allowed.

The Contractor shall construct the proposed improvements to minimize public inconvenience. The Contractor shall provide ADA accessible pedestrian detours around construction areas.

The Contractor shall have all Traffic Control Devices properly installed prior to commencing construction and shall maintain these devices to ensure proper flow and safety of traffic while working in the street.

The contractor shall be responsible for any additional Traffic Control Devices deemed necessary by the Engineer to assure public safety at all times.

601-5 STORAGE OF EQUIPMENT. Unless otherwise authorized in writing by the Engineer, construction materials may not be stored in streets, roads, or highways beyond the end of each Working Day. No equipment shall be stored within limits of the acquired temporary construction easements at any time.

Construction equipment shall not be stored at the work site before its actual use on the Work nor for more than two (2) Calendar Days after it is no longer needed on the Work. Time necessary for repair or assembly of equipment may be authorized by the Agency.

Excavated materials, except that which is to be used as backfill in the adjacent trench, may not be stored in public streets, roads, temporary construction easements, or highway unless otherwise permitted. After placing backfill, all excess material shall be removed immediately from the site.

The Contractor shall submit an equipment-staging plan for approval by the Engineer. The plan shall address the use of private property for the staging, unloading, loading, and storing of equipment. The Contractor shall obtain an agreement from private property owners prior to the start of the project. The agreement shall release and hold the Agency, the Engineer, the Agency Representative and their consultants harmless from claims for damages. Failure to file a plan or obtain written approval from private property owners is considered a breach of Contract and subject to all remedies and enforcement procedures specified in the Contract Documents.

601-6 TRAFFIC REGULATIONS.

601-6.1 General. Furnish, install and maintain Traffic Control Devices, equipment, materials, and other safeguards to provide safe and effective work areas, and to warn, control, protect and expedite vehicular and pedestrian traffic.

On daily basis, remove temporary traffic delineation, signage and other devices when no longer required. Restore areas to original or to specified conditions.

601-6.2 Related Requirements. Traffic control work and Traffic Control Devices for construction shall conform to the latest edition of:

a) MUTCD
b) Work Area Traffic Control Handbook (WATCH manual)
c) Standard Specifications
d) O.S.H.A. requirements
e) California Vehicle Code

601-6.3 Construction Area Signs. The Contractor shall:

a) Use only signs that conform to the dimension, color, legend, reflectorization and lighting requirements of the current WATCH, MUTCD and the Contract Documents.
b) All sign panels shall be the product of a commercial sign manufacturer, but need not be new. Used sign panels clean and in good repair, as determined by the Agency Representative, may be used.
c) Sign panels for portable signs may be metal, cotton drill fabric, flexible industrial nylon fabric or other approved fabric.
d) Temporary stop signs shall have a minimum clearance of seven (7) ft. from bottom of sign to existing ground or pavement.
e) Further requirements as discussed in the Contract Documents.

601-6.4 Flaggers. The Contractor shall provide flaggers as deemed necessary by the Engineer to give adequate warning to traffic or to the public of any dangerous conditions to be encountered, and employ only flaggers trained in flagging fundamentals and procedures referred to in the "Flagger Handbook" available on the Internet at the following website: http://www.dot.ca.gov/hq/construc/flagging/flagging_handbook.pdf.

Payment for flagging is considered as included in the various items of work and no additional compensation will be allowed therefor.

601-6.5 Temporary Closure of Existing Traffic Lanes. Unless the traffic control, working hours and lane requirements are modified in the Special Provisions, the following requirements shall be followed:

a) When permitted by the Engineer, one (1) lane on each roadway adjacent to the working area may be closed to public traffic. Use of reflective or lighted traffic delineators to direct traffic away from excavations or other obstructions will be considered as a lane closure.

b) A minimum of one (1) lane of traffic, twelve (12) feet wide, fourteen (14) feet wide if a lane is adjacent to an outside curb, in each direction, shall be maintained through the work area at all times.

c) A minimum of two (2) lanes of traffic, each being twelve (12) feet wide, fourteen (14) feet wide if a lane is adjacent to an outside curb, in each direction, shall be maintained through the work area at all times when the work area is within a major arterial highway unless otherwise approved.

d) When work is in progress within three (3) feet of a lane being used by public traffic, Contractor shall close the lane adjacent to the work. Reflective or lighted traffic delineators shall be placed to direct public traffic around the construction area in accordance with the requirements of this section. During non-working hours or when work is not in progress, position and maintain reflective traffic delineators in the 1 to 1-1/2 foot width of the existing traffic lane adjacent to the work.

e) On roads open to public travel, temporary lane closures are limited between the hours of 9:00 a.m. and 3:00 p.m. Closures of roads on Sundays, holidays, or between the hours of 3:00 p.m. and 9:00 a.m. are prohibited unless otherwise approved by the Engineer.

All Traffic Control Devices used between dusk and 6:00 a.m. shall be lighted or reflectorized. Agency approved arrow board(s) shall be used to direct public traffic on all roads.

Prior to the start of each work day, the Contractor shall perform all necessary work incidental to and commensurate with the proper signing, detouring, barricading, etc., that is required for that particular day's schedule of operations. No construction shall be permitted until such signing and detouring operations have been completed.

601-6.6 Lane Requirements/Working Hours.

Working Hours:
Monday through Friday: 7:00 a.m. to 3:00 p.m.
Saturday: As approved by the Engineer
Sunday: No work permitted
Legal holidays: No work permitted

Work requiring lane closures may be in progress during the following hours:
Monday through Friday: 9:00 a.m. to 3:00 p.m.
Saturday: As approved by the Engineer
Sunday: No work permitted
Legal holidays: No work permitted

Lane closures are permitted and will only occur in accordance with the lane closure chart below, unless otherwise approved by the Engineer.

Lane closures will be permitted with the approval of the Engineer.

601-6.7 Closure Schedule. The Engineer shall be provided a list of any street lane closures, ramp closures, trail closures, sidewalk closures or detours for review and acceptance at least three (3) weeks advance of the closure.

Contractor shall submit a written schedule of planned closures utilizing the closure schedule request form, furnished by the Engineer. The closure schedule shall show the number of lanes, locations and times of the proposed closures, a precise description of work to be performed. Closure schedules submitted to the Engineer with incomplete or inaccurate information will be rejected and returned for correction and resubmittal. The Contractor will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Upon approval of the closure schedule by the Engineer and at least three (3) Working Days in advance of closing a lane, the Contractor shall notify the Police, Fire, Orange County Transportation Authority (OCTA) bus service, the Agency Representative and all other affected jurisdictional agencies, and comply with their requirements.

Closure schedule amendments, including adding additional closures, shall be submitted by noon to the Engineer, in writing, at least five (5) Working Days in advance of a planned closure. Approval of closure schedule amendments will be at the discretion of the Engineer.

The Engineer, the Police, Fire, Orange County Transportation Authority (OCTA) bus service, and all other affected jurisdictional agencies shall be notified of cancelled closures two (2) Working Days before the date of closure

The Contractor shall notify by email the City of Irvine four (4) Working Days prior to commencing any work within 250 feet of any signalized intersection (measured from the nearest cross street curb), implementing any road closure, and/or implementing any detour of traffic. Email notifications shall be sent to roadworkcoordination@cityofirvine.org.

Closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer.

601-6.8 Late Reopening of Closures and Required Contingency Plan. If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in 6-3 of the Special Provisions. No further closures shall to be made until the Engineer has accepted a contingency plan, submitted by the Contractor that will ensure future closures will be reopened to public traffic at the

specified time. A detailed contingency plan shall be prepared and submitted to the Engineer within one business day of the Engineer's request. The Engineer will have two (2) Working Days to accept or reject the Contractor's proposed contingency plan. The Contractor will not be entitled to compensation for the suspension of work resulting from the late reopening of closures.

601-6.9 Compensation. The Engineer shall be notified of delays in the Contractor's operations due to the following conditions:

a) The Contractor's proposed closure schedule is denied and his planned closures are within the time frame allowed for closures in the Special Provisions, except that the Contractor will not be entitled to compensation for amendments requested by the Contractor to the closure schedule that are not approved.

b) The Contractor is denied a confirmed closure.

If, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of these conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way delay and will be compensated in conformance with the provisions in 2-8 of the Standard Specifications and the Special Provisions.

Should the Engineer direct the Contractor to remove a closure before the time designated in the approved closure schedule, delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay and compensation for the delay will be determined in conformance with the provisions in 2-8 of the Standard Specifications and these Provisions.

601-10 AUTHORITY OF AGENCY REPRESENTATIVE. Provisions of this section may be modified or altered if, in the opinion of the Agency Representative, public traffic will be better served and work expedited.

601-10.1 Execution. The Contractor shall field check all temporary traffic control signs, barricades, and other devices at least three (3) times every day, including Saturdays, Sundays and holidays to insure their proper maintenance and conformance to the Contract Documents and detailed instructions by the Agency Representative.

Should Contractor fail to properly place and/or maintain delineated lane closures or work areas, the Agency, at its option and at Contractor’s sole cost and expense, may place delineation, barricades, or other devices, as may be necessary, to protect the public. Agency may in its discretion withhold the cost of such work from any monies due the Contractor at an amount equal to the rates shown below:

Delineation	
Delineator	$2.00/day plus-labor & equipment
Lighted Barricade	$5.00/day plus-labor & equipment
8 Foot Wood Barricade	$7.50/day plus-labor & equipment
Temporary Signs	$25.00/day plus-labor & equipment
Type III Barricade	$10.00/day plus-labor & equipment

Labor (2 Hour Minimum) - Regular Time	
Lead Street Maintenance Technician	$52.88
Street Maintenance Technician	$40.82
Equipment Operator I	$46.14
Equipment Operator II	$49.74
Street Maintenance Supervisor	$62.99
Street Superintendent	$79.80

Equipment	
Arrow Board	$15.00/hour
Pickup	$10.00/hour
Sweeper	$45.00/hour
5-Yard Dump	$25.00/hour
Loader	$25.00/hour
Water Truck	$25.00/hour
1-Ton Truck	$10.00/hour

Agency shall have no obligation to Contractor with respect to Agency's decision whether or not to exercise Agency's options pursuant to this subsection.

601-12 FLASHING ARROW SIGNS. Flashing arrow sign shall be mounted on a truck or on a trailer and shall be capable of operating while the vehicle is moving or as directed by the Engineer. Signs mounted on the cab of a truck shall be mounted to provide a minimum of 7 feet between the bottom of the sign and the roadway. Signs mounted on a trailer, or on anything other than the cab of a truck, shall be mounted to provide a minimum of 8 feet between the bottom of the sign and the roadway.

The total weight of trailer mounted flashing arrow sign including the trailer, sign, power source and other components shall not exceed 1,500 pounds and the height of the level trailer bed shall be no higher than 21 inches above the roadway. The trailer shall be equipped with a minimum of 3 leveling jacks.

Electrical energy to operate the sign shall be obtained from the vehicle on which the sign is mounted. The supply of electrical energy shall be capable of operating the sign in the manner specified. The electronic circuitry shall provide between 30 and 45 complete operating cycles of the sign per minute in each of the modes specified.

Alternative types of lamps may be used in flashing arrow signs if visibility is equal to the specified lamps. Each type AX flashing arrow sign shall be a minimum of 2 feet high and 4 feet wide, and shall be furnished with flat black enamel. A minimum of 13 No. 4414AX 12-volt, yellow or amber lamps shall be installed in the panel. The lamp configuration shall be for 3 arrowheads or an arrow shaft with 2 arrowheads, one pointing in each direction on the face of the sign with a minimum of 5 lamps forming each arrowhead. Each lamp shall be provided with a visor.

The lamp shall be activated by a switch on a control panel and shall be controlled by electronic circuitry to provide a minimum of 4 selectable modes of operation as follows:

Pass Left Mode - Sequencing of lighted arrowheads or sequencing the lamps forming the arrow shaft and arrowhead to the left or a flashing left arrow with the lamps in the arrow shaft and arrowhead flashing on and off simultaneously.

Pass Right Mode - Sequencing of lighted arrowheads or sequencing the lamps forming the arrow shaft and arrowhead to the right or a flashing right arrow with the lamps in the arrow shaft and arrowhead flashing on and off simultaneously.

Simultaneous Mode - Either the outside arrowheads pointing in opposite directions are continuously illuminated, except for the center lamp forming each arrowhead, while the arrow shaft lamps flash on and off simultaneously or the outside arrowhead pointing in opposite directions and the arrow shaft lamps all flash simultaneously to indicate passing on either side.

Travel Mode - Travel or caution mode shall flash in a manner not resembling any other mode.

Full compensation for conforming to the requirements of this section shall be considered as part of Bid Item **Traffic Control** and no additional compensation will be allowed therefor.

TECHNICAL SPECIFICATIONS

SECTION 101400

SIGNS PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This work shall include all labor, materials and equipment necessary for the proper execution and completion of said work, as shown on the plans and as herein specified. It shall also include all work not specifically included in the Contract Documents which is properly inferable and necessary for the completion of this work. The City will not be providing any labor or materials. It shall be the responsibility of the Contractor to perform the complete structural design of the signs and to incorporate all the reasonable safety factors necessary to protect the City and their representatives, against liability. Contractor will submit engineered “shop drawings” to the City for review and approval. Signs must meet all applicable Federal, State, and local codes.

B. Sign Types included in this scope of work:

1. A – Vehicular Trailblazing Signs (Arterial Highways)
2. B1 – Vehicular Directional Signs
3. B2 – Small Vehicular Directional
4. C1 – Vehicular Parking Lot Identity Signs
5. C2 – Parking Lot Identity Signs (Light Pole Mounted)
6. D – Pedestrian Landmark Signs
7. E1 – Pedestrian Directional Signs (Removable Destination Blades)
8. E2 - Pedestrian Directional Signs
9. F1 – Soccer Field Identity Signs
10. F2 - Volleyball Court Identity
11. F3 – Baseball Field Identity
12. F4 – Softball Field Identity
13. F5 – Tennis Court Identity
14. F6 – Basketball Court Identity
15. G1 – Bicycle Directional
16. G2 – Bicycle Mile Marker
17. H – Trail Gateway Sign
18. J – Pedestrian Map

1.2 CONTRACT DOCUMENTS

A. Contractor acknowledges the Contract Documents are adequate to enable the Contractor to execute and complete the Work. Contractor shall complete the tasks which may be reasonably inferred as necessary in accordance with the requisite time frame, applicable laws, statutes, building codes, regulations, or as otherwise required by the Contract Documents. Apparent errors inconsistencies or omissions in the Contract Documents which the Contractor had knowledge of, or should had reasonably inferred are not an acceptable reason for Contractor Compensation. Any costs incurred correcting this Work will be the responsibility of the Contractor.

1.3 PROJECT SITE CONDITIONS

A. Contractor must field verify the project site conditions and indicate all pertinent information has been received before any construction activities on the site or in the fabrication shop has begun. This field verification shall include but not be limited to all structures, utilities, surface and subsurface conditions needed to complete the Contractor's entire Scope of Work. The Contractor shall provide all further investigation and testing as necessary or useful to determine the location and condition of structures, surface and subsurface conditions as part of their Scope of Work. The sign location plans provided include general locations for each sign. Final sign locations are to be verified in the field with owner or owner's representative.

1.4 REFERENCES

A. General: Materials, design, detailing, fabrication and erection shall conform to the following:
    1. AISC Specification for the design, fabrication and erection of structural steel for buildings.
    2. AWS D1.1 Structural Welding Code, Steel.
    3. AWS D1.2 Structural Welding code, Aluminum installation directions.
    4. AA Specifications for Aluminum Structures.
    5. Standards and Codes: Contractor shall comply with the following codes and standards (latest adopted) as a minimum. Review and comply with any related governing statute, ordinance or code relative but not noted.
        a. Manual for Uniform Traffic Control Devices (MUTCD)

b. The Americans with Disabilities Act

c. The Building Officials & Code Administrators International, Inc. (BOCA)

National Building Codes

d. National Fire Protection Association (NFPA) regulations including Article 70 (National Electrical Code – NEC)

e. Occupational Safety and Health Act of 1970 (O.S.H.A.) standards

f. American Society for Testing and Materials (ASTM) standards

g. Underwriters Laboratories (UL)

h. Other State Building Codes

i. County codes and ordinances

j. City codes and ordinances

1.5 DESIGN CALCULATIONS

A. General: Submit complete design calculations for materials, structure and electrical (if applicable) from contract documents, covering all structural elements (including connections), weights, electrical loads, sign framing (including any required structural steel sub-framing not shown elsewhere on the Contract Drawings), sign supports and their anchorage prior to their fabrication. Design Calculations - The design calculations shall include, but not limited to:

1. Design Criteria and applicable codes
2. Reference standards
3. Materials
4. Design loads: including wind, live, dead, and any other forces.
5. Design analysis and drawings of all sign box framing and their supports and connections.
6. All required wind-loading design and associated structure calculation sheets should be numbered and indexed. The index sheets shall define the total number of sheets submitted and shall bear both the seal and signature of an experienced structural engineer holding a current Professional Engineer's license for the State of California. Engineer shall be familiar with the design conditions and is responsible for the design.

B. The Contractor shall be responsible for engineering and internal construction of all signs.

C. The Contractor shall also be responsible for the design of all structures, supports, anchoring, footings and foundations, and shall submit signed and stamped shop drawings and details to the City for review and approval.

1.6 FIELD MEASUREMENTS

A. Contractor to take any required field measurements prior to preparation of shop drawings and fabrication to insure proper fitting. Notify the City immediately, in writing, of any conflicts with the Contract Documents. Show recorded measurements on shop drawings.

1.7 SUBMITTALS

A. Provide product data sheets for each type of sign specified. Include the manufacturer written instructions for maintaining and cleaning of the sign surfaces.

B. Provide material samples from the same material to be used for the Work. The following products and components shall be submitted to show color, texture, or finish selected. Where finishes involve normal color and texture variations, include sets showing the full range of variations expected.

1. Aluminum: Samples of each finish type and color, on 6-inch (150mm) long sections of extrusions or bars. Provide at least 6-inches (150mm) square of sheet or plate.
2. Paint: Provide four (4) samples of each color and finish in squares of at least 6-inches (150mm).
3. Film: Provide four (4) samples of reflective, opaque and translucent Pressure Sensitive Film and Sheeting. Provide samples of each color in squares of at least 6-inches (150mm).

C. Provide shop drawings for each type of sign indicated to include: plans, documented field measurements, dimensioned layouts, detailed fabrication and mounting details, elevations and scaled sections of typical members and other components, quantities, and a sign face layout for each unique sign face. Submit for review and approval. The shop drawings shall include scaled drawings to indicate in a legible, comprehensive manner, compliance with the contract documents. Show weights, anchors, reinforcements, accessories, layout, and installation details relative to materials, dimensions of individual components, profiles, and finishes. Provide legible, original sign face layouts with and including samples of lettering, indicating kerning,

spacing, height, font, etc. at an acceptable scale to indicate compliance to design performance requirements on plans. The Sign Contractor shall be responsible for all quantity take-off and shall be responsible for all sign type quantity shortages resulting from inaccurate take-off. Furnish installers of anchor bolts and other anchors with full size setting drawings, templates and installation directions.

D. Provide wiring diagrams for all illuminated signs and details of wiring from internal junction box and disconnect to external power source. Include the electrical load data from the manufacturer for internally illuminated signs including amperage, voltage, phase and wattage. Differentiate between manufacturer-installed and owner-installed wiring.

E. Power to be provided by owner within 10 feet of sign location. Contractor shall connect to the power source for each illuminated sign. Connection to the source shall be completed within a pull box.

F. Provide prototypes for each sign type as described in this section. A prototype is a fully operational unit for review and acceptance prior to delivery, fabrication and installation of these types. Unit, if acceptable, may be included as part of contract quantity upon approval and direction from Designer, in writing.

1. A – Vehicular Trailblazing Signs
2. B1 – Vehicular Directional Signs
3. B2 - Small Vehicular Directional
4. C1 – Vehicular Parking Lot Identity Signs
5. C2 – Parking Lot Identity Signs (Light Pole Mounted)
6. D – Pedestrian Landmark Signs
7. E1 – Pedestrian Directional Signs
8. E2 - Field Identity Signs
9. F1 – Soccer Field Identity Signs
10. F2 - Volleyball Court Identity
11. F3 - Baseball Field Identity
12. F4 - Softball Field Identity
13. F5 - Tennis Court Identity
14. F6 - Basketball Court Identity
15. G1 - Bicycle Directional
16. G2 - Bicycle Mile Marker

17. H - Trail Gateway Sign
18. J - Pedestrian Map

G. Provide fabrication, delivery and installation schedules. When requested, successful contractor will submit for approval and review a schedule for the fabrication, delivery and installation of all the signs required for the project. The schedule shall be in an acceptable “Critical Path Method” (CPM) format and be coordinated with the required milestone dates and phasing established by the Contract. The schedule shall indicate as a minimum, anticipated dates for testing (if required) and prototype or mockup reviews as necessary by the Contract documents. If requested, the schedule shall be updated and submitted until the accepted date of Substantial Completion.

H. Provide spare parts list.

I. Provide written warranties to depict the understanding of the quality and performance requirements of the contract drawings.

J. Provide as-built documentation (conformed shop drawings) in digital PDF format.

K. Any fabrication or installation of materials for the Work in the shop or field which is performed before Designer’s written approval is done entirely at the Contractor’s own risk.

L. Product Substitutions: Any Contractor proposed deviation from the Contract Documents or design intent shall be clearly noted on the Submittal and must be approved by the City and Designer, in writing, before being acceptable for incorporation into Contractor’s Scope of Work. Contractor must also provide all information needed by the City and Designer to properly evaluate the deviation. No deviations will be an acceptable reason for any time extension. Substitutions shall be limited to those items that contain in their description the qualifying phase "or approved equal" and approved in writing by the Designer. Comply with the requirements of the “General Conditions” for product “Substitutions” as described in other Sections of these specifications. Substitutions for materials and/or methods of construction/fabrication that have been specified herein and in the contract drawings must be accompanied by the following documentation:

1. Product data including drawings, specifications, fabrication and installation procedures.

2. Samples of the new product in a similar configuration and/or with similar finishes.
3. Written comparison of the important qualities of the two products such as size, weight, durability, and visual appearance.
4. A written list of any changes that would be required to other components due to the substitution.
5. A statement indicating the substitutions effect on schedule.
6. A cost comparison between the two products.
7. Certification by the contractor that the proposed substitution is equal to or better in every respect to the product specified in the contract documents.
8. The Contractor's request for a substitution may be considered by the City when the following conditions are satisfied:
    a. Extensive revisions to the contract drawings are not required. Proposed changes are in keeping with the design intent of the contract drawings. The request is made in a timely manner. The material or product specified in the contract drawings cannot be obtained within the contract time or the material does not conform to necessary regulations, codes or other requirements.
    b. The specified material cannot provide a warranty required by the contract documents.
    c. Do not modify intended aesthetic effects, as judged solely by the City, except with the City's approval and only to the extent needed to comply with performance requirements.
    d. Where modifications are proposed, submit comprehensive explanatory data to the City's for review.

M. All submittals must be reviewed and approved by the City.

N. Submittal approval does not denote acceptance of quantities, accuracy, dimensions, completeness, spelling correctness, safety issues, construction means, methods, techniques, sequences or procedures, etc. These items and similar items remain the responsibility of the Contractor.

O. Contractor shall be responsible for all Work performed and materials delivered until the City accepts the date of Substantial Completion. Contractor shall be responsible to restore any Work that has been damaged or destroyed no matter what the cause until the City accepts the date of

Substantial Completion.

1.8 LISTING AND LABELING

A. Provide electrically operated components and fixtures specified in this Section that are listed and / or labeled.

B. The Terms "Listed" and "Labeled": As defined in the National Fire Protection Association, (NFPA-70) National Electrical Code, Article 100.

C. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" as defined in OSHA Regulation 1910.

1.9 QUALITY ASSURANCE

A. General

1. The Contractor is responsible for coordination with other trades and of his sub- contractors. The Contractor shall maintain documentation of the means of coordination with other contractors to prevent foreseeable installation problems. Any conflicts shall be brought to the immediate attention of the City or authorized Representative of the City, in writing, for prompt resolution prior to fabrication.

B. Manufacturer Qualifications:

1. Provide written documents that demonstrate experience with related projects similar in cost, number of sign types and complexity of installation for the continuous five-year period or more.

C. Manufacturer Responsibilities

1. The Manufacturer shall be responsible for the quality of all materials and workmanship required for the execution of this Contract including the materials and workmanship of any firms who act as his subcontractors. Manufacturer shall be responsible for providing subcontractors with complete and up-to-date drawings, specifications, graphics schedule and other information issued.

2. Completed work shall find materials structurally sound, free from scratches, abrasions, distortions, chips, breaks, blisters, holes, splits or other disfigurement considered as imperfections for the specific material.

3. Signage shall be complete for proper installation as described in the drawings.

4. Finish work shall be firm, well anchored, in true alignment, properly squared, with smooth clean uniform appearance, without

holes, cracks, discoloration, distortion, stains, or marks.

5. Construct all work to eliminate burrs, dents, cutting edges, and sharp corners.
6. Finish welds on exposed surfaces to be imperceptible in the finished work.
7. Except as indicated or directed otherwise, finish all surfaces smooth.
8. Surfaces, which are intended to be flat, shall be without dents, bulges, oil canning, gaps, or other physical deformities.
9. Surfaces, which are intended to be curved, shall be smoothly free-flowing to required shapes.
10. Except where approved otherwise by City, conceal all fasteners.
11. Make access panels tight-fitting, light proof, and flush with adjacent surfaces.
12. Carefully follow manufacturer's recommended fabricating procedures regarding expansion or contraction, fastening, and restraining of acrylic plastic.
13. Exercise care to ensure that painted, polished, and plated surfaces are unblemished in the finished work.
14. Isolate dissimilar materials. Exercise particular care to isolate nonferrous metals from ferrous metals.
15. Ease all exposed metal edges.
16. Provide miscellaneous metal items required for completion of the work even though not shown or specified.
17. Shop painting to be uniform on and around all sign elements to ensure sign elements will withstand all weather conditions.
18. Mounting: Mounting plates shall be in conformance with manufacturer's written recommendations.
19. Uniformity of Manufacturer: For each sign type and graphic process indicated furnish products of a single manufacturer.

1.10 INSTALLER QUALIFICATIONS

A. Engage an experienced Installer who is an authorized representative of the sign manufacturer or his own forces. Provide evidence that the Installer has completed installation of signs similar in material, design, costs and extent to those indicated for the Project and has resulted in construction with a record of successful in-service performance. Evidence shall describe a continuous

three-year period or more.

1.11WARRANTY

A. Manufacturer shall provide a standard warranty on materials and workmanship for a period of one (1) year. This shall begin upon acceptance of the date of Substantial Completion of the project by the City. Provide other component product warranties and guarantees as noted at closeout Warranty shall cover, but not be limited to:

1. Color fastness against fading, chalking, cracking, wrinkling or bubbling.
2. Assembly, construction, and operation.
3. Any part found to be defective due to faulty materials and/or workmanship will be replaced. Manufacturer shall assume all costs involved with the replacement. Manufacturer shall assume full responsibility for the removal and replacement of all other finishes required affecting such repair and/or replacement.

1.12LOGOS

1. The manufacturer's logo may not be located on any sign surface visible to the public.

1.13PROJECT CONDITIONS

1.The Contractor is responsible for shortages. Contractor shall be responsible for all related means and methods for performance of the Work. Refer to sign message schedules and sign location plans for quantities, positions, orientation and relation to other elements of the construction.

1.14FIELD MEASUREMENTS

1.The Contractor shall make any required field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on shop drawings. Coordinate and submit a fabrication schedule coordinated to construction schedule to avoid undue delay.

1.15DELIVERY

1. General

a. Delivery: Provide protective covering or crating as recommended by the manufacturer to protect the sign surfaces and components against damage during transportation and delivery.

1) Coordinate delivery time and location with City's Authorized Representative or Construction Manager.
2) Coordinate delivery time so signs can be installed within 24 hours (3 working days) of receipt at the project site, unless revised by direction of Construction Manager or authorized City representative prior, in writing.

b. Handle signs carefully to prevent breakage, surface abrasion, denting, soiling, and other defects. Comply with the manufacturer written handling instructions for unloading components that are subject to damage.
1) Inspect sign components for damage on delivery.
2) Do not install damaged sign components.
3) Repair minor damage to signs, provided the finished repair is equal in all respects to the original work and is approved by City / Designer, in writing. Otherwise, remove and replace damaged sign and components as directed, at no additional costs to contract.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet or Plate
1. Alloy and temper recommended by the aluminum producer and finisher for the type of use and finish indicated, and with at least the strength and durability properties specified in ASTM B 209 (ASTM B 209M) for 5005-H15 alloy.

B. Aluminum Extrusions
1. Alloy and temper recommended by the aluminum producer and finisher for the type of use and finish indicated, and with at least the strength and durability properties specified in ASTM B 221 (ASTM B 221M) for 6063-T5 alloy.

C. Structural Steel: Provide the following:
1. Hot-rolled Structural-Steel Shapes: Comply with ASTM A6, A36 (ASTM A 36M) or ASTM A529 (ASTM A 529M).

2. Steel Tubing or Pipe: Comply with ASTM A 500, Grade B or ASTM A 501.
3. Steel Members Fabricated from Plate or Bar Stock: Comply with ASTM A 529 (ASTM A 529M) or ASTM A 572 (ASTM A 572M) for 42,000-psi (290-Mpa) minimum yield strength.
4. Bolts for Structural Framing: Comply with ASTM A 307 or ASTM A 325 (ASTM A 325M) as necessary for design loads and connection details.
5. For structural steel exposed to view on completion, provide materials selected for surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose surfaces exhibit pitting, seam marks, roller marks, rolled trade names, or roughness.
6. Provide material hot-dip galvanized after fabrication with a minimum of 2.0 oz. of zinc/sq. ft. (610 g of zinc/sq. m) of surface area conforming to ASTM A 123).

D. Silicone Sealant: Provide high performance, low modulus, one-component, moisture curing, polyurethane sealant.

E. Pressure Sensitive Film:
1. Provide high intensity grade reflective sheeting with pressure-sensitive adhesive backing. Use 3M Diamond Grade DG3 Reflective Sheeting series 4000 (or approved equal), suitable for exterior applications and as detailed on plans.
2. Provide engineer grade reflective sheeting with pressure-sensitive adhesive backing. Use 3M Scotchlite Engineering Grade Reflective Sheeting series 3200 (or approved equal), suitable for exterior applications and as detailed on plans.
3. Provide translucent, with pressure-sensitive adhesive backing. Use 3M Scotchcal Translucent Graphic Film series 3630 (or approved equal), suitable for exterior applications and as detailed on plans
4. Provide opaque, with pressure-sensitive adhesive backing. Use 3M Scotchcal Opaque Graphic Film series 7725 (or approved equal), suitable for exterior applications and as detailed on plans
5. Do not mix products from different manufacturers.

F. Stainless Steel: 14 gauge (.078 minimum nominal thickness), satin number 6 finish, and type 316 in sheet, strips or plate.

G. Double coated tape: Use 3M Scotch brand, Very High Bond (VHB) pressure sensitive tape, or approved equal. Thickness to be determined by the texture of the substrate (0.045 inch minimum, 25 pounds per square inch (psi) adhesion characteristics. Other acceptable suppliers include JV Converting Company (JVCC), Curbell Plastics, and Electro Tape Specialties, Inc.

2.2 COMPONENTS

A. Internal Structural Framing

1. Fabricate from standard internal structural aluminum or steel framing extrusions. Fabricate to profile indicated on plans and details using structural angles, channels, plates, and similar shapes. Provide welded construction using mitered joints. Cut, drill, and tap units to receive hardware, bolts, and similar items.

B. Boxes and Frames

1. Fabricate using standard external frame members and extrusions designed to withstand design wind pressure and for direct attachment of sign message panels. Fabricate to profile indicated on plans and details. Provide welded construction using mitered joints. Cut, drill, and tap units to receive hardware, bolts, and similar items. Comply with the following:

a. Frame Material: Extruded aluminum.

b. Corner Condition: Radiuses or eased corners.

c. Provide continuous piano-type stainless hinges where indicated on details.

d. Provide mechanisms with locking or pneumatic arm door and support assembly for maintenance access as detailed or required for maintenance access.

e. Provide watertight, weatherproofed construction where installation is exposed to weather.

2.3 ACCESSORIES

A. Fasteners

1. General

a. Unless otherwise indicated, use concealed fasteners fabricated from metals that are non-corrosive to either the sign material or mounting surface. All aluminum bolts, nuts and lockwashers shall meet the following aluminum association requirements.

b. Bolts: Alloy 2024-T4 or 6061-T6 ASTM B -211. Bolts shall have an anodic coating of at least 0.0002" thick and chromate sealed. Nuts: Alloy 6262-T9 or 6061-T6.

c. Lock Washers: 18-8, spring action, Alloy 7075-T6 or ASTM B-221.

d. Nylon washers: Provide nylon washers as required and detailed on plans for separation of metals.

e. Screws: Flat head, Philips-head type, countersunk, where exposed to view, self- drilling, #2, stainless types ASME B18.6.3. Machine screws where concealed may be steel.

2. Anchors and Inserts

a. Use nonferrous metal or hot dip galvanized anchors and inserts for exterior installations and as required for corrosion resistance. Use stainless steel type drop in anchor, 1/4" or 3/8" diameter, with embedment depths of 1" or 1 9/16" respectively. Where required or detailed provide 1/2” or 3/4” anchor bolt, washer and hex-head nuts for support bases.

2.4 FABRICATION

A. General

1. The completed sign assembly shall consist of message panels supported on the manufacturer's standard, structural framing system. Fabrication shall utilize standard extruded shapes and forms wherever possible. Comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes, and details of construction.

2. Allow for thermal movement resulting from a maximum ambient temperature change (range) of 150-degree F (Fahrenheit). Design, fabricate, and install sign assembly to prevent buckling, opening up of joints, and overstressing of welds and fastenings. Base design on actual surface temperatures of metals due to both external and internal heat gains.

3. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean and grind smooth all exposed welded surfaces of welding flux and dress on all exposed and contact surfaces.
4. Mill joints to a tight, hairline fit.
5. Pre-assemble signs in the shop to the greatest extent possible to minimize field assembly. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and installation, in a location not exposed to view after final assembly.
6. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous. Refrain from use of pop-riveting methods.
7. Baseplate: Provide ground mount post and panel signs with integral base consisting of structural channels, angles, plates, or other fittings of sizes recommended by approved design and manufacturer. Pre-drill slotted holes in members as required for anchor bolt connection.
8. Provide anchor bolts of size required for connecting posts to support base. Coordinate selection of anchor bolts with structural engineer to insure adequate embedment depth without damage to post tensioned concrete deck.
9. No seams in sign faces will be accepted unless approved in writing by engineer prior to fabrication. Provide seam layouts on shop drawings as required.

B. Coatings and Paints
1. All materials comprising a sign shall be finished with a coating system compatible with that material. Appropriate preparatory work/priming shall be done in strict accordance with finisher's specification unless specified otherwise. All exposed surfaces, edges and connections shall receive this same finish system.
2. Colors and degree of gloss for all surface paint/finish applications shall be consistent throughout, regardless of substrate.
3. Coating to be used on all surfaces shall be Matthews Acrylic

Polyurethane manufactured by Matthews Paint Co., 400 S. Mercantile Court, Wheeling, IL 60090 or other approved acrylic polyurethane system that is ultraviolet inhibited. Each color must be proven to be equal in color and gloss retention to corresponding colors of Matthews Acrylic Polyurethane by United States Testing Company, Inc., Chemical Service Div., 1415 Park Ave., Hoboken, New Jersey 07030. The laboratory test shall consist of 1,000 hours in a QUV accelerated weathering tester maintained in accordance with ASTM G-
53. The tester shall be programmed to alternate 40-degree C (Celsius) water condensation 4-hour periods with 60-degree C. ultraviolet 4-hour periods. Gloss measurements are to be made with a Photovolt meter and color measurements with a Hunterlab color difference meter (ASTM D-523 and D-2244, respectively). Any proposed alternate coating system shall include comparative results from independent testing laboratories as indicated above. The dried film shall conform to ANSI 266-1 with regards to heavy metals and the surfaces shall be prepared, primed and finish coated in accordance with coating manufacturer's instruction.

2.5.1 MEASUREMENT AND PAYMENT.

The contractor shall design fabricate and install completed signs per these specifications. The signs are on a phasing schedule to coordinate their installation with the completion of the Park improvements. The Contractor shall design and fabricate the signs to be included in later program phasing and carefully store the completed signs to maintain the color consistency in the completed and installed signs. Separate bid items are proposed for the design / fabrication of the signs and for the installation of the signs as per the phasing schedule.

The Contractor shall conform to Section 9 Measurement and Payment for invoicing and payment procedures and process.

2.5.1 Provide Design and Fabrication

2.5.1.1 DESIGN AND FABRICATE TYPE A SIGNS The specific items of work are shown on the Bid Schedule for TYPE A SIGN Vehicular Trailblazing Signs shall be made at the contract unit price bid per Each (EA), in- stalled and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these

Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. The sign is a flat sign. The sign message shall conform to sheet 16 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.2 DESIGN AND FABRICATE TYPE B1 SIGNS The specific items of work are shown on the Bid Schedule for TYPE B1 SIGN Vehicular Directional Signs shall be made at the contract unit price bid per Each (EA), in- stalled and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.
The Contractor shall provide a design for the connection of the message portion of the signs to the host sign. The sign message shall conform to sheet 18, 19 and 20 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.3 DESIGN AND FABRICATE TYPE B2 SIGNS The specific items of work are shown on the Bid Schedule for TYPE B2 Small Vehicular Directional Signs shall be made at the contract unit price bid per Each (EA), in- stalled and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. The sign message shall conform to sheet 21 and 22 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.4 DESIGN AND FABRICATE TYPE C1 SIGNS The specific items of work are shown on the Bid Schedule for TYPE C1 Vehicular Parking Lot Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, double sided sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Illuminated push-through acrylic graphics and letters, ½-inch relief. Aluminum cabinet internally lit with white led lights. The sign message shall conform to sheet 23 through 26 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.5 DESIGN AND FABRICATE TYPE C2 SIGNS The specific items of work are shown on the Bid Schedule for TYPE C2 Parking Lot Identity Signs (Light Pole Mounted) Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor,

materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Contractor is responsible for developing method of mounting to light pole to be approved by City.
Each sign location consists of two signs mounted on opposite sides of the post The sign message shall conform to sheet 28 through 30 of the AECOM Great Park Sign Program document by individual sign number shown com- pared to the Sign Location Plans.

2.5.1.6 DESIGN AND FABRICATE TYPE D SIGNS The specific items of work are shown on the Bid Schedule for TYPE D Pedestrian Landmark Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, maps, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Illuminated push-through acrylic graphics and letters, ½-inch relief Aluminum cabinet, internally lit with white led lights Specifications included in these specifications. The sign message shall conform to sheet 31 thru 33 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.7 DESIGN AND FABRICATE TYPE E1 SIGNS The specific items of work are shown on the Bid Schedule for TYPE E1 Pedestrian Directional Signs (Removable Destination Blades) Signs shall be made at the con- tract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Contractor shall design removable sign blades to make the system flexible and easily modified should destinations change. Pedestrian directional signage to be color coded to represent districts within the Orange County Great Park. Colors are included in these specifications. The sign message shall conform to sheet 34 and 35 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.8 DESIGN AND FABRICATE TYPE E2 SIGNS The specific items of work are shown on the Bid Schedule for TYPE E2 Pedestrian Directional Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Pedes- trian directional signage to be color coded to represent districts

within the Orange County Great Park. Colors are included in these specifications The sign message shall conform to sheet 36 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.9 DESIGN AND FABRICATE TYPE F1 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F1 Soccer Field Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. These double-sided signs are located perpendicular to the flow of pedestrian traffic. ALUMINUM CABINET, INTERNALLY ILLUMINATED WITH BRIGHT WHITE LEDS. The sign message shall conform to sheet 37 of the AECOM Great Park Sign Program document by individual sign number shown com- pared to the Sign Location Plans.

2.5.1.10 DESIGN AND FABRICATE TYPE F2 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F2 Volleyball Court Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

These double-sided signs are located perpendicular to the flow of pedestrian traffic. ALUMINUM CABINET, INTERNALLY ILLUMINATED WITH BRIGHT WHITE LEDS. The sign message shall conform to sheet 38 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.11 DESIGN AND FABRICATE TYPE F3 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F3 Baseball Field Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. These double-sided signs will be located perpendicular to the flow of pedestrian traffic. ALUMINUM CABINET, INTERNALLY ILLUMINATED WITH BRIGHT WHITE LEDS The sign message shall conform to sheet 39 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.12 DESIGN AND FABRICATE TYPE F4 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F4 Softball Field Identity Signs shall be made at the

contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. These double-sided signs will be located perpendicular to the flow of pedestrian traffic. ALUMINUM CABINET, INTERNALLY ILLUMINATED WITH BRIGHT WHITE LEDS The sign message shall conform to sheet 40 of the AECOM Great Park Sign Program document by individual sign number shown com- pared to the Sign Location Plans.

2.5.1.13 DESIGN AND FABRICATE TYPE F5 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F5 Tennis Court Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. These single-sided signs will be mounted to fence. The sign message shall con- form to sheet 41 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.14 DESIGN AND FABRICATE TYPE F6 SIGNS The specific items of work are shown on the Bid Schedule for TYPE F6 Basketball Court Identity Signs shall be made at the contract unit price bid per Each (EA), in- stalled and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Mount sign to basketball goal post. Mounting Height will be determined at time of installation.. The sign message shall conform to sheet 42 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.15 DESIGN AND FABRICATE TYPE G1 SIGNS The specific items of work are shown on the Bid Schedule for TYPE G1 Bicycle Directional Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Aluminum panels and decorative base criteria are included in these specifications. The sign message shall conform to sheet 43 thru 45 of the AECOM Great

Park Sign Program document by individual sign number shown com- pared to the Sign Location Plans.

2.5.1.16 DESIGN AND FABRICATE TYPE G2 SIGNS The specific items of work are shown on the Bid Schedule for TYPE G2 Bicycle Mile Marker Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. Aluminum panels and decorative base criteria are included in these specifications. The sign message shall conform to sheet 46 thru 48 of the AECOM Great Park Sign Program document by individual sign number shown com- pared to the Sign Location Plans.

2.5.1.17 DESIGN AND FABRICATE TYPE H SIGNS The specific items of work are shown on the Bid Schedule for TYPE H Trail Gateway Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. ILLUMINATED PUSH- THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF ALUMINUM CABINET, INTERNALLY LIT WITH WHITE LED LIGHTS. The sign message shall conform to sheet 49 and 50 of the AECOM Great Park Sign Program document by individual sign number shown compared to the Sign Location Plans.

2.5.1.18 DESIGN AND FABRICATE TYPE J SIGNS The specific items of work are shown on the Bid Schedule for TYPE J Pedestrian Map Signs shall be made at the contract unit price bid per Each (EA), installed and in use, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to sign fabrication, sign post painting, sign post alterations, sign assembly, protection, covering until relevant and un- covering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor. The sign message shall conform to sheet 52 of the AECOM Great Park Sign Pro- gram document by individual sign number shown compared to the Sign Lo- cation Plans.

2.5.2 Provide Installation of Signs

The contractor shall restore to original condition all landscape and hardscape items disturbed during his work.

2.5.2.1 INSTALL TYPE A SIGNS Vehicular Trailblazing Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE A SIGN Vehicular Trailblazing Signs shall be made at the contract unit price bid per Each (EA), installed and in use by

phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

The location of these signs to be installed shall conform to the Program Phasing schedule as noted in the specifications. The initial installations of Type A Signs shall include Sand Canyon Road, Irvine Blvd, SR 133 and I 5 ramps. The signs on Alton Parkway and Barranca Parkway require a future Marine Way crossing of the tracks north of Barranca.

2.5.2.2 INSTALL TYPE B1 SIGNS Vehicular Directional Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE B1 SIGN Vehicular Directional Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.3 INSTALL TYPE B2 SIGNS Small Vehicular Directional The specific items of work as shown on the Bid Project Phasing Schedule for TYPE B2 SIGN Small Vehicular Directional Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.4 INSTALL TYPE C1 SIGNS Vehicular Parking Lot Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE C1 SIGN Vehicular Parking Lot Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.5 INSTALL TYPE C2 SIGNS Parking Lot Identity Signs (Light Pole Mounted) The specific items of work as shown on the Bid Project Phasing Schedule for TYPE C2 SIGN Parking Lot Identity Signs (Light Pole Mounted) Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and

incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.6 INSTALL TYPE D SIGNS Pedestrian Landmark Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE D SIGN Pedestrian Landmark Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.7 INSTALL TYPE E1 SIGNS Pedestrian Directional Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE E1 SIGN Pedestrian Directional Identity Signs (Removable Destination Blades) shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, con- forming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.8 INSTALL TYPE E2 SIGNS Pedestrian Directional Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE E2 SIGN Pedestrian Directional Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.9 INSTALL TYPE F1 SIGNS Soccer Field Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F1 SIGN Soccer Field Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.10 INSTALL TYPE F2 SIGNS Volleyball Court Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F2 SIGN Volleyball Court Identity Signs shall be made at the con- tract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.11 INSTALL TYPE F3 SIGNS Baseball Field Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F3 SIGN Baseball Field Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.12 INSTALL TYPE F4 SIGNS Softball Field Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F4 SIGN Softball Field Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.13 INSTALL TYPE F5 SIGNS Tennis Court Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F5 SIGN Tennis Court Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.14 INSTALL TYPE F6 SIGNS Basketball Court Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE F6 SIGN Basketball Court Identity Signs shall be made at the con- tract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the

Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.15 INSTALL TYPE G1 SIGNS Bicycle Directional Identity Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE G1 SIGN Bicycle Directional Identity Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.16 INSTALL TYPE G2 SIGNS Bicycle Mile Marker Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE G2 SIGN Bicycle Mile Marker Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.17 INSTALL TYPE H SIGNS Trail Gateway Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE H SIGN Trail Gateway Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, con- forming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

2.5.2.18 INSTALL TYPE J SIGNS Pedestrian Map Signs The specific items of work as shown on the Bid Project Phasing Schedule for TYPE J SIGN Pedestrian Map Signs shall be made at the contract unit price bid per Each (EA), installed and in use by phase, as field measured and shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to accomplish the work, complete in place, conforming to the requirements herein, including but not limited to, sign post alterations, sign assembly, excavation, sign installation, backfill, protection, covering until relevant and uncovering when necessary as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, as approved by the Engineer and no additional compensation will be allowed therefor.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Locate sign units and accessories where indicated, using mounting methods of type described and complying with manufacturer's written instructions.

B. Maintain updated “as-built” drawings and related information during the course of the project.

C. Layout locations for each sign prior to installation and coordinate with any other work within the area as required. Coordinate with Construction Manager or Authorized City Representative as needed to avoid installation conflicts with other projects.

D. Identify company vehicles with logo. Identify workers with uniforms, badges or other approved identification.

E. Area of installation must be inaccessible to public during installation. Rope off area as necessary.

3.2 INSTALLATION

A. Install signs level, plumb, and at the height indicated, with surfaces free from distortion or other defects in appearance.

B. Patch and repair existing surfaces damaged by installation and demolition.

3.3 CLEANING AND PROTECTION

A. At completion of installation, clean soiled surfaces of sign units according to manufacturer's written instructions.

B. Protect installed sign units from damage until acceptance by City.

C. Keep areas of work clean, neat and orderly at all times. Clean surfaces, inside and out. Use approved cleaners if necessary to remove dirt.

D. Upon completion of work and before final acceptance, remove tools, surplus materials, apparatus, and debris from the site. Leave the site in a neat, clean condition, acceptable to the Engineer. Wash, clean, and leave paved areas without stains.

E. Contractor shall repair and/or replace all damaged surfaces with like materials. All new surfaces adjacent to and within 2 meters of sign, including the entire excavated area shall be returned to its original condition and quality, including, materials, finish and grading that was present prior to excavation.

F. Contractor shall preserve and protect all existing trees, shrubs, plantings,

street signs, parking meters, fences, retaining walls, buildings, entry ways, surface materials, property survey monuments, structures and utility line appurtenances. Any removal and replacements or protection required shall be considered part of the contractor's responsibility and shall be incidental to the Contract. Any damage to existing features within and adjacent to the work area, created by failure of the contractor to provide adequate protection from its construction operations, shall be repaired or replaced to the satisfaction of the respective owner at the contractor's expense.

G. Contractor shall preserve and protect all permanent survey markers, including private property corner markers, section or quarter section monuments, and permanent benchmarks. Survey markers necessarily moved as a result of construction, or otherwise damaged by the contractor shall be replaced at the contractor's expense by a land surveyor registered in the project state.

3.4 CLOSEOUT

A. Upon completion of work, a final inspection for acceptance will be performed by the City.

B. Provide all closeout documentation as required and related to this project and contract. Include but not limited to:

1. Maintenance and Operation manuals, warranties, product listings, suppliers, as-built documents, and other related work. Provide three (3) CDs of Maintenance and Operation manuals in pdf format.
2. Provide three (3) CDs with digital pdf files containing "Conformed" sets of products and shop drawings of all materials, equipment and related signage for this Section. Include photographs of installed signs.

END OF SECTION 101400

APPENDIX A

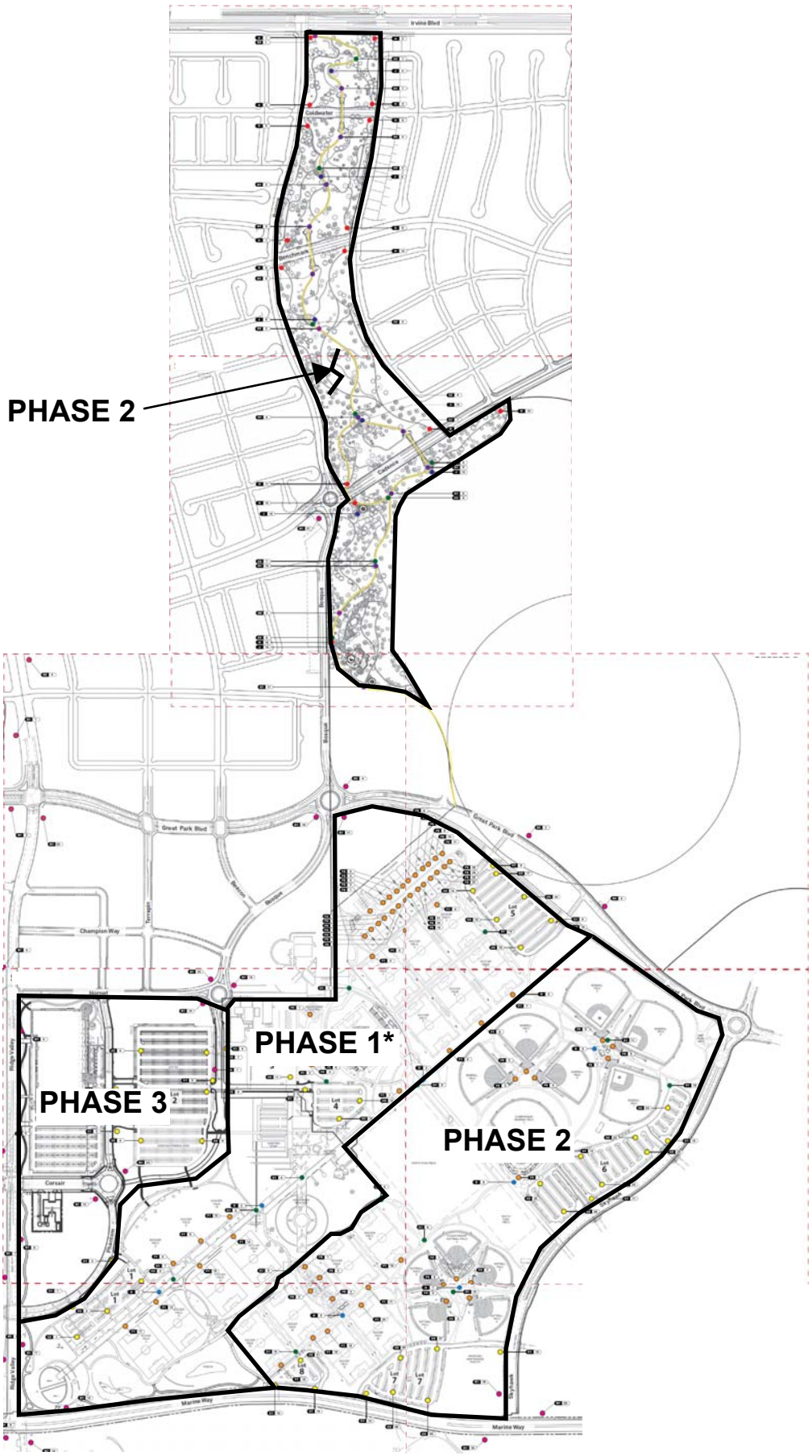
PHASING SCHEDULE AND PHASING PLAN

OC GREAT PARK - SIGNAGE PROJECT PHASING SCHEDULE

PHASE 1 - SIGN INSTALLATION IN AREAS PRESENTLY COMPLETE AND AVAILABLE FOR SIGNAGE INSTALLATION
PHASE 2 - SIGN INSTALLATION IN AREAS TO BE COMPLETE & READY FOR SIGN INSTALLATION BY FIRST QUARTER 2018
PHASE 3 - SIGN FABRICATION IN AREAS TO BE COMPLETE IN 2019 AND BEYOND, PLUS OTHER AS-NEEDED SIGNAGE TO BE DELIVERED TO CITY OF IRVINE AND INSTALLED BY OTHERS

BID ITEM QTY	BID ITEM DESCRIPTION	UNIT	EST. QTY, TOTAL ALL PHASES	PHASE 1 FABRICATE AND INSTALL	PHASE 2 FABRICATE AND INSTALL	PHASE 3 FABRICATE
1	Project Sign	Each	2			
2	Mobilization	L.S.	1			
3	WPCP	L.S.	1			
4	Traffic Control	L.S.	1			
5	Clearing and Grubbing	L.S.	1			
6	Construction Schedule	L.S.	1			
7	Sign Type A	Each	18			18
8	Sign Type B1	Each	24	3	3	18
9	Sign Type B2	Each	5			5
10	Sign Type C1	Each	15	6	6	3
11	Sign Type C2	Each	31	13	12	6
12	Sign Type D	Each	10	3	4	3
13	Sign Type E1	Each	15	6	9	
14	Sign Type E2	Each	8		8	
15	Sign Type F1	Each	20	11	9	
16	Sign Type F2	Each	5	5		
17	Sign Type F3	Each	7		7	
18	Sign Type F4	Each	5		5	
19	Sign Type F5	Each	25	25		
20	Sign Type F6	Each	4		4	
21	Sign Type G1	Each	11		11	
22	Sign Type G2	Each	3		3	
23	Sign Type H	Each	15		15	
24	Sign Type J	Each	15		7	8
25	Electric Conduits and Conductors for Items 10 & 12	LF	2,500			
26	Electric Pull Boxes for Items 10 & 12	EA	50			

ORANGE COUNTY GREAT PARK SIGNAGE PHASING MAP



* PHASE 1 SHALL INCLUDE ALL SIGNS ALONG GREAT PARK BLVD, RIDGE VALLEY AND MARINE WAY

MODIFICATION NO. 3 TO THE ORANGE COUNTY GREAT PARK SIGN PROGRAM

OWNER ADDRESS: 1 CIVIC CENTER PLAZA, IRVINE, CA 92606-5207

ZONING LAND USE CATEGORY OF PROPERTY: 1.9 ORANGE COUNTY GREAT PARK

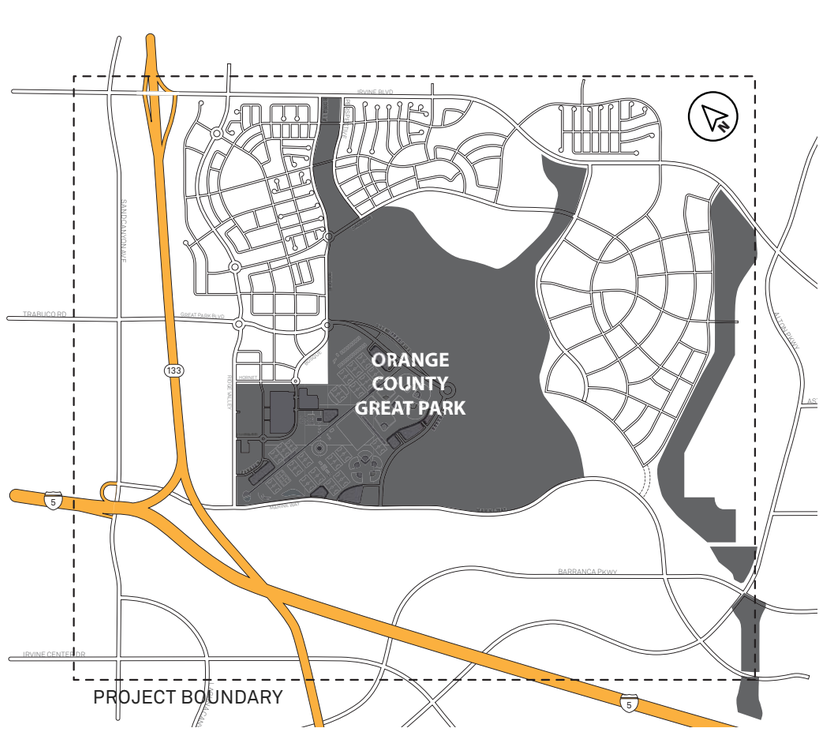
PLANNNG AREA NUMBER: 51

CASE NO: 00705463-PSS

ORIGINAL OCGP SIGN PROGRAM: 00505948-PSS

MODIFICATION NO. 1 TO THE OCGP SIGN PROGRAM: 00521871-PSS

MODIFICATION NO. 2 TO THE OCGP SIGN PROGRAM: 00580620-PSSM



OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 20, 2017
Revisions:

These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator.

The content of this document is subject to the design intent requirements outlined in the Fabricator Specifications.

ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

INTRODUCTION

Located in Irvine, California, the Orange County Great Park will transform the former Marine Corps Air Station El Toro into one of America's largest metropolitan parks.

The Orange County Great Park, on a section of the former Marine Corps Air Station El Toro, continues its evolution across approximately 1,300 acres as it attracts visitors to its ongoing amenities. The City of Irvine-owned Great Park is an arts and sports recreational hub. Currently under development are 688 acres of parkland. Within that acreage is the development of a 194-acre Sports Park. Public-private partner Five Point Communities is opening its adjacent private land with new homes and non-residential, including a land sale to Broadcom Corp. near the Great Park that is expected to be a business magnet.

Recognizing the complexity of this multi-phase development plan, the City of Irvine commissioned a wayfinding analysis to evaluate the existing sign program and develop a new sign program for the Park.

This document includes design intent information for the new sign program and is intended to be used for procurement. These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator. This project includes signs located on Orange County Great Park property and on public roadways located outside the park boundary.

This sign program is modular and allows for message changes as park development occurs. Additional sign types will be required as new areas are developed. All new sign types shall follow the design standards established in this document and will become part of the "sign family".

OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

1

DISTRICT DESIGNATIONS



OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 20, 2017
Revisions:

These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator.

The content of this document is subject to the design intent requirements outlined in the Fabricator Specifications.

ORANGE COUNTY GREAT PARK

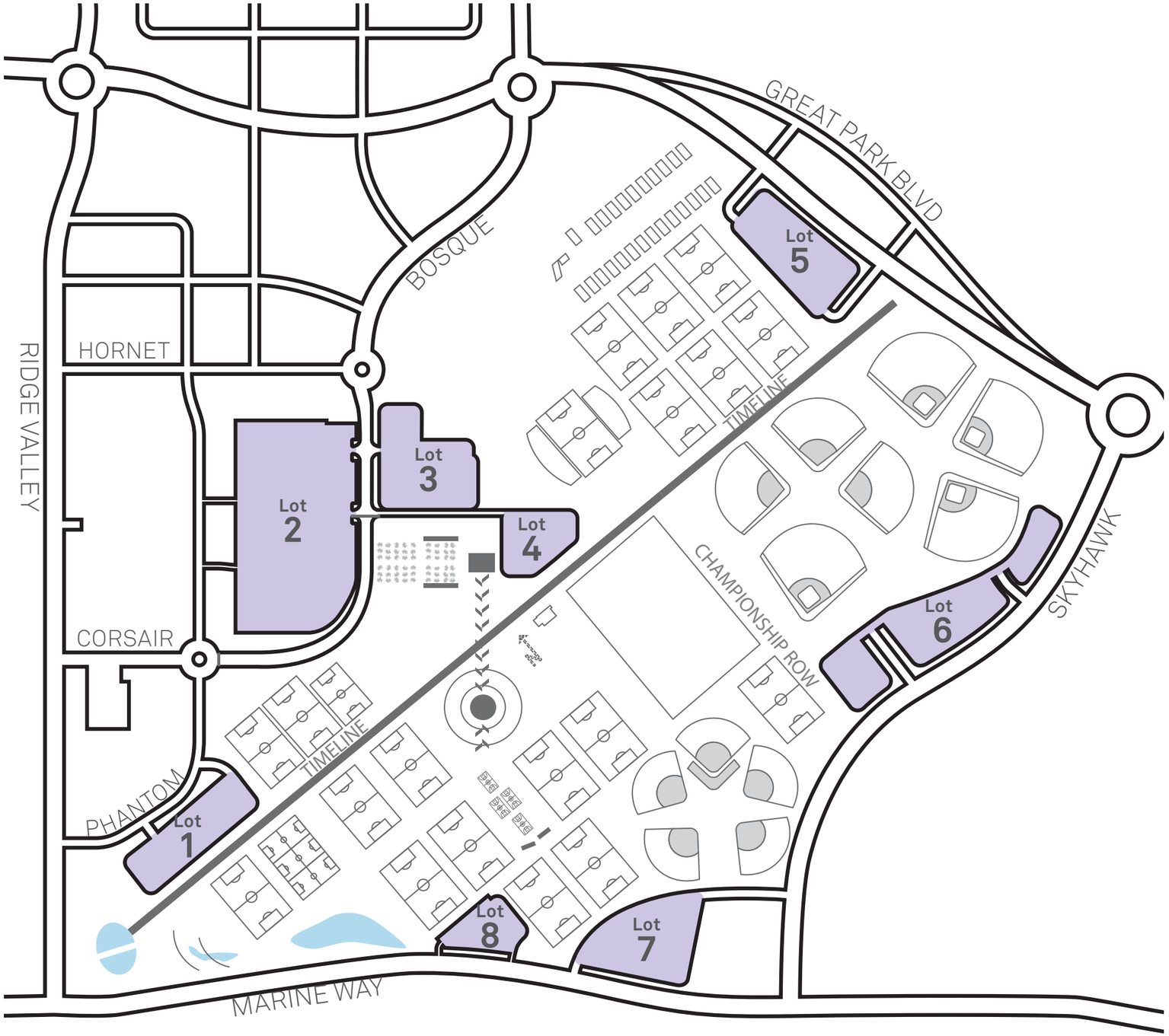
Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

2

SPORTS PARKING LOT DESIGNATIONS



OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 20, 2017
Revisions:

These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator.

The content of this document is subject to the design intent requirements outlined in the Fabricator Specifications.

ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SPORTS PARK FIELD DESIGNATIONS



OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

Original Issue Date:
October 20, 2017
Revisions:

These drawings express visual design intent only. Final engineering, materials, and fabrication shall remain the responsibility of the fabricator.

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

4

SIGN TYPE MATRIX

SIGN TYPE MATRIX

SIGN TYPE	DESCRIPTION	OCGP SIGN CLASSIFICATION #116	SIGN CLASSIFICATION PER ZONING ORDINANCE	GROUND	WALL	CANOPY	PROJECTING OR SUSPENDED	QUANTITY	MAX SIGN AREA (IN SQ FEET)	MAX LETTER HEIGHT	MAX HEIGHT ABOVE GROUND (IN FEET)	LOGOS ALLOWS? (Y OR N)	ILLUMINATION? (Y OR N)	DATA? (Y OR N)
A	Vehicular Trailblazer Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	18	19	8	12'-9"	N	N	N
B1	Vehicular Directional Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	24	17	6"	11'-6"	Y	N	N
B2	Vehicular Directional Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	5	19	6"	12'-9"	N	N	N
C1	Vehicular Parking Lot Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	15	21	12"	11'-6"	Y	Y	Y
C2	Vehicular Parking Lot Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	31	11.5	12"	15'-6"	N	N	N
D	Pedestrian Landmark Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	10	30	9"	15'-10.5"	Y	Y	Y
E1	Pedestrian Directional Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	15	15	2.5"	10'-6"	N	N	N
E2	Pedestrian Directional Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	8	6	2.5"	9'-9"	N	N	N
F1	Soccer Field Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	20	10	6"	8'-0"	Y	N	N
F2	Volleyball Court Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	5	10	6"	8'-0"	Y	N	N
F3	Baseball Field Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	7	10	6"	8'-0"	Y	N	N
F4	Softball Field Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	5	10	6"	8'-0"	Y	N	N
F5	Tennis Court Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	25	3	3.5"	8'-0"	N	N	N
F6	Basketball Court Identity Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	4	3	3.5"	8'-0"	N	N	N
G1	Bicycle Directional Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	11	3	N/A	9'-6"	N	N	N
G2	Bicycle Mile Marker Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	3	3	N/A	9'-6"	N	N	N
H	Trail Gateway Sign	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	15	14	N/A	8'-0"	N	N	N
J	Post Mounted Map	116	Orange County Great Park Signs not located in a residential village.	X	-	-	-	15	9	N/A	6'-9"	N	N	N

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(949) 724-7446

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Original Issue Date:
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Revisions:

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ORANGE COUNTY GREAT PARK

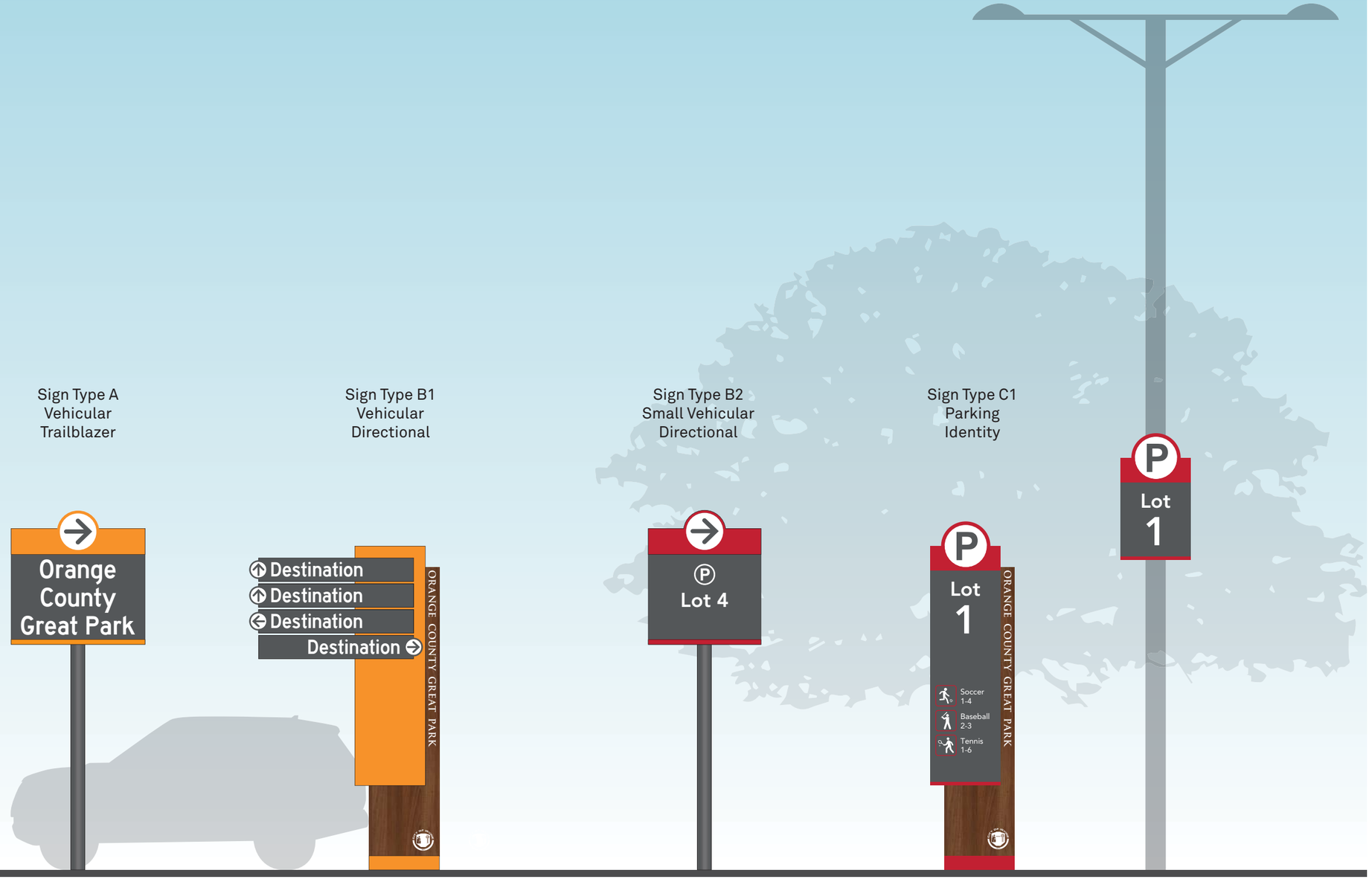
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SIGN TYPE FAMILY - VEHICULAR

Sign Type C2
Parking
Identity
(Light Pole Mounted)



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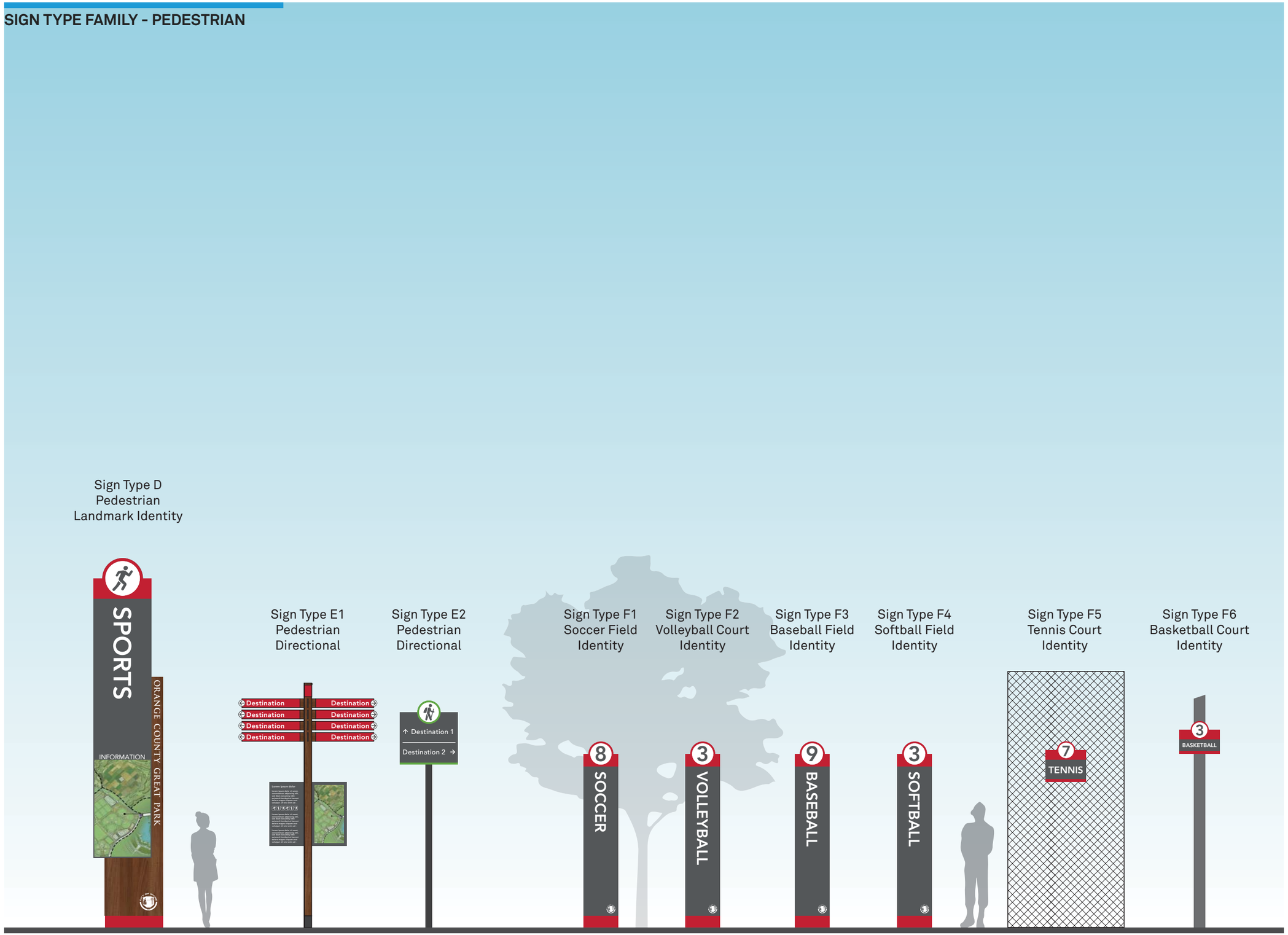
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SIGN TYPE FAMILY - PEDESTRIAN



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Signage & Wayfinding Program

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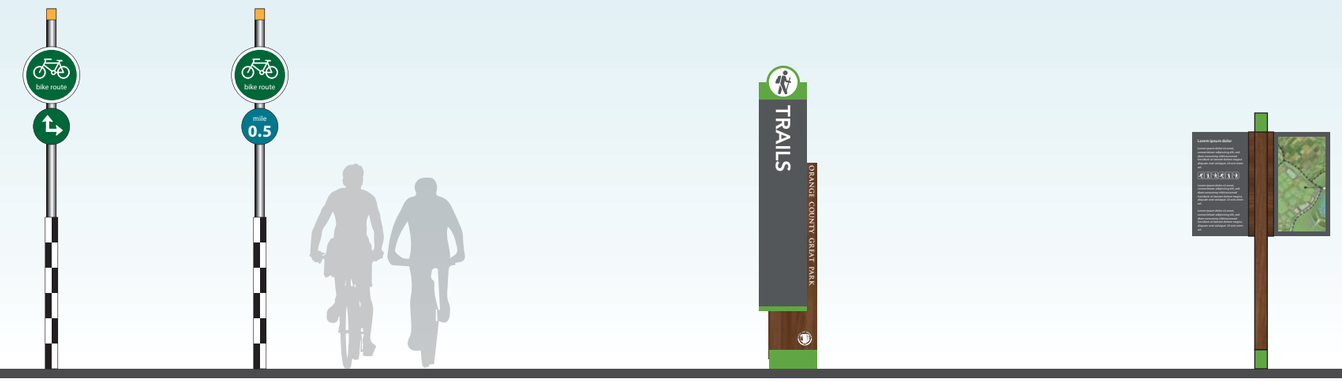
SIGN TYPE FAMILY - PEDESTRIAN

Sign Type G1
Bicycle
Directional

Sign Type G2
Bicycle
Mile Marker

Sign Type H
Trail Gateway Sign

Sign Type J
Pedestrian Map



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DESIGN STANDARDS

- **Typography**
- **Logo, Icons & Arrows**
- **Colors & Finishes**

HIGHWAY GOTHIC

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

AVENIR HEAVY

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

AVENIR ROMAN

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

TRAJAN PRO BOLD

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 0

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LOGO, ICONS & ARROWS

CITY LOGO



City of Irvine

DISTRICT ICONS



Sports



Culture



Golf



Trails

ACTIVITY & DESTINATION ICONS



Soccer



Baseball/Softball



Tennis



Volleyball



Basketball



Playground



Accessible



Great Park Balloon



Parking



Restrooms



Information

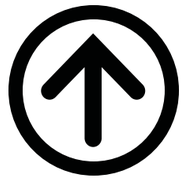








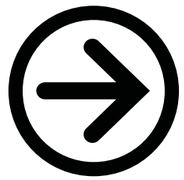
ARROWS



Straight Ahead



To the Left



To the Right



Ahead & to the Left



Ahead & to the Right









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COLORS & FINISHES

PAINT

P1
PMS 166
MP 77118

P2
PMS 369
MP 78807

P3
PMS 3145
MP 13728

P4
PMS 2603
MP 82397

P5
PMS 425
MP 00540

P6
PMS 1375
MP 79296

P7
Brushed
Aluminum
MP 30136

P8
Black is Back
MP 59647

P9
Designer White
MP 31645

P10
PMS 200
MP 75685

All painted surfaces to receive MP anti-graffiti clear coat unless otherwise noted.

VINYL

V1
3630-69
3M™ Scotchcal™
Translucent Graphic
Film

V2
4090 White
3M™ Diamond Grade™
DG³ Reflective Sheeting

V3
3290 White
3M™ Scotchlite™
Engineer Grade
Reflective Sheeting

V4
7225-10 White
3M™ Scotchcal™
Scotchcal ElectroCut
Graphic Film

V5
7725-56 Dark Green
Scotchcal ElectroCut
Graphic Film

V6
7725-10 Black
Scotchcal ElectroCut
Graphic Film

V7
7725-13 Tomato Red
Scotchcal ElectroCut
Graphic Film

V8
7725-25 Sunflower
Scotchcal ElectroCut
Graphic Film

V9
7725-96 Teal
Scotchcal ElectroCut
Graphic Film

ACRYLIC

A1
White

DIGITALLY PRINTED POWDER COAT FINISH

PC1
Wood Grain
Pattern to
match
Direct Embed
266+7398/98

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

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DESIGN INTENT DRAWINGS

- Sign Type A - Vehicular Trailblazer Sign
- Sign Type B1 - Vehicular Directional Sign
- Sign Type B2 - Vehicular Directional Sign
- Sign Type C1 - Parking Lot Identity Sign
- Sign Type C2 - Parking Lot Identity Sign
- Sign Type D - Pedestrian Landmark Identity Sign
- Sign Type E1 - Pedestrian Directional Sign
- Sign Type E2 - Pedestrian Directional Sign
- Sign Type F1 - Soccer Field Identity Sign
- Sign Type F2 - Volleyball Court Identity Sign
- Sign Type F3 - Baseball Field Identity Sign
- Sign Type F4 - Softball Field Identity Sign
- Sign Type F5 - Tennis Court Identity Sign
- Sign Type F6 - Basketball Court Identity Sign
- Sign Type G1 - Bicycle Directional Sign
- Sign Type G2 - Bicycle Mile Marker Sign
- Sign Type H - Trail Gateway Sign
- Sign Type J - Pedestrian Map

SIGN TYPE A - VEHICULAR TRAILBLAZER

- Trailblazer signs are meant to direct motorists who are unfamiliar with the routing to the Orange County Great Park.
- Signs will be located on major roads and direct to the Orange County Great Park. These roads include:
  - Sand Canyon Avenue
  - Marine Way
  - Irvine Boulevard
  - Alton Parkway
  - Barranca Parkway
  - Great Park Boulevard
  - Bosque
  - Ridge Valley
- Because of the higher speeds of these types of roads, the text height shall be 8 inches in height for maximum legibility.
- Trailblazer signs shall only include one destination, Orange County Great Park.
- Arrow orientation varies by location.



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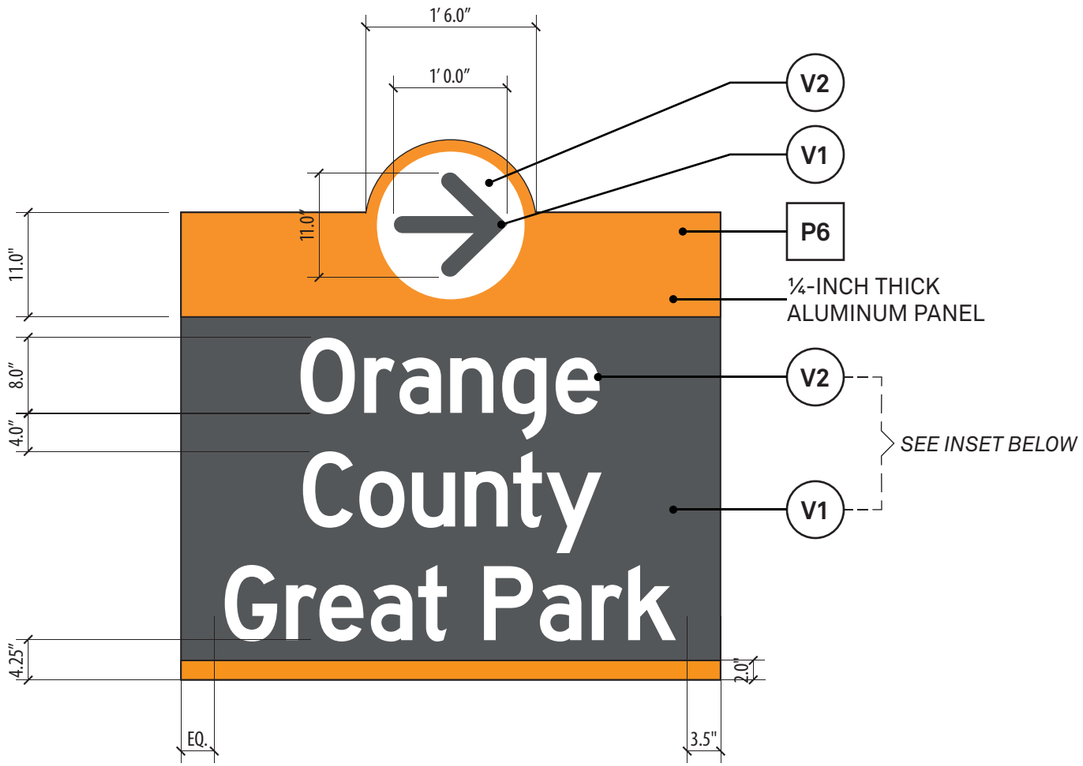
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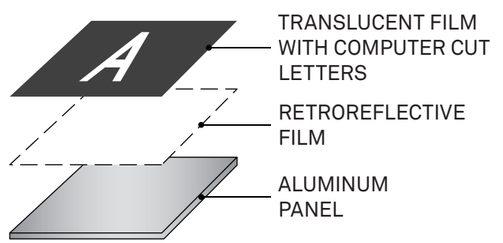
AECOM

SIGN TYPE A - DETAILS

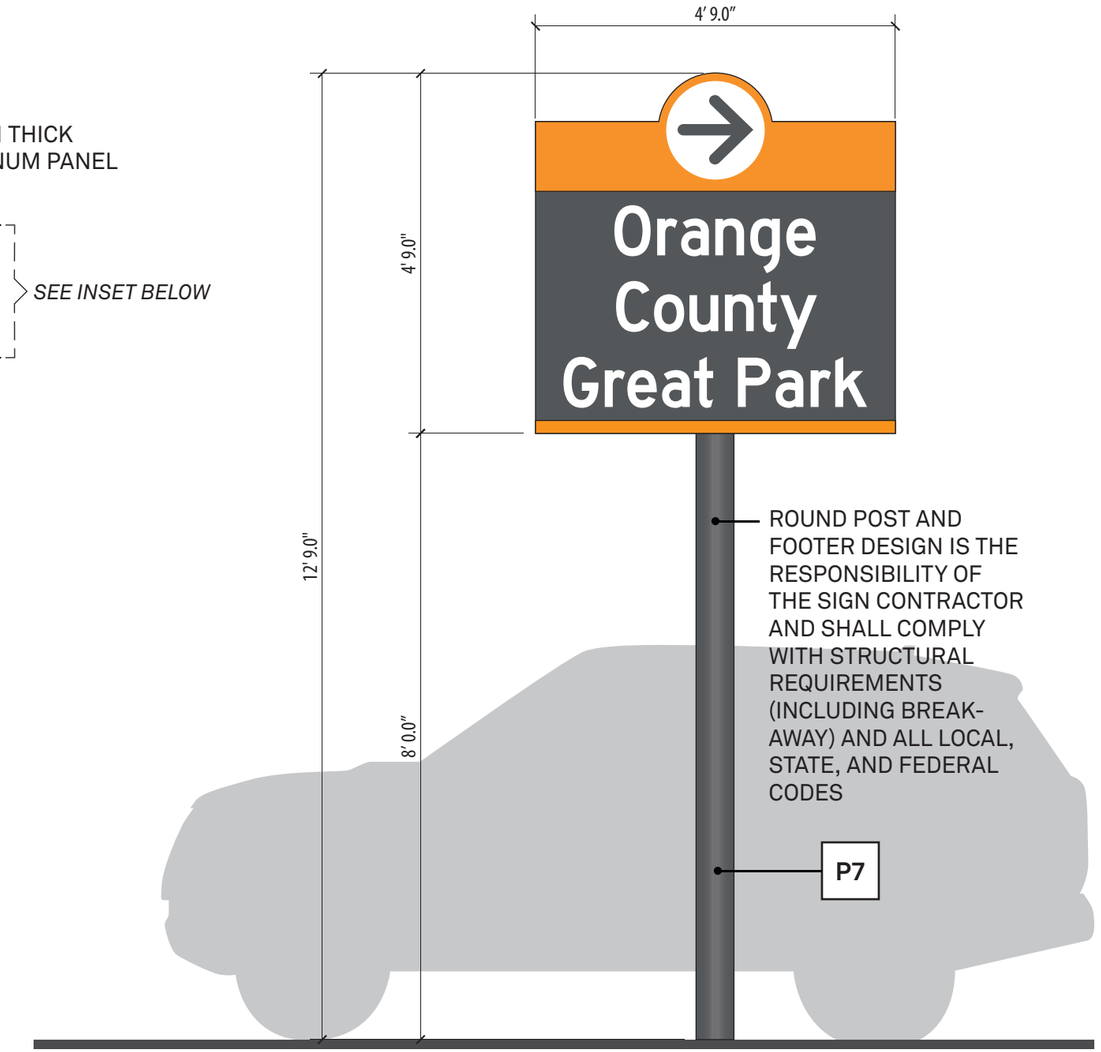
SIGN FACE LAYOUT
SCALE: ¾”=1’



FILM/SHEETING APPLICATION DETAILS
SCALE: NTS



POST + PANEL
SCALE: ½”=1’



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SIGN TYPE A – MESSAGES



Sign Number A-01



Sign Number A-02



Sign Number A-03



Sign Number A-04



Sign Number A-05



Sign Number A-06



Sign Number A-07



Sign Number A-08



Sign Number A-09



Sign Number A-10



Sign Number A-11



Sign Number A-12



Sign Number A-13



Sign Number A-14



Sign Number A-15



Sign Number A-16



Sign Number A-17



Sign Number A-18

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

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SIGN TYPE B1 - VEHICULAR DIRECTIONAL

- Once off major thoroughfares, vehicular directional signage will continue routing to primary destinations.
- These signs will be located at key decision points and intersections. Refer to circulation plans for decision points.
- All roads included in the project boundary have a speed limit higher than 25 mph. Per Manual on Uniform Traffic Control Devices (MUTCD) guidelines, for roads with speeds higher than 25 mph, text height shall be 6 inches in height for maximum legibility and comprehension. All text on type B1 signs will be 6 inches high.
- A maximum of 4 destinations shall be listed on the sign so as not to overwhelm drivers with too much information.
- Primary destinations, such as districts, sport fields and parking, are included on this type of sign.
- Signs placed in the public right of way shall conform to CA MUTCD sign standards.



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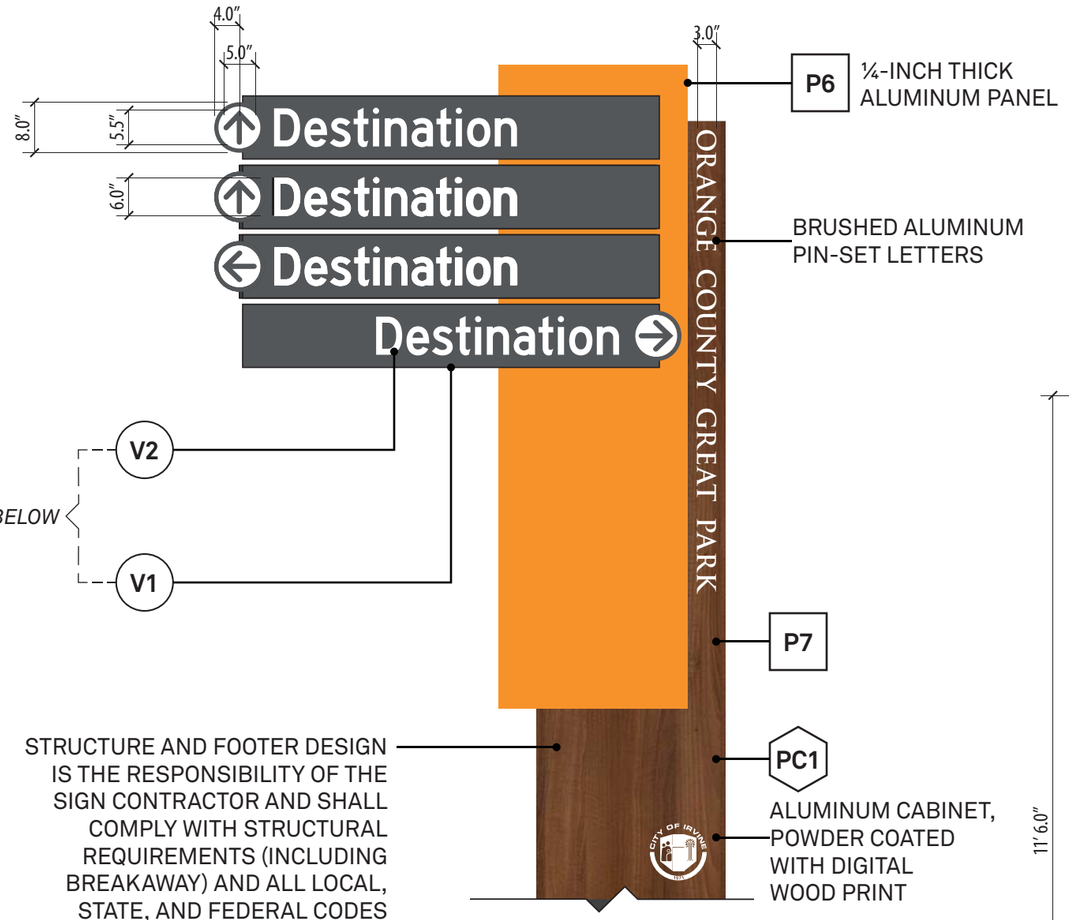
Signage & Wayfinding Program

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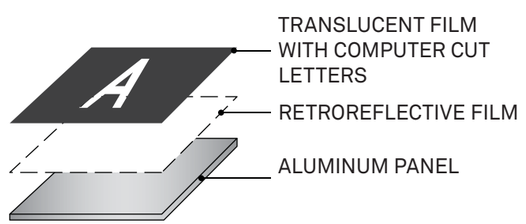
AECOM

SIGN TYPE B1 – DETAILS

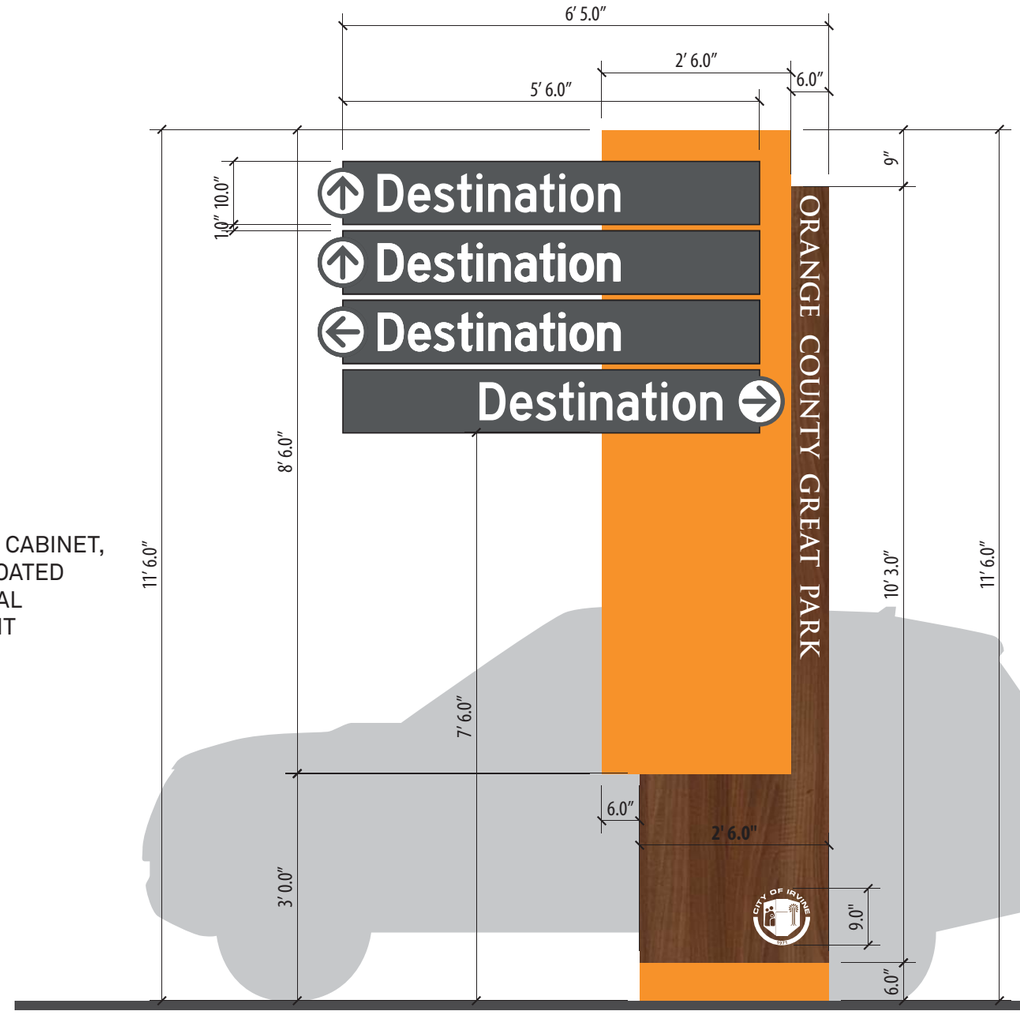
SIGN FACE LAYOUT
SCALE: ½”=1’



FILM/SHEETING APPLICATION DETAILS
SCALE: NTS



SIGN STRUCTURE
SCALE: ½”=1’



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SIGN TYPE B1 – MESSAGES



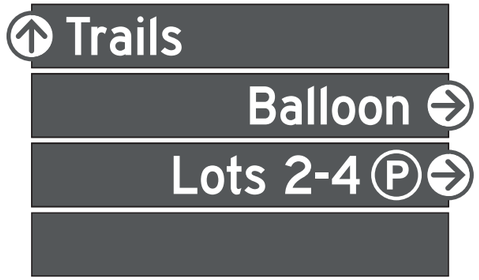
Sign Number B1-01



Sign Number B1-02



Sign Number B1-03



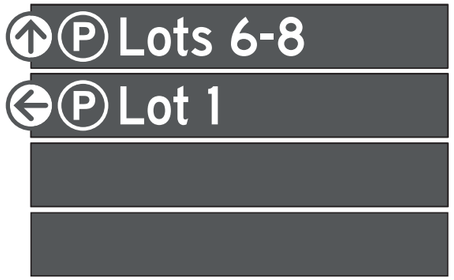
Sign Number B1-04



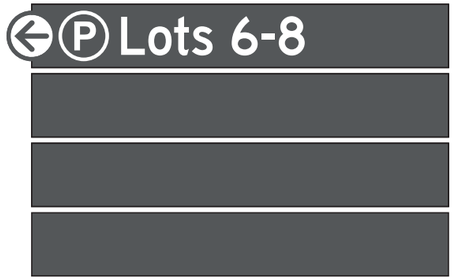
Sign Number B1-05



Sign Number B1-06



Sign Number B1-07



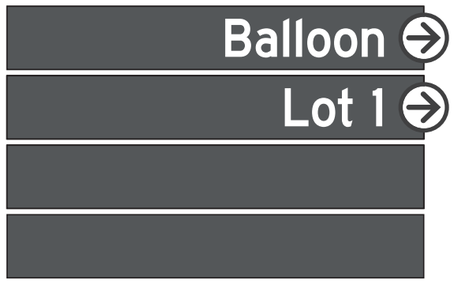
Sign Number B1-08



Sign Number B1-09



Sign Number B1-10



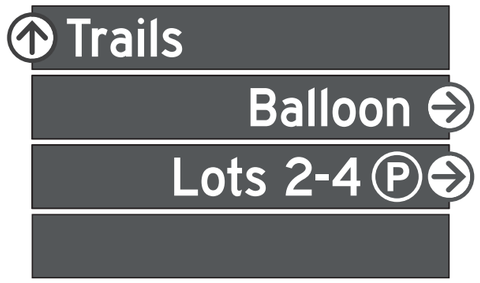
Sign Number B1-11



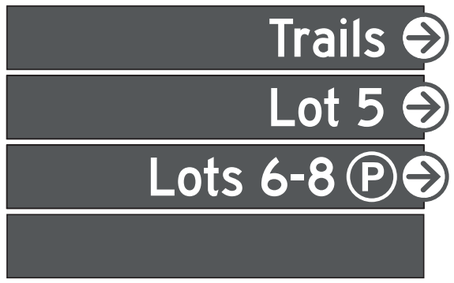
Sign Number B1-12



Sign Number B1-13



Sign Number B1-14



Sign Number B1-15



Sign Number B1-16

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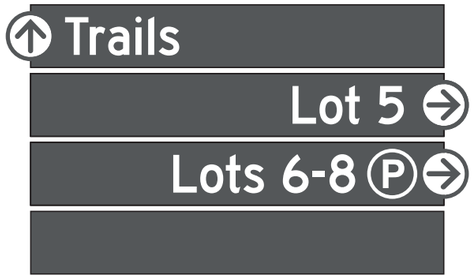
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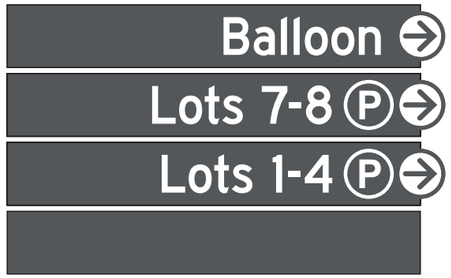
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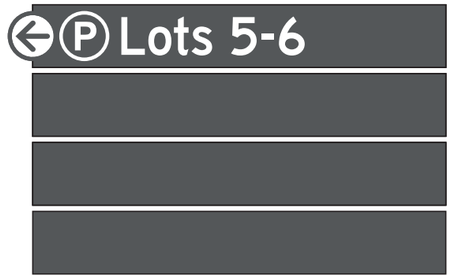
AECOM



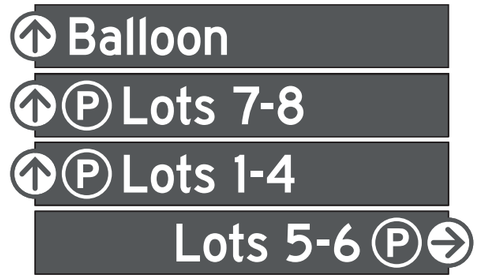
Sign Number B1-17



Sign Number B1-18



Sign Number B1-19



Sign Number B1-20



Sign Number B1-21



Sign Number B1-22



Sign Number B1-23



Sign Number B1-24

NOTE: All messages are placeholders. Messages to be confirmed by owner prior to fabrication.

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

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SIGN TYPE B2 -
VEHICULAR DIRECTIONAL

- Vehicular directional signage will provide additional information within or near parking lots.
- These signs will be located at key decision points and intersections where a single message is required.



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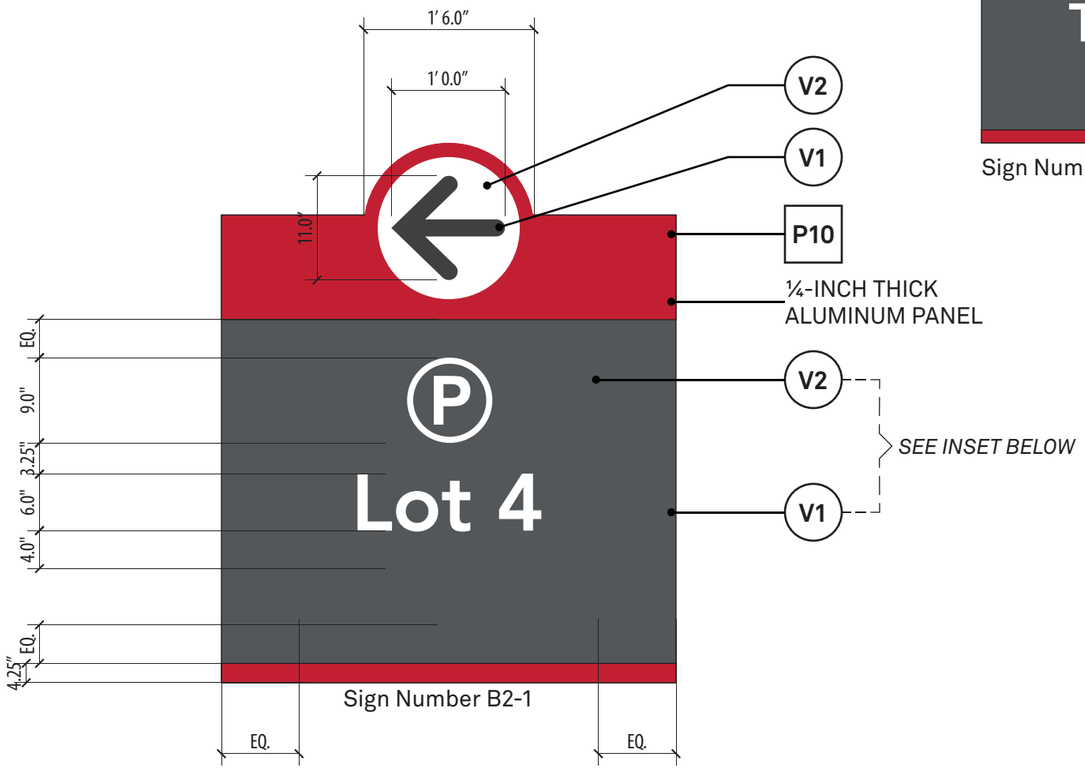
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SIGN TYPE B2 - DETAILS

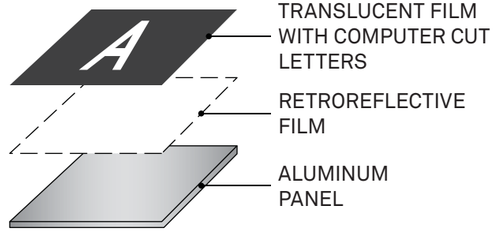
SIGN FACE LAYOUT
SCALE: ¾”=1’



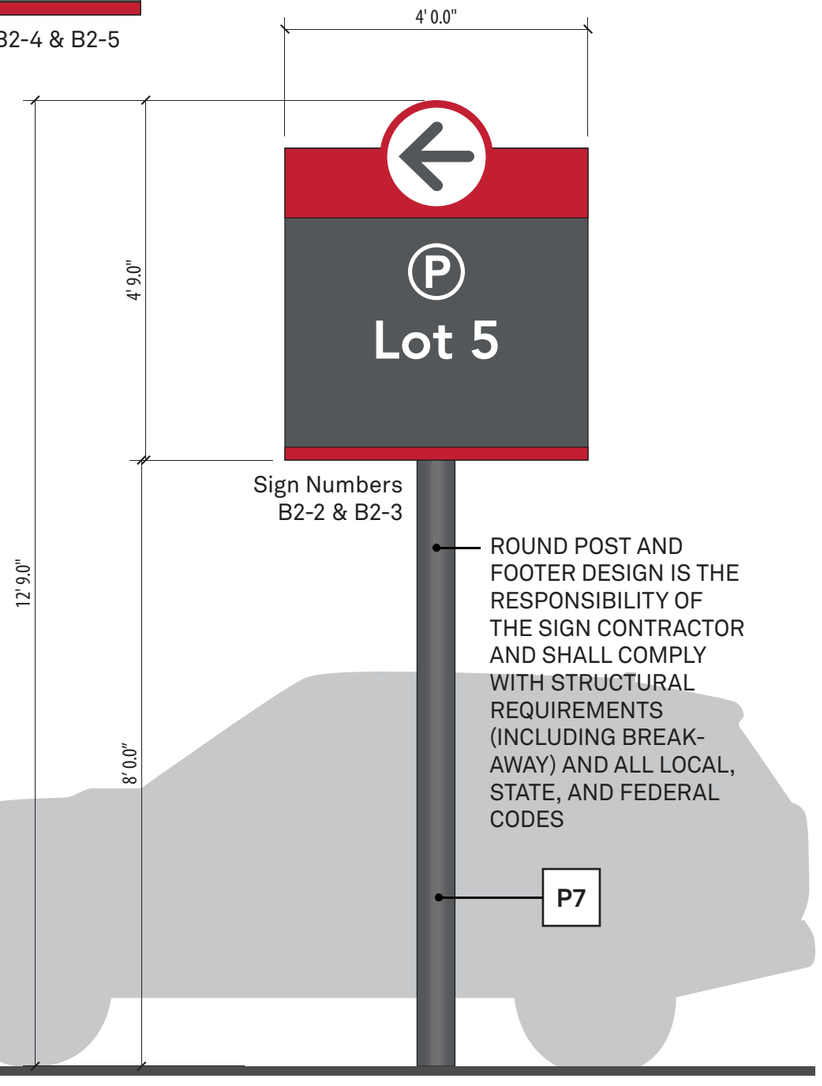


Sign Numbers B2-4 & B2-5

FILM/SHEETING APPLICATION DETAILS
SCALE: NTS



POST + PANEL
SCALE: ½”=1’



OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE C1 - VEHICULAR PARKING LOT IDENTITY

- Parking identity signs identify lots for specific activities and amenities within the Park.
- These signs will be located at the entry to parking lots and will be double-sided.
- These signs use icons easily understood by all users, including international visitors.



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ORANGE COUNTY GREAT PARK

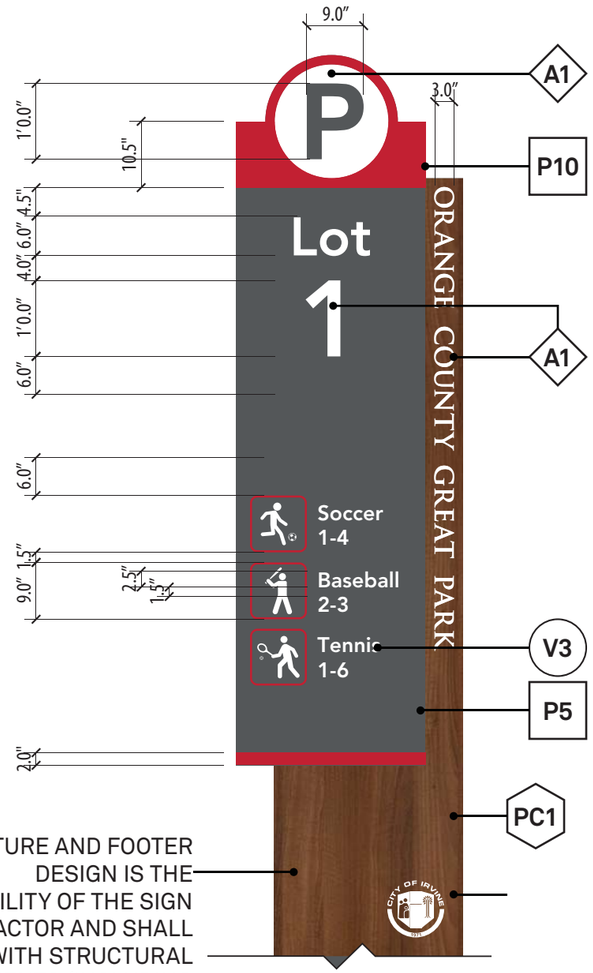
Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE C1 – DETAILS

SIGN FACE LAYOUT
SCALE: ½”=1’



A1 ILLUMINTED PUSH-THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF

P10 ALUMINUM CABINET, INTERNALLY LIT WITH WITH WHITE LED LIGHTS

A1 ILLUMINTED PUSH-THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF

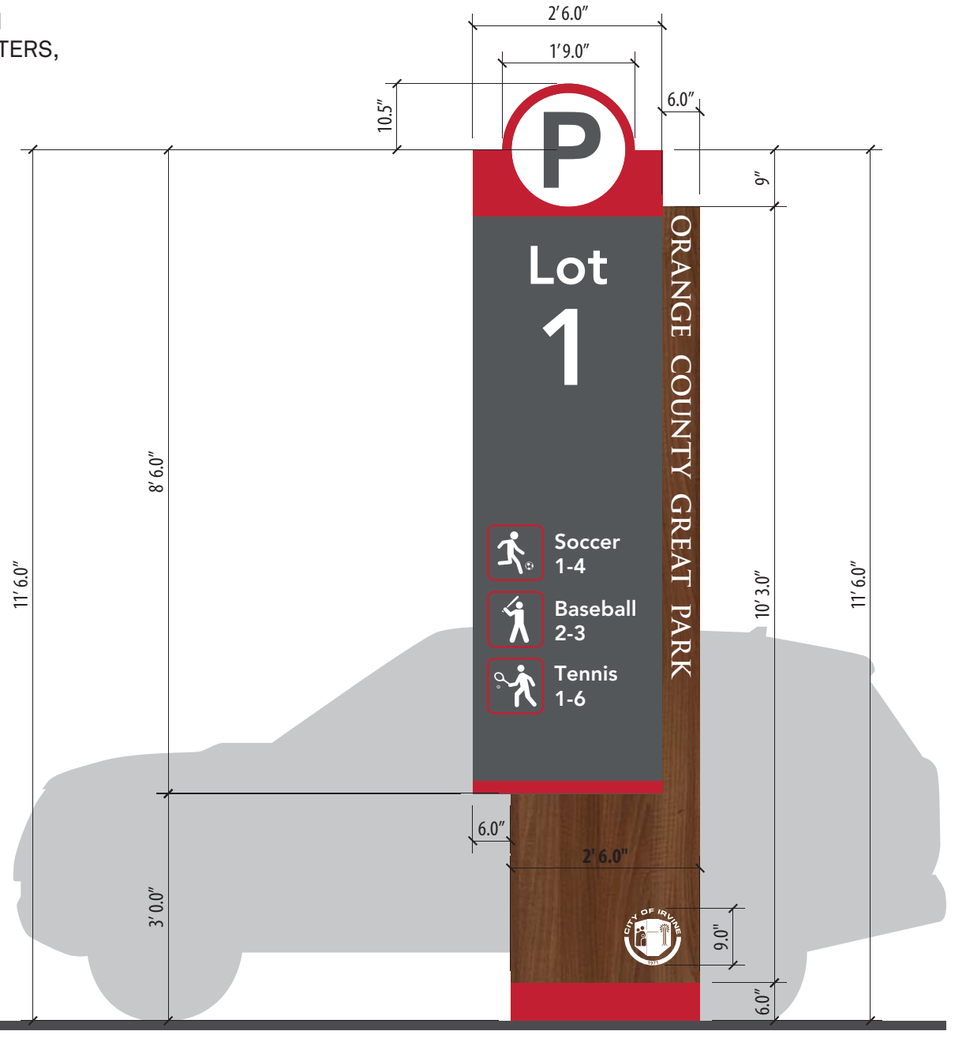
V3 NOTE: AREA OF SIGN WITH VINYL LETTERS AND GRAPHICS SHALL BE EASILY REMOVABLE FOR FUTURE CHANGES. THIS PANEL SHALL HAVE A UV CLEAR COAT FINISH, BUT NO ANTI-GRAFFITI FINISH TO ENSURE PROPER ADHESION OF FILM.

P5

PC1

STRUCTURE AND FOOTER DESIGN IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR AND SHALL COMPLY WITH STRUCTURAL REQUIREMENTS (INCLUDING BREAKAWAY) AND ALL LOCAL, STATE, AND FEDERAL CODES

SIGN STRUCTURE
SCALE: ½”=1’



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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

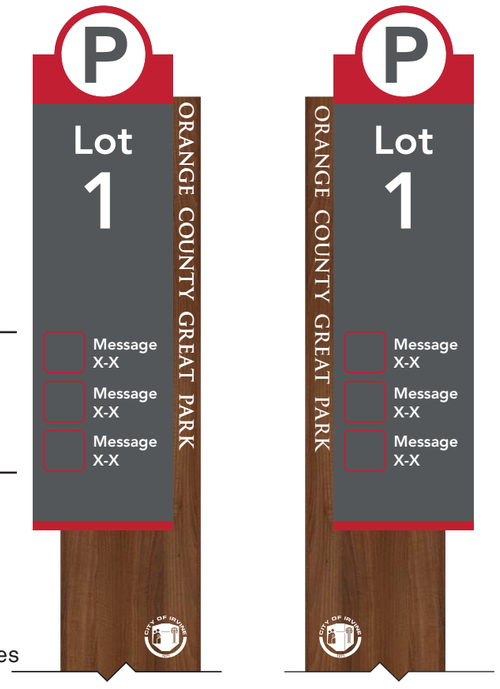
Case No: 00705463-PSS

AECOM

SIGN TYPE C1 – MESSAGES

Info related to fields/courts served by each lot to be provided

NOTE: All messages are placeholders. Messages to be confirmed by owner prior to fabrication.



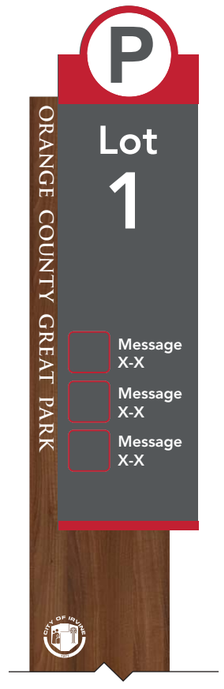
A Side

B Side

Sign Number C1-01

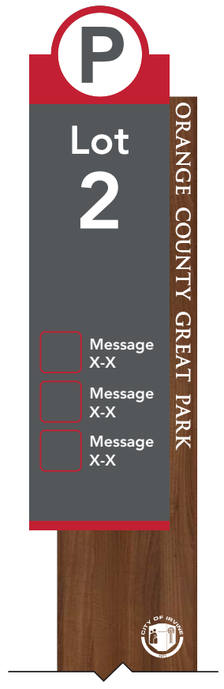


A Side

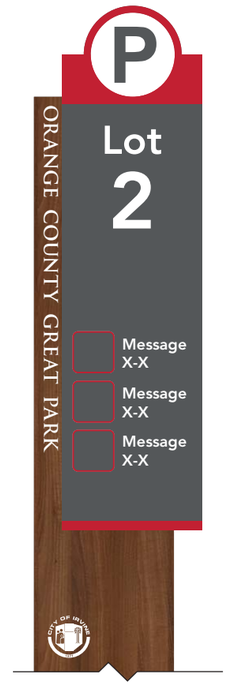


B Side

Sign Number C1-02



A Side



B Side

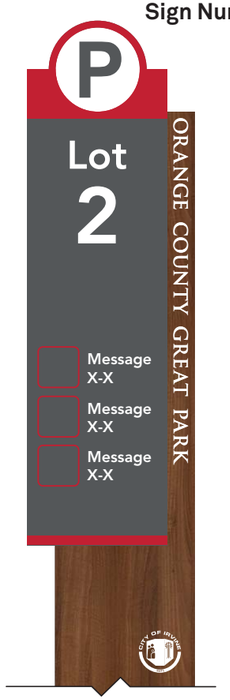
Sign Number C1-03



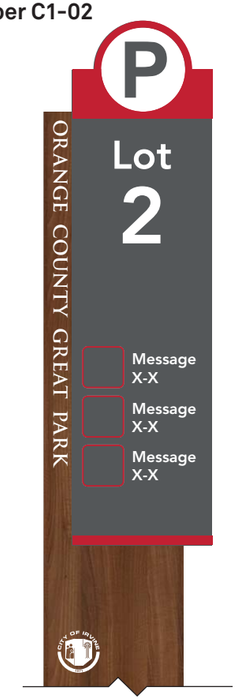
A Side

B Side

Sign Number C1-04

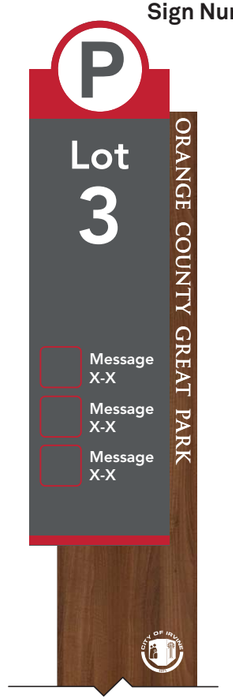


A Side

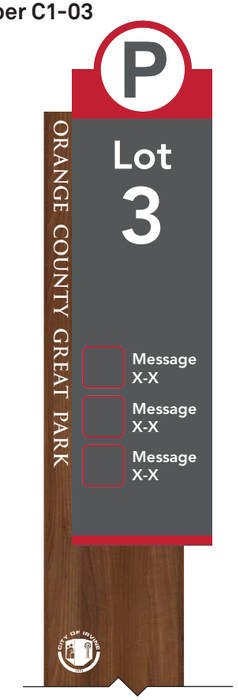


B Side

Sign Number C1-05



A Side



B Side

Sign Number C1-06

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE C1 – MESSAGES

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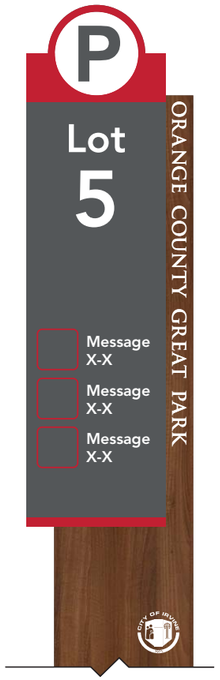


A Side

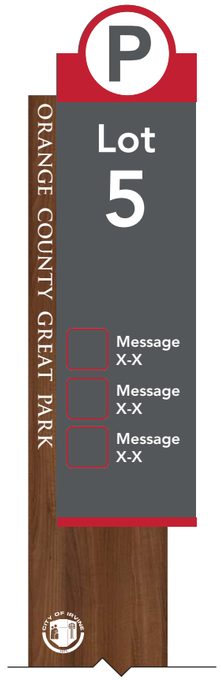
B Side

B-side left blank intentionally because it faces the parking lot.

Sign Number C1-07

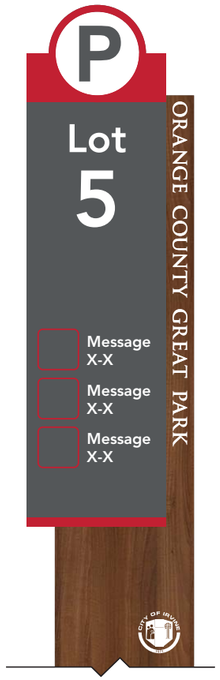


A Side

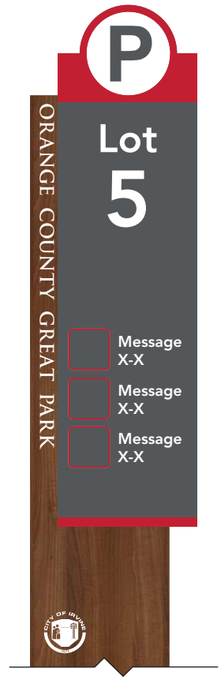


B Side

Sign Number C1-08



A Side



B Side

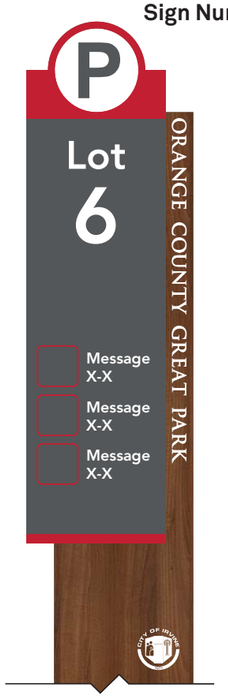
Sign Number C1-09



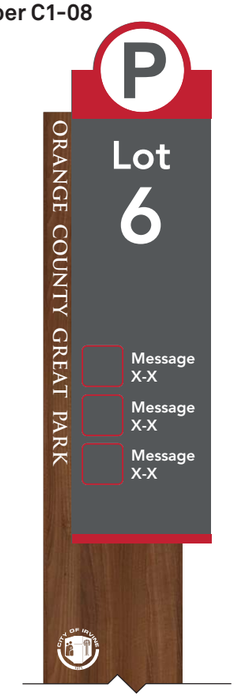
A Side

B Side

Sign Number C1 -10

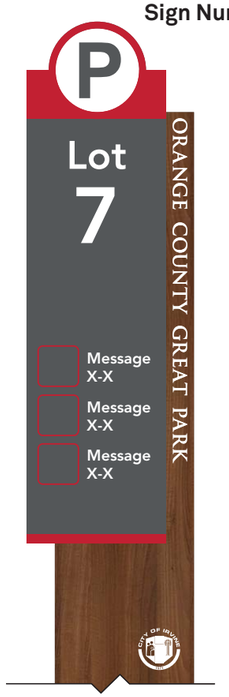


A Side

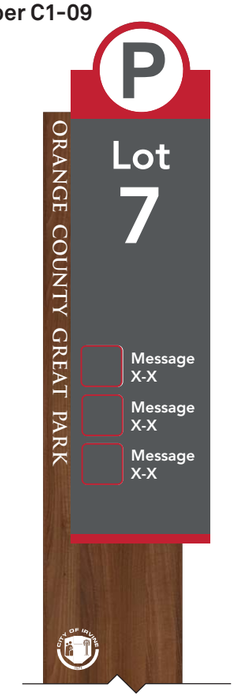


B Side

Sign Number C1-11



A Side



B Side

Sign Number C1-12

OWNER
Great Park Corporation
City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE C1 – MESSAGES

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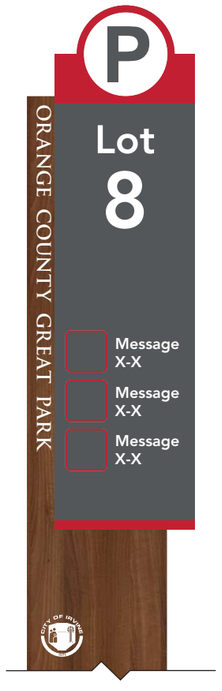
A Side

B Side

Sign Number C1-13

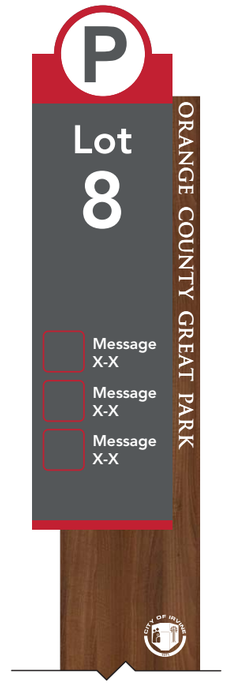


A Side



B Side

Sign Number C1-14



A Side



B Side

Sign Number C1-15

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ORANGE COUNTY GREAT PARK

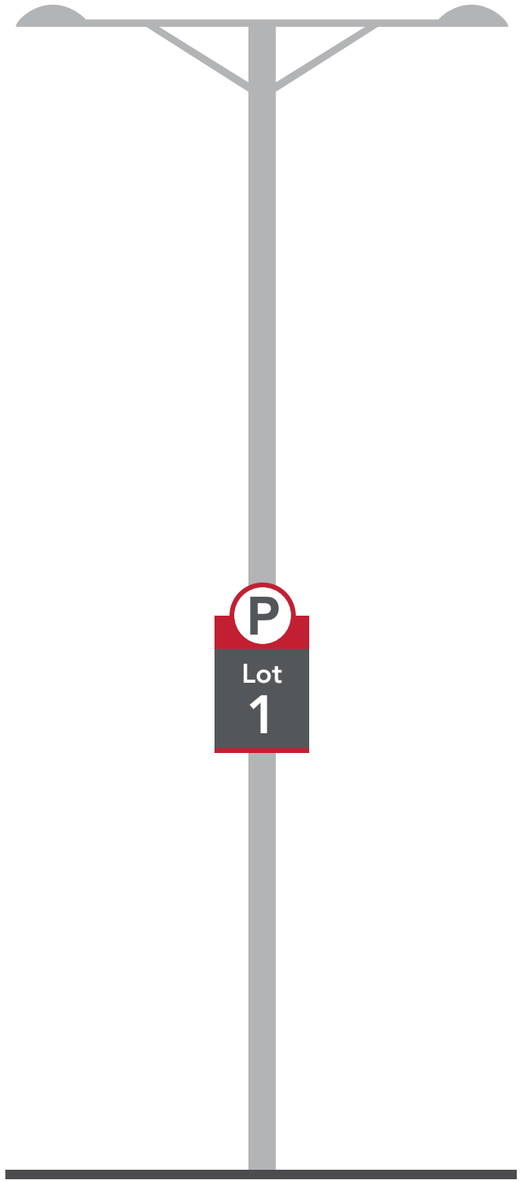
Signage & Wayfinding Program

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SIGN TYPE C2 - VEHICULAR PARKING LOT IDENTITY (LIGHT POLE MOUNTED)

- Parking identity signs mounted to light poles identify lots and can be seen from far distances.



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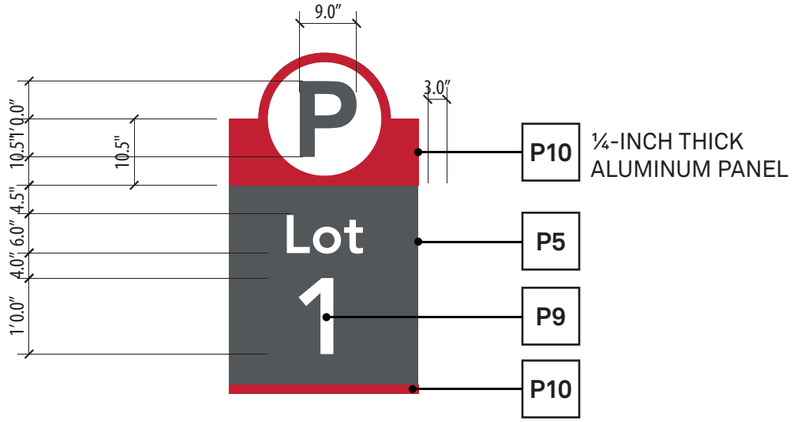
Signage & Wayfinding Program

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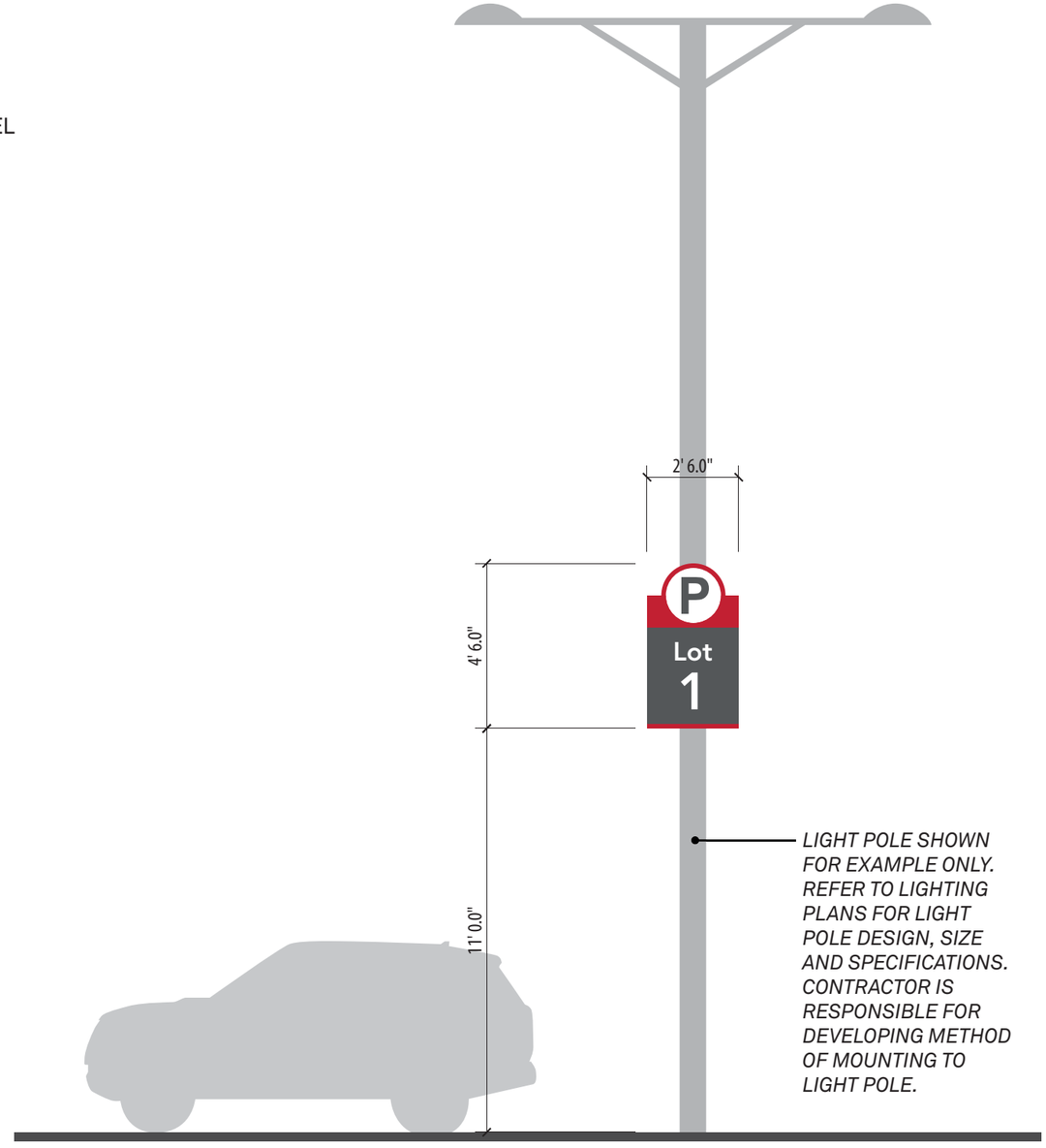
SIGN TYPE C2 – DETAILS

SIGN FACE LAYOUT
SCALE: ½”=1’



EACH SIGN LOCATION CONSISTS OF TWO SIGNS MOUNTED ON OPPOSITE SIDES OF THE POST

SIGN STRUCTURE
SCALE: ¼”=1’



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Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE C2 – MESSAGES



Sign Number C2-1
Sign Number C2-2
Sign Number C2-3
A & B Sides



Sign Number C2-4
Sign Number C2-5
Sign Number C2-6
Sign Number C2-7
Sign Number C2-8
Sign Number C2-9
A & B Sides



Sign Number C2-10
Sign Number C2-11
A & B Sides



Sign Number C2-12
Sign Number C2-13
A & B Sides



Sign Number C2-14
Sign Number C2-15
Sign Number C2-16
Sign Number C2-17
Sign Number C2-18
Sign Number C2-19
A & B Sides



Sign Number C2-20
Sign Number C2-21
Sign Number C2-22
Sign Number C2-23
Sign Number C2-24
Sign Number C2-25
Sign Number C2-26



Sign Number C2-27
Sign Number C2-28
Sign Number C2-29
Sign Number C2-30
A & B Sides



Sign Number C2-31
A & B Sides

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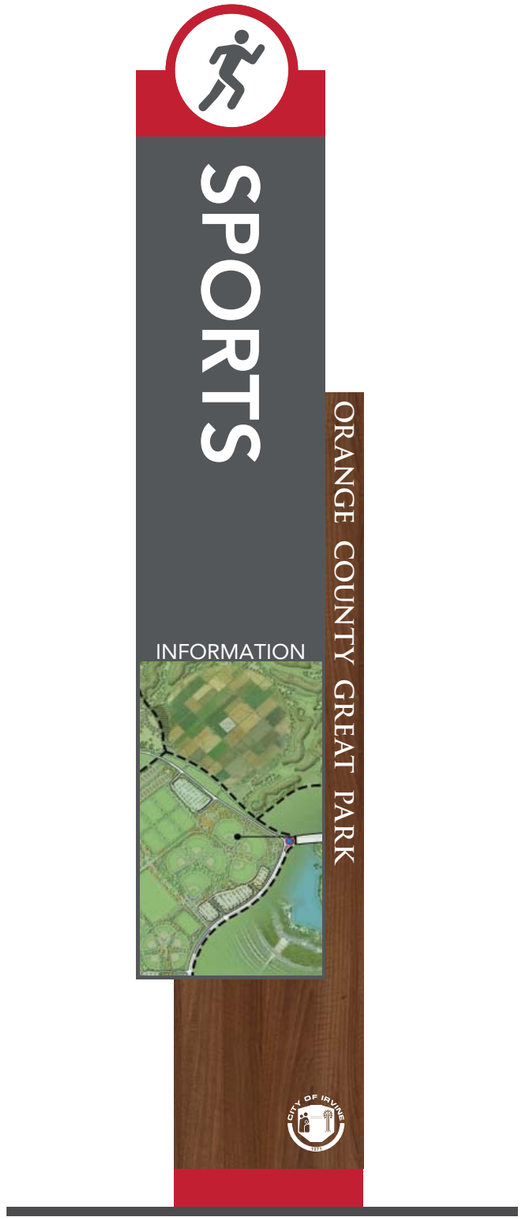
Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE D - PEDESTRIAN LANDMARK IDENTITY

- Landmark signs identify districts, sports, and major destinations within the Orange County Great Park.
- These signs use icons easily understood by all users, including international visitors.
- Landmark identity signs are located at key decision points and identify areas of congregation.
- Pedestrian maps are included on these signs. Maps encourages exploration of other areas of the Orange County Great Park by informing users of other activities, amenities or landmarks that are nearby.



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ORANGE COUNTY GREAT PARK

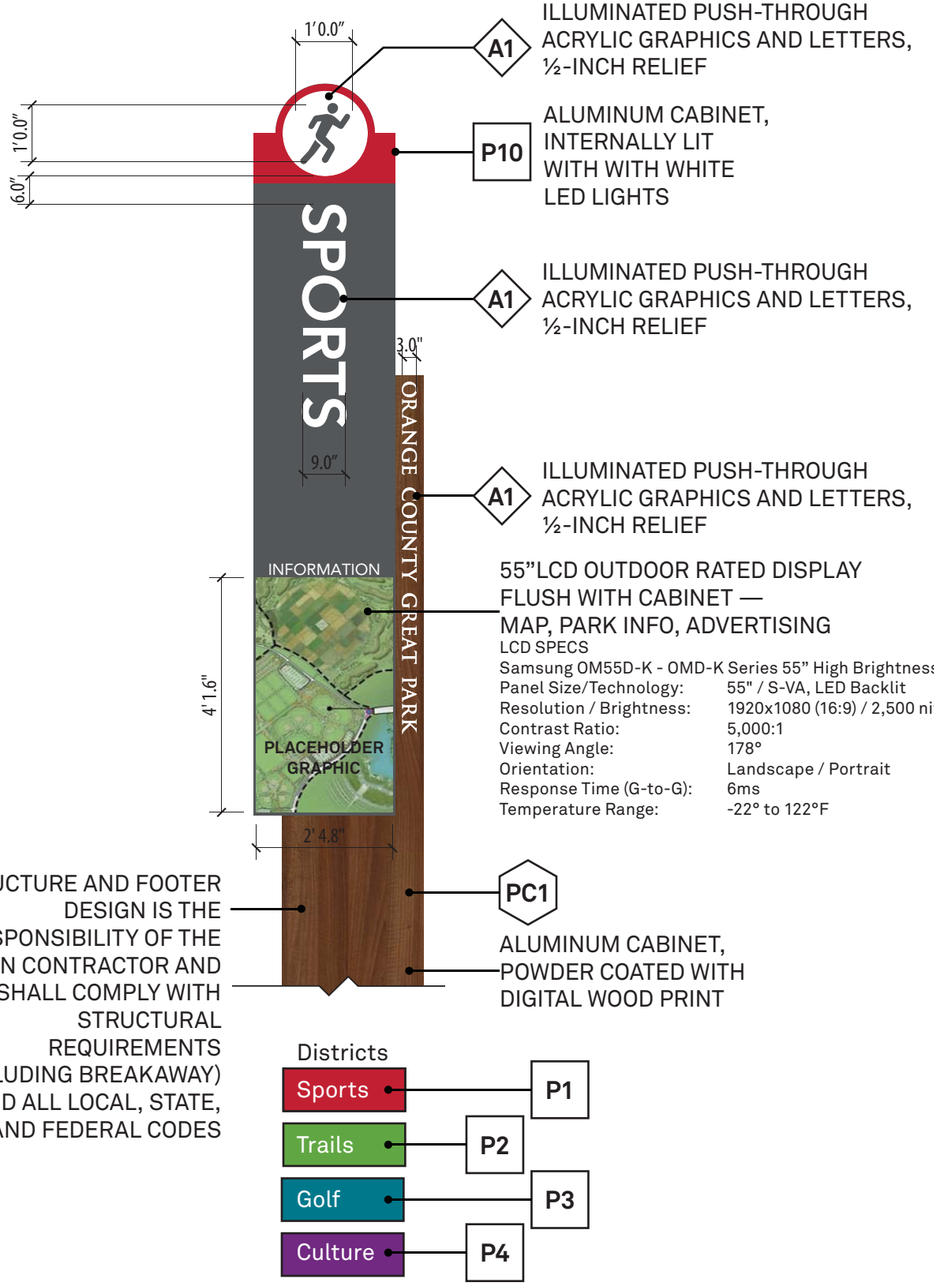
Signage & Wayfinding Program

Case No: 00705463-PSS

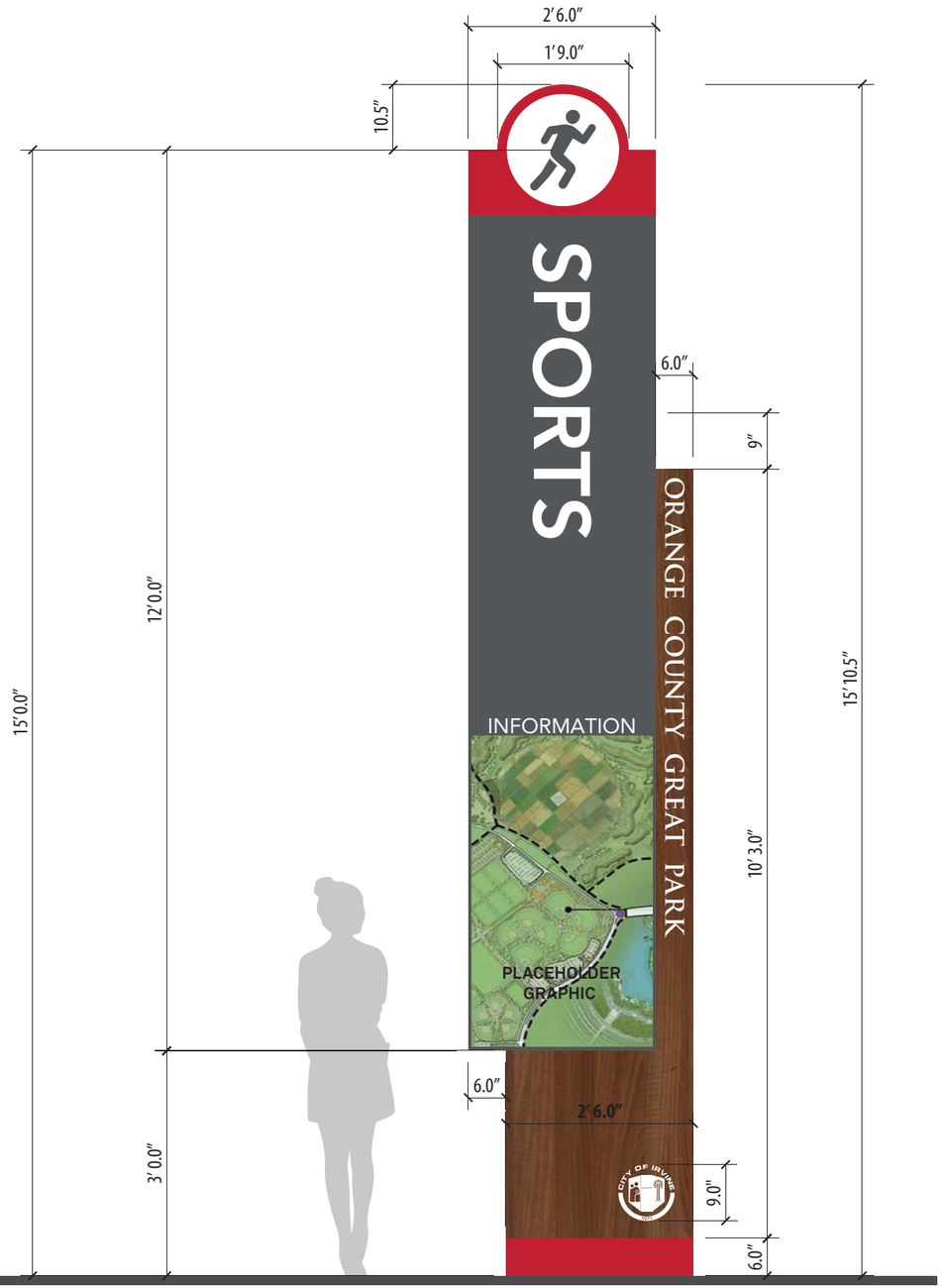
AECOM

SIGN TYPE D – DETAILS

SIGN FACE LAYOUT
SCALE: 3/8"=1'



SIGN STRUCTURE
SCALE: ½"=1'



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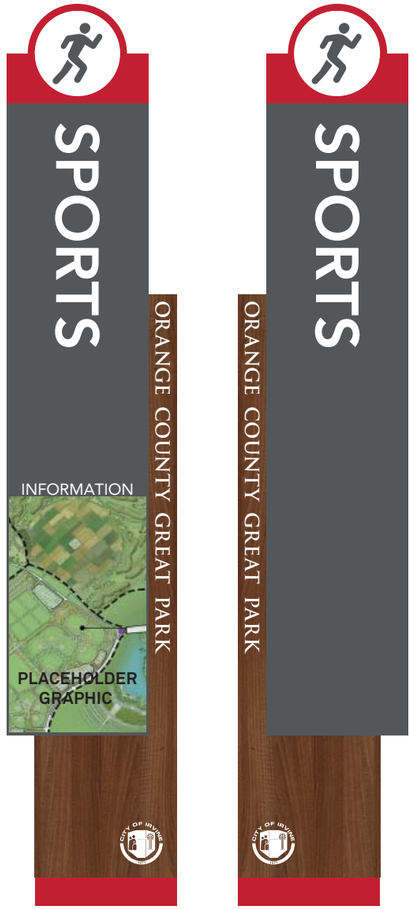
ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE D – MESSAGES



A Side

B Side

Sign Number D-01
Sign Number D-02
Sign Number D-03
Sign Number D-04
Sign Number D-05
Sign Number D-06
Sign Number D-07
Sign Number D-08
Sign Number D-09
Sign Number D-10

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE E1 -
PEDESTRIAN DIRECTIONAL

- Once visitors park their cars, pedestrian directional signage will complete the routing to their intended destinations.
- These signs will be located at key decision points and intersections.
- Specific, more local, destinations, such as sports fields, landmarks, restrooms and other amenities accessed on foot, are included on this type of sign.
- Removable sign blades make the system flexible and easily modified should destinations change.
- Pedestrian directional signage may be color coded to represent districts within the Orange County Great Park.



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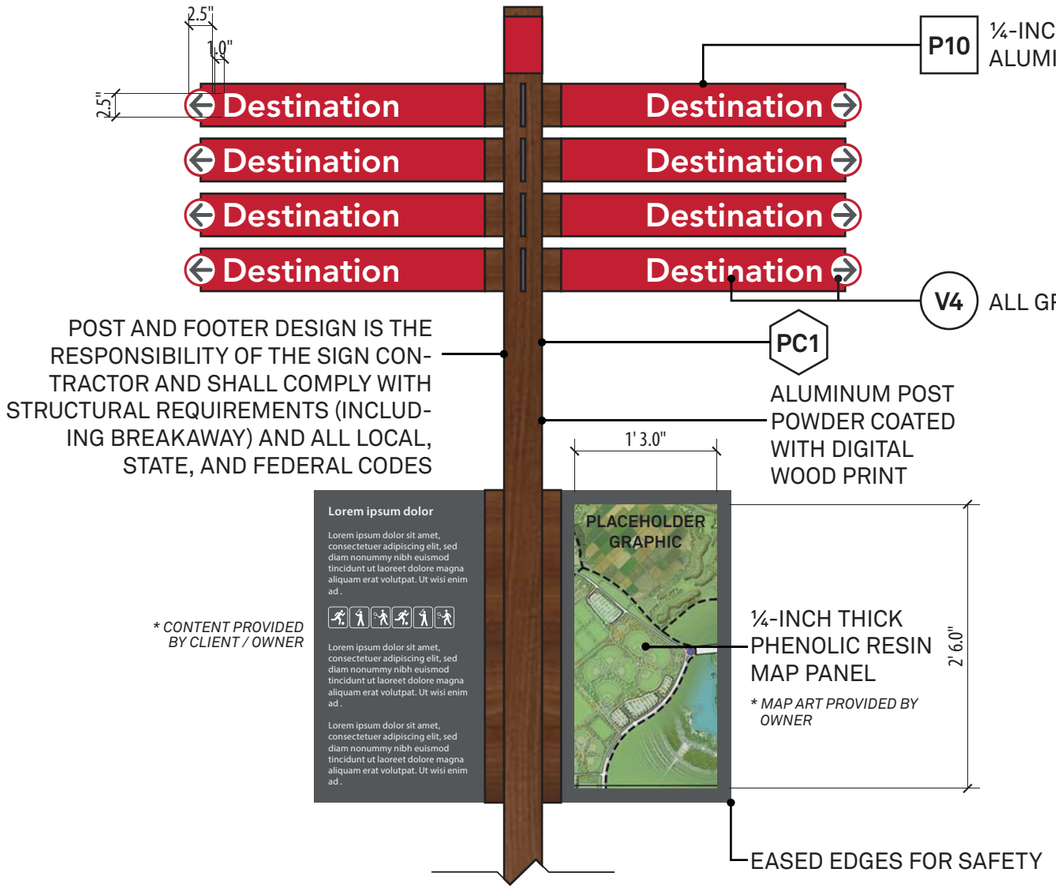
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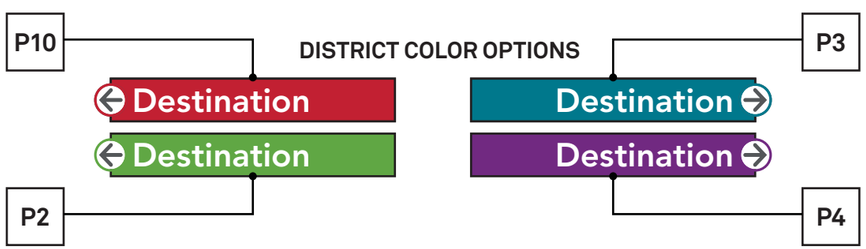
AECOM

SIGN TYPE E1 – DETAILS

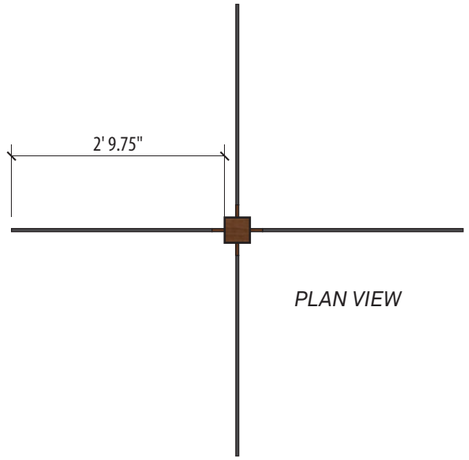
SIGN FACE LAYOUT
SCALE: ¾”=1’

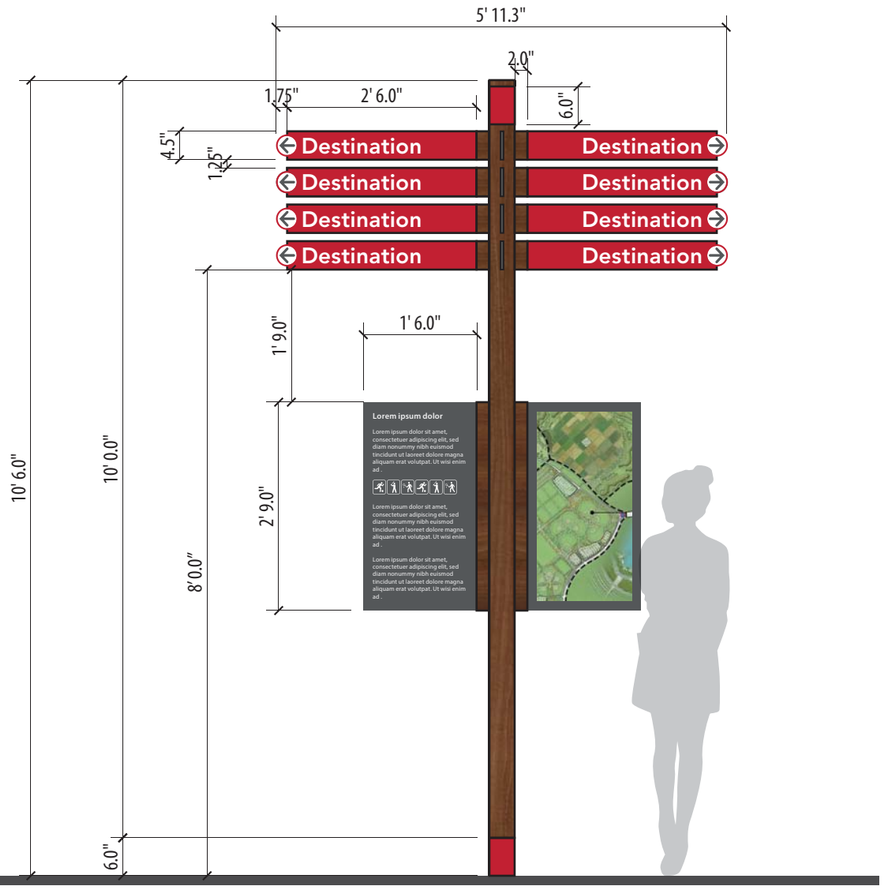


DISTRICT COLOR OPTIONS



POST + PANEL
SCALE: ½”=1’





OWNER
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City of Irvine
1 Civic Center Plaza
Irvine, CA 92618
(949) 724-7446

DESIGNER
AECOM
300 S Grand Ave
Los Angeles, CA 90071

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

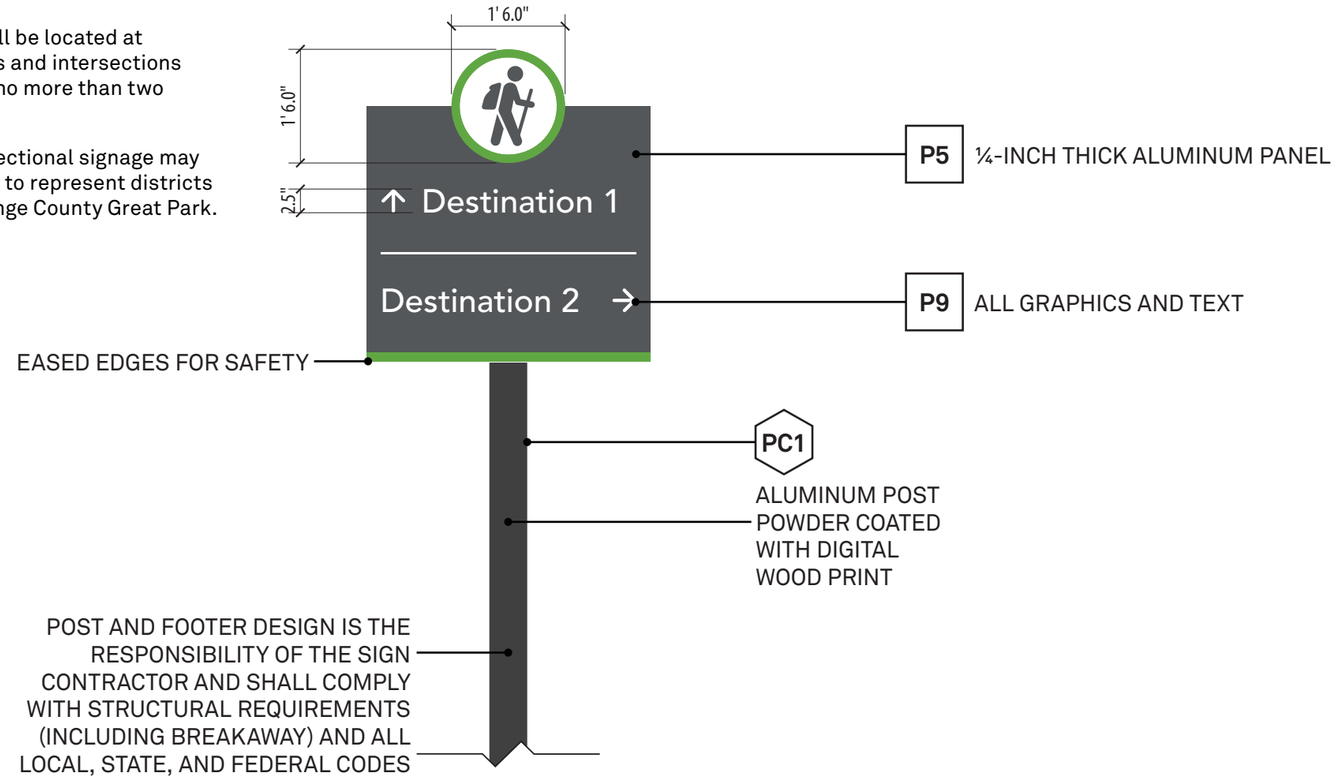
Case No: 00705463-PSS

AECOM

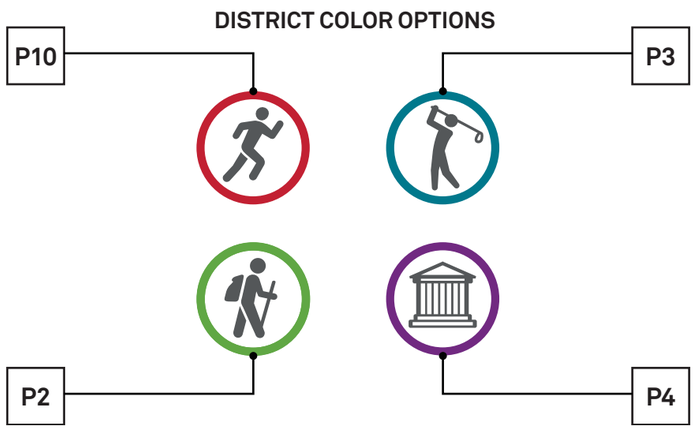
SIGN TYPE E2 - PEDESTRIAN DIRECTIONAL

- Once visitors park their cars, pedestrian directional signage will complete the routing to their intended destinations.
- These signs will be located at decision points and intersections which require no more than two destinations.
- Pedestrian directional signage may be color coded to represent districts within the Orange County Great Park.

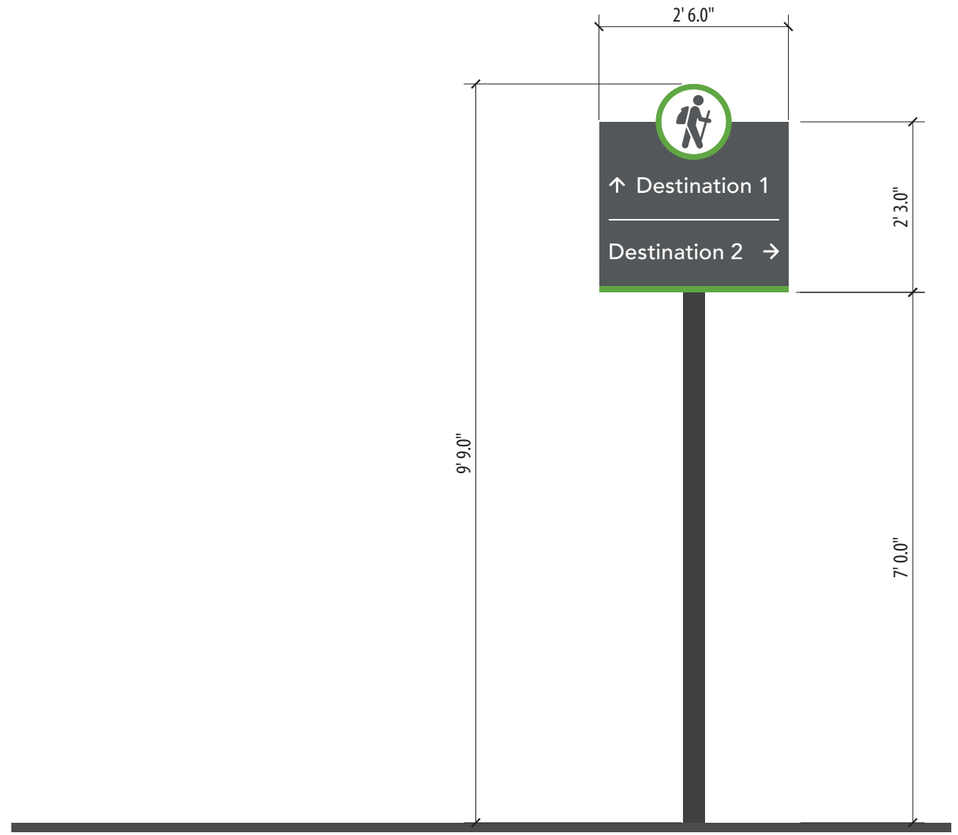
SIGN FACE LAYOUT
SCALE: ¾”=1’



DISTRICT COLOR OPTIONS



POST + PANEL
SCALE: ½”=1’



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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

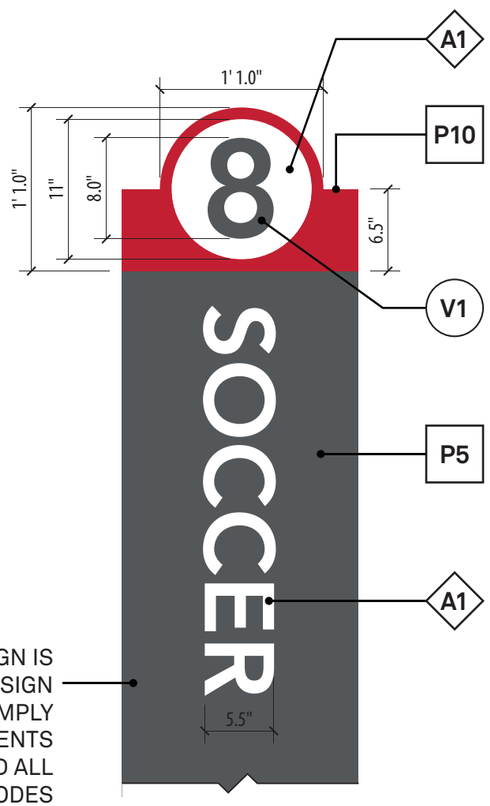
Case No: 00705463-PSS

AECOM

SIGN TYPE F1 -
SOCCER FIELD IDENTITY

- Individual fields will be identified by field number.
- These double-sided signs will be located perpendicular to the flow of pedestrian traffic.

SIGN FACE LAYOUT
SCALE: 1”=1’



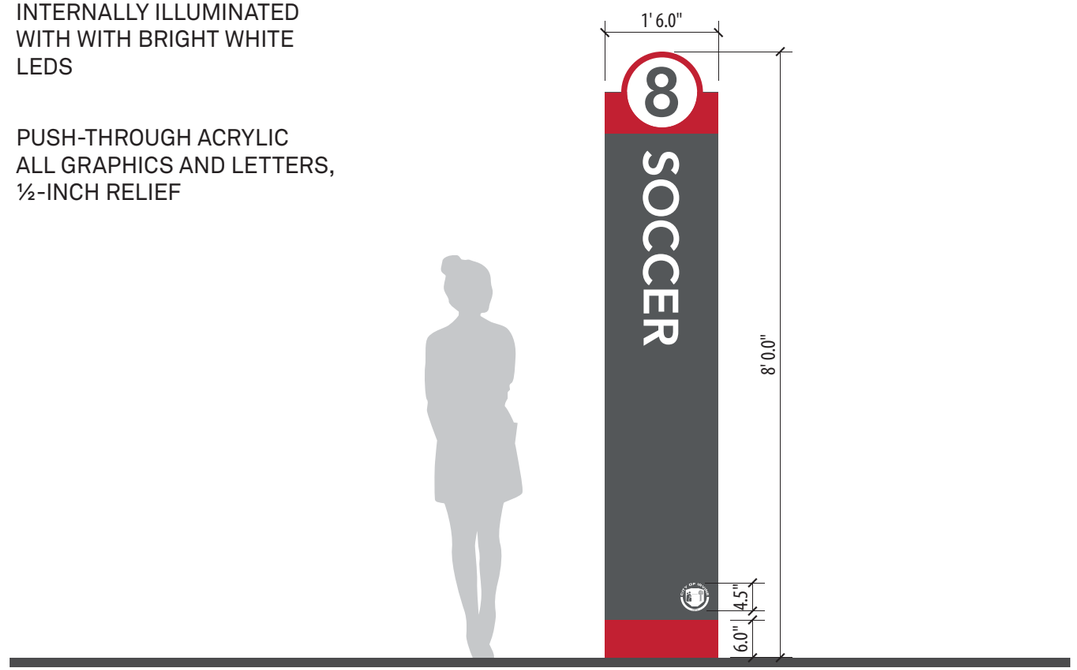
PUSH-THROUGH ACRYLIC
ALL GRAPHICS AND LETTERS,
½-INCH RELIEF

ALUMINUM CABINET,
INTERNALLY ILLUMINATED
WITH WITH BRIGHT WHITE
LEDS

PUSH-THROUGH ACRYLIC
ALL GRAPHICS AND LETTERS,
½-INCH RELIEF

STRUCTURE AND FOOTER DESIGN IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR AND SHALL COMPLY WITH STRUCTURAL REQUIREMENTS (INCLUDING BREAKAWAY) AND ALL LOCAL, STATE, AND FEDERAL CODES

SIGN STRUCTURE
SCALE: ½”=1’



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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

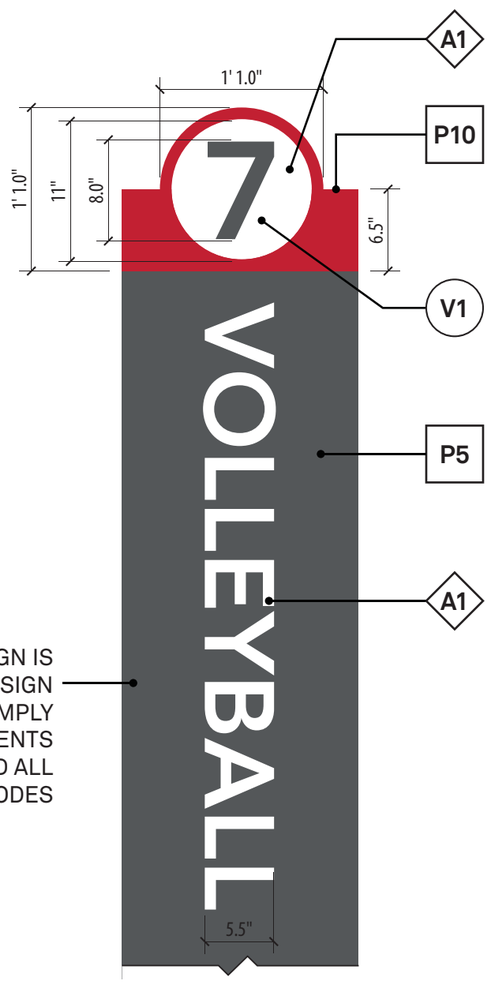
Case No: 00705463-PSS

AECOM

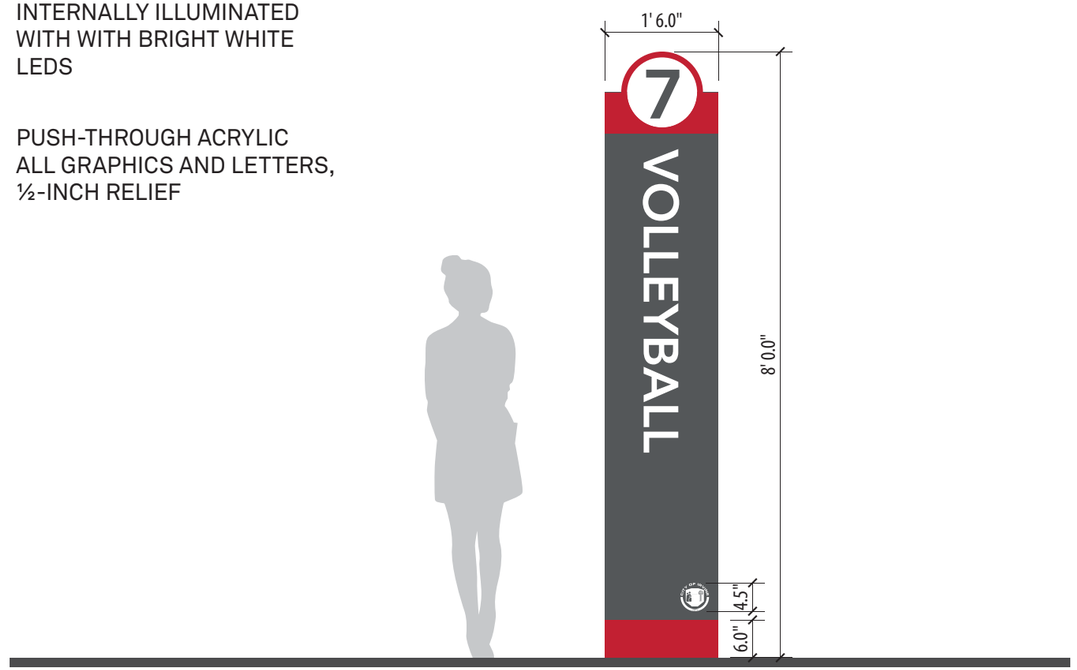
SIGN TYPE F2 -
VOLLEYBALL COURT IDENTITY

- Individual fields will be identified by field number.
- These double-sided signs will be located perpendicular to the flow of pedestrian traffic.

SIGN FACE LAYOUT
SCALE: 1”=1’



SIGN STRUCTURE
SCALE: ½”=1’



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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

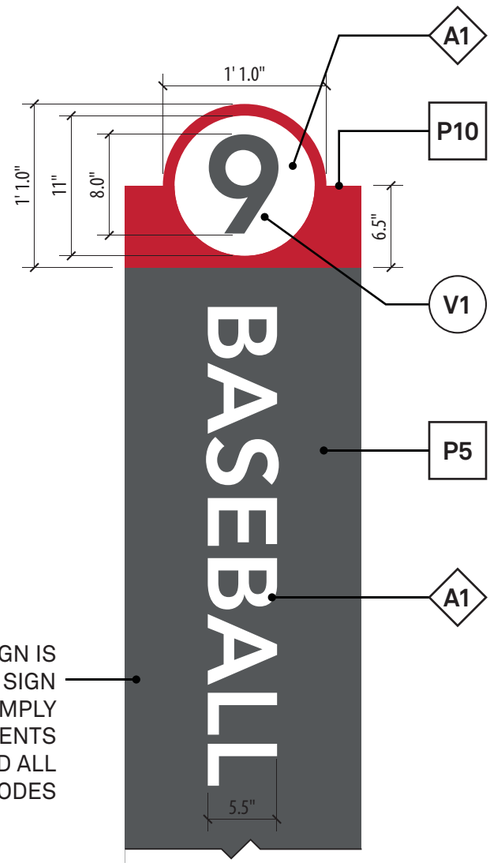
Case No: 00705463-PSS

AECOM

SIGN TYPE F3 -
BASEBALL FIELD IDENTITY

- Individual fields will be identified by field number.
- These double-sided signs will be located perpendicular to the flow of pedestrian traffic.

SIGN FACE LAYOUT
SCALE: 1”=1’



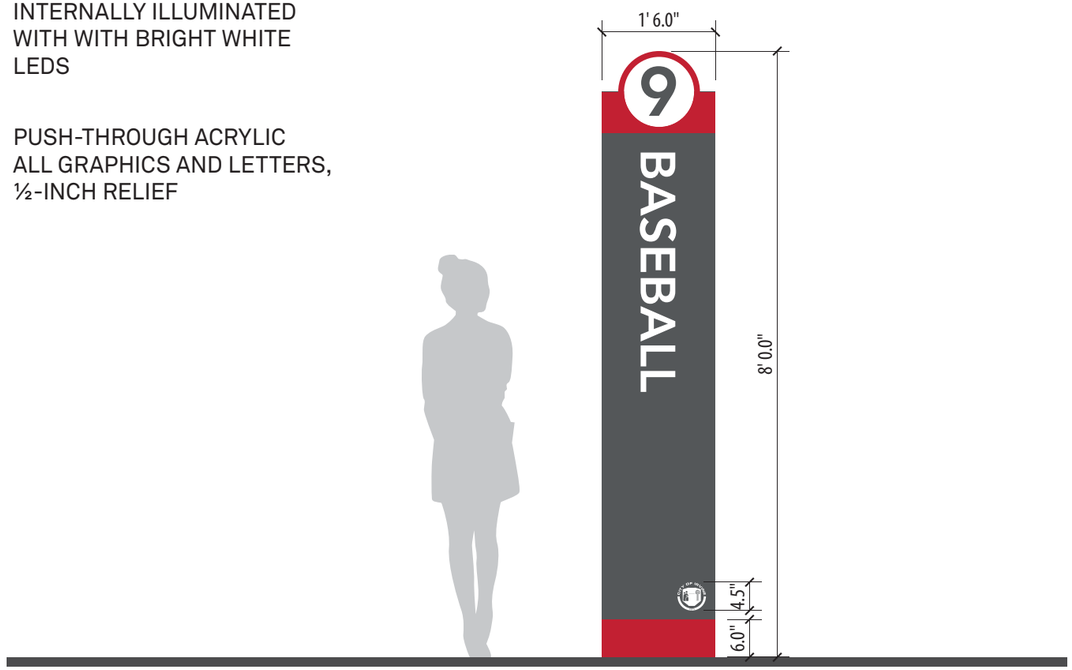
PUSH-THROUGH ACRYLIC
ALL GRAPHICS AND LETTERS,
½-INCH RELIEF

ALUMINUM CABINET,
INTERNALLY ILLUMINATED
WITH WITH BRIGHT WHITE
LEDS

PUSH-THROUGH ACRYLIC
ALL GRAPHICS AND LETTERS,
½-INCH RELIEF

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SIGN STRUCTURE
SCALE: ½”=1’



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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

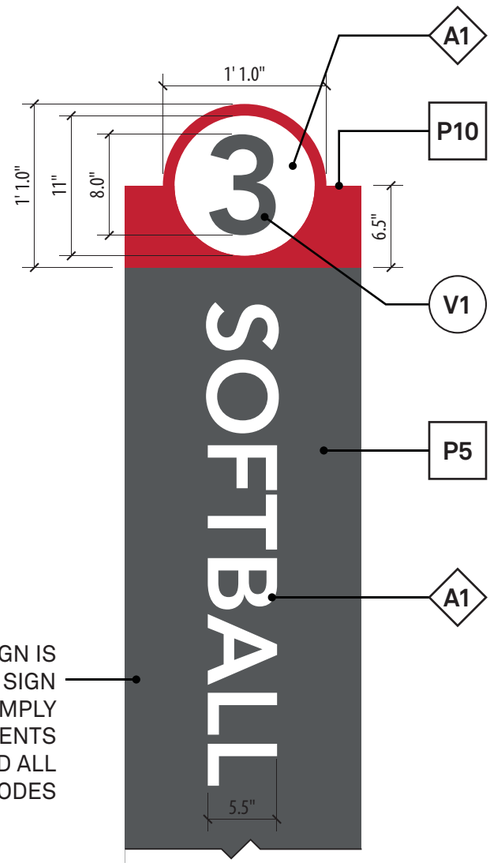
Case No: 00705463-PSS

AECOM

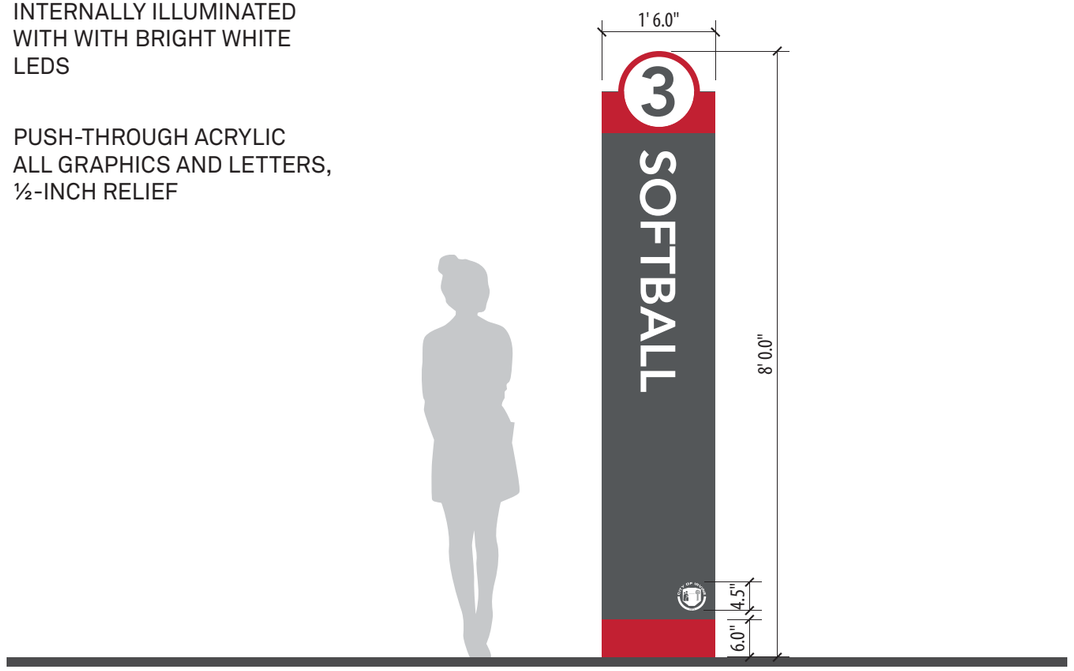
SIGN TYPE F4 -
SOFTBALL FIELD IDENTITY

- Individual fields will be identified by field number.
- These double-sided signs will be located perpendicular to the flow of pedestrian traffic.

SIGN FACE LAYOUT
SCALE: 1”=1’



SIGN STRUCTURE
SCALE: ½”=1’



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Signage & Wayfinding Program

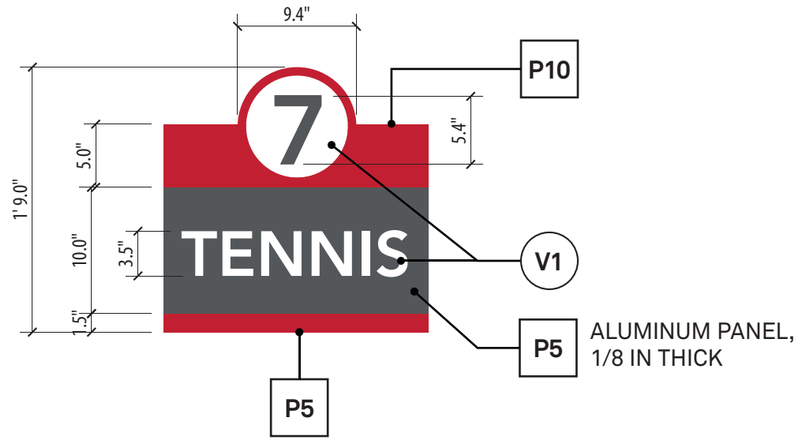
Case No: 00705463-PSS

AECOM

SIGN TYPE F5 -
TENNIS COURT IDENTITY

- Individual courts will be identified by court number.
- These single-sided signs will be mounted to fence (type of fence to be determined).

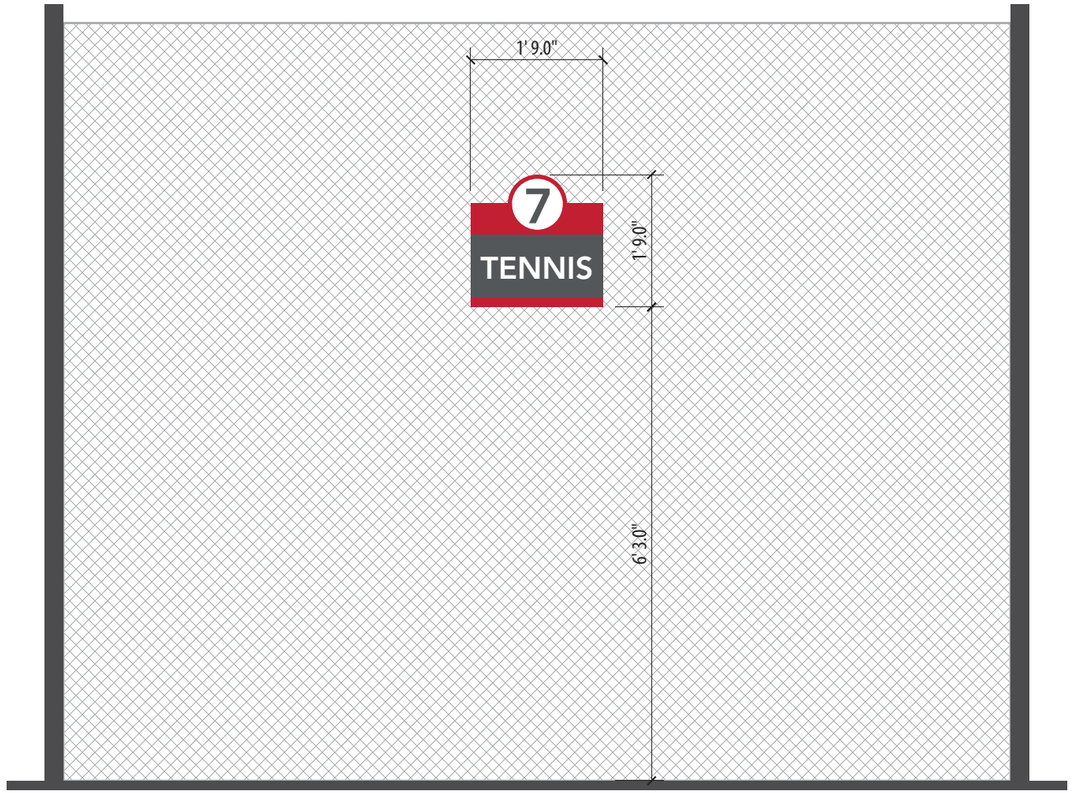
SIGN FACE LAYOUT
SCALE: 1”=1’



ALUMINUM PANEL,
1/8 IN THICK

MOUNTING DESIGN IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR AND SHALL COMPLY WITH STRUCTURAL REQUIREMENTS AND ALL LOCAL, STATE, AND FEDERAL CODES

SIGN STRUCTURE
SCALE: ½”=1’



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Signage & Wayfinding Program

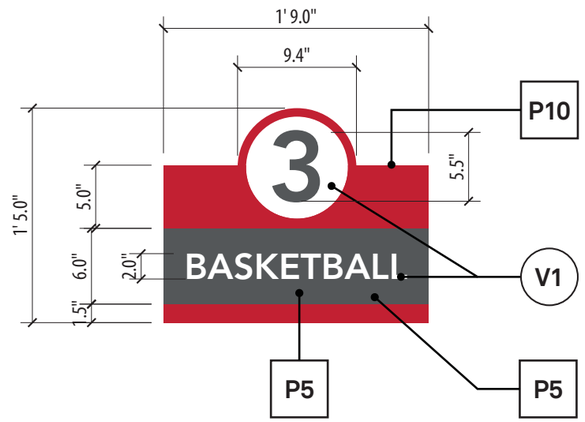
Case No: 00705463-PSS

AECOM

SIGN TYPE F6 - BASKETBALL COURT IDENTITY

- Individual courts will be identified by court number.
- These single-sided signs will be mounted to fence (type of fence to be determined).

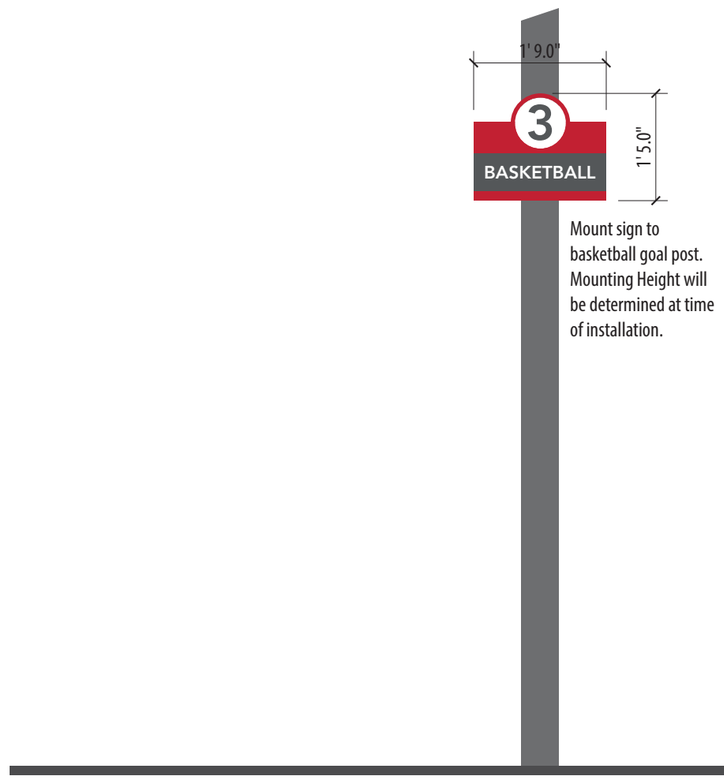
SIGN FACE LAYOUT
SCALE: 1”=1’



ALUMINUM PANEL, 1/8 IN THICK

MOUNTING DESIGN IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR AND SHALL COMPLY WITH STRUCTURAL REQUIREMENTS AND ALL LOCAL, STATE, AND FEDERAL CODES

MOUNTING ELEVATION
SCALE: ½”=1’



Mount sign to basketball goal post. Mounting Height will be determined at time of installation.

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE G1 - BIKE TRAIL SIGNS

- Bicycle trail signs indicate to bicyclists that they are on a designated bikeway.
- These signs also indicate where a bikeway turns from one street onto another street, or from one path to another path.
- These signs also mark the junction of two or more bikeways.



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AECOM

SIGN TYPE G1 - BIKE TRAIL SIGNS

ALUMINUM PANELS
SECURE .080” THK ALUMINUM SIGN PANELS TO POST WITH “SIGN-FIX” SYSTEM AS MANUFACTURED BY BAND-IT, OR APPROVED EQUAL.

PANEL SUPPORT TO BE SX0120 LARGE CHANNEL EXTRUSION WITH UNIVERSAL CHANNEL CLAMP SX0200.

SECURE CHANNEL TO BACK PANEL WITH 3M VHB TAPE AS SPECIFIED BY “SIGN FIX” MANUFACTURER.

SECURE SIGN PANELS TO POST WITH “BAND-IT” “ULTRA-LOK” FASTENING DEVICES.

POSTS
BREAKAWAY S300R HARDWARE TO BE SNAP-’N-SAFE ROUND POST COUPLER AS MANUFACTURED BY DESIGNOVATIONS OR APPROVED EQUAL.

SECURE HARDWARE PER MANUFACTURER’S SPECIFICATIONS.

“CAP” TO BE TRANSLUCENT RESIN/P-POLYCARBONATE.

INSET “CAP” ONTO POST TOP AND SECURE WITH FLUSH SCREW FASTENERS ON SIDES OF POST. PAINT FASTENERS TO MATCH ADJACENT SURFACE COLOR.

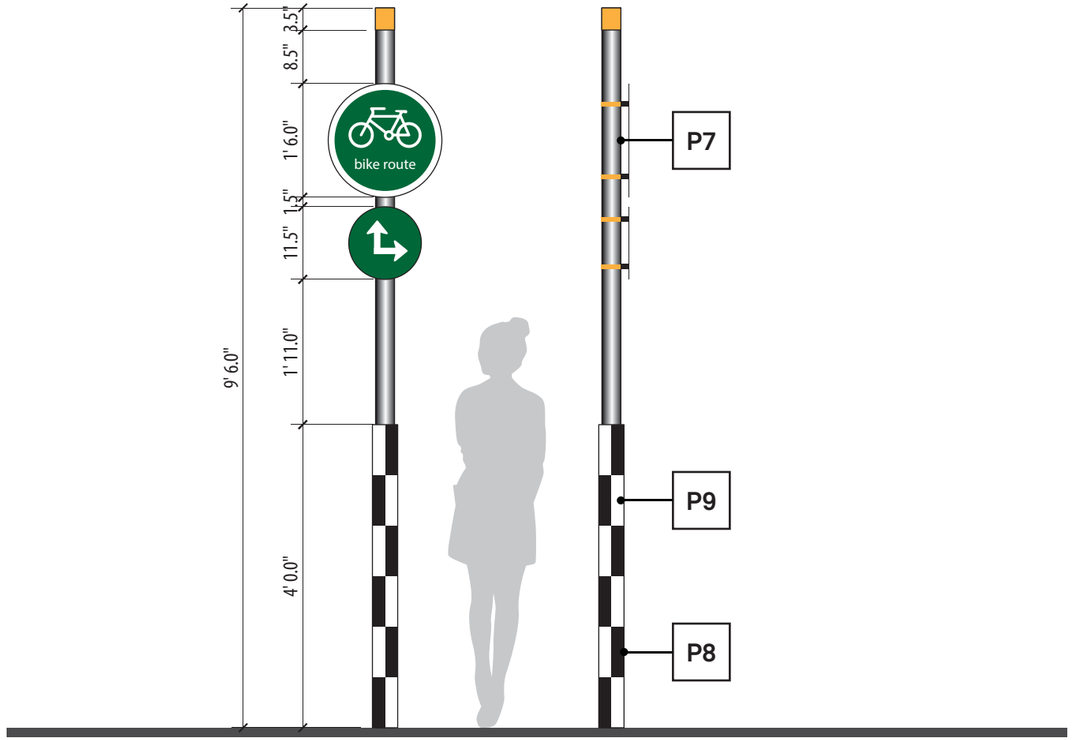
DECORATIVE BASE
WELD TOP “RING” FOR FASTENING AND TWO ADDITOINAL “RINGS” TO KEEP BASE VERTICAL.

BASE TO ALLOW ACCESS TO COUPLER HARDWARE.

POST TO HAVE FLANGE TO SECURE BASE WITH FLUSH-TO-SURFACE CAPTIVE TAMPERPROOF SCREWS PAINTED TO MATCH ADJACENT SURFACE COLOR.

SIGNS TO MATCH EXISTING.

POST + PANEL
SCALE: ½”=1’



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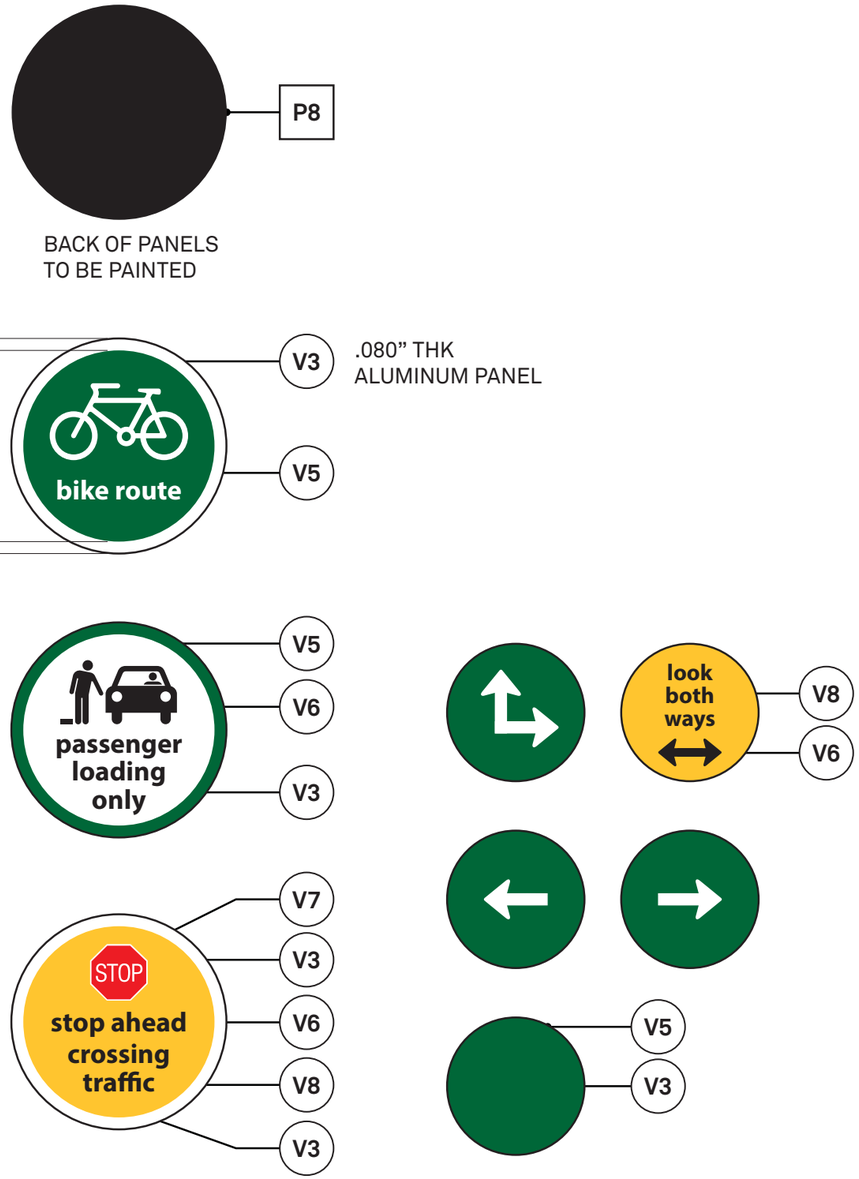
ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE G1 - BIKE TRAIL SIGNS



POST + PANEL
SCALE: 1"=1'

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Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE G2 -
BIKE TRAIL MILE MARKERS

- Bicycle mile marker signs indicate to bicyclists that they are on a designated bikeway.
- These signs also helps users determine how far they have biked and/or how much distance is left in their journey.
- These signs are also important for emergency response to identify where a user is on the trail.

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AECOM

SIGN TYPE G2 -
BIKE TRAIL MILE MARKERS

ALUMINUM PANELS
SECURE .080” THK ALUMINUM SIGN PANELS TO POST WITH “SIGN-FIX” SYSTEM AS MANUFACTURED BY BAND-IT, OR APPROVED EQUAL.

PANEL SUPPORT TO BE SX0120 LARGE CHANNEL EXTRUSION WITH UNIVERSAL CHANNEL CLAMP SX0200.

SECURE CHANNEL TO BACK PANEL WITH 3M VHB TAPE AS SPECIFIED BY “SIGN FIX” MANUFACTURER.

SECURE SIGN PANELS TO POST WITH “BAND-IT” “ULTRA-LOK” FASTENING DEVICES.

POSTS
BREAKAWAY S300R HARDWARE TO BE SNAP-’N-SAFE ROUND POST COUPLER AS MANUFACTURED BY DESIGNOVATIONS OR APPROVED EQUAL.

SECURE HARDWARE PER MANUFACTURER’S SPECIFICATIONS.

“CAP” TO BE TRANSLUCENT RESIN/P-POLYCARBONATE.

INSET “CAP” ONTO POST TOP AND SECURE WITH FLUSH SCREW FASTENERS ON SIDES OF POST. PAINT FASTENERS TO MATCH ADJACENT SURFACE COLOR.

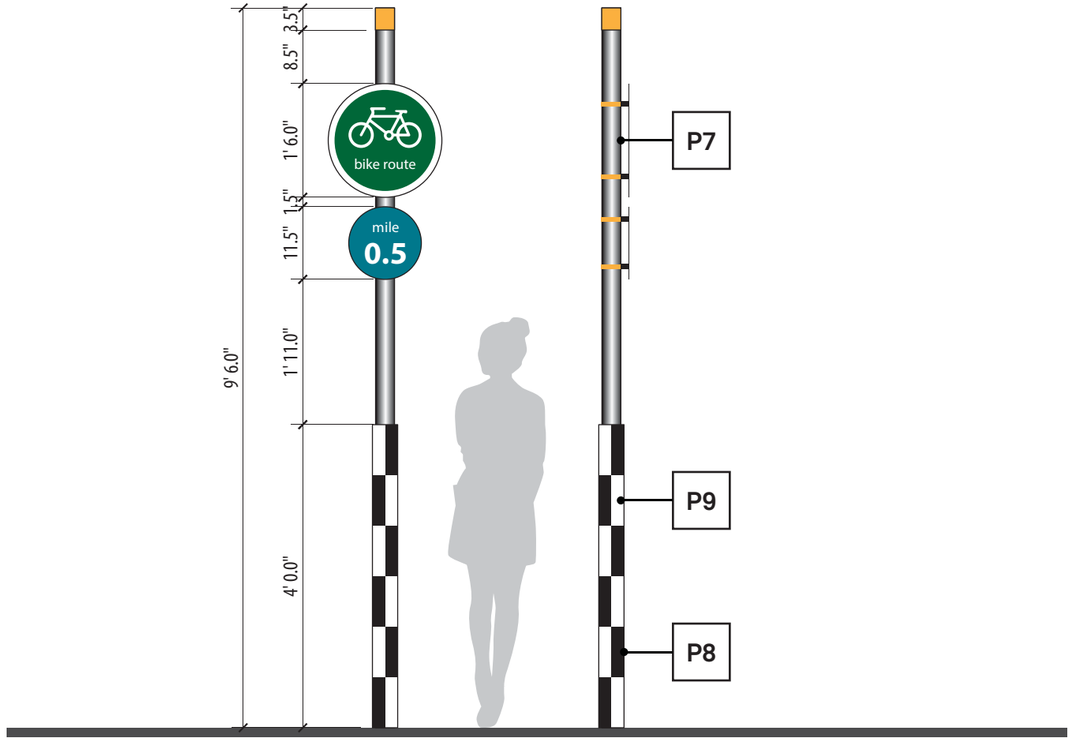
DECORATIVE BASE
WELD TOP “RING” FOR FASTENING AND TWO ADDITOINAL “RINGS” TO KEEP BASE VERTICAL.

BASE TO ALLOW ACCESS TO COUPLER HARDWARE.

POST TO HAVE FLANGE TO SECURE BASE WITH FLUSH-TO-SURFACE CAPTIVE TAMPERPROOF SCREWS PAINTED TO MATCH ADJACENT SURFACE COLOR.

SIGNS TO MATCH EXISTING.

POST + PANEL
SCALE: ½”=1’



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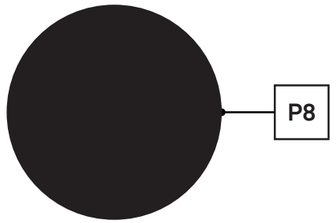
ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

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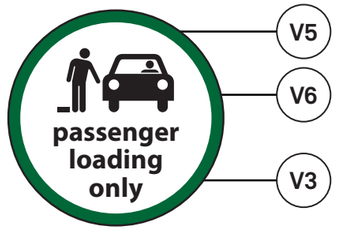
SIGN TYPE G2 -
BIKE TRAIL MILE MARKERS



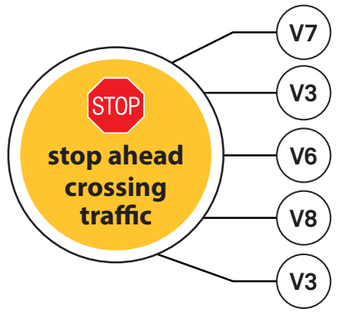
BACK OF PANELS
TO BE PAINTED



.080" THK
ALUMINUM PANEL







POST + PANEL
SCALE: 1"=1'

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GREAT PARK

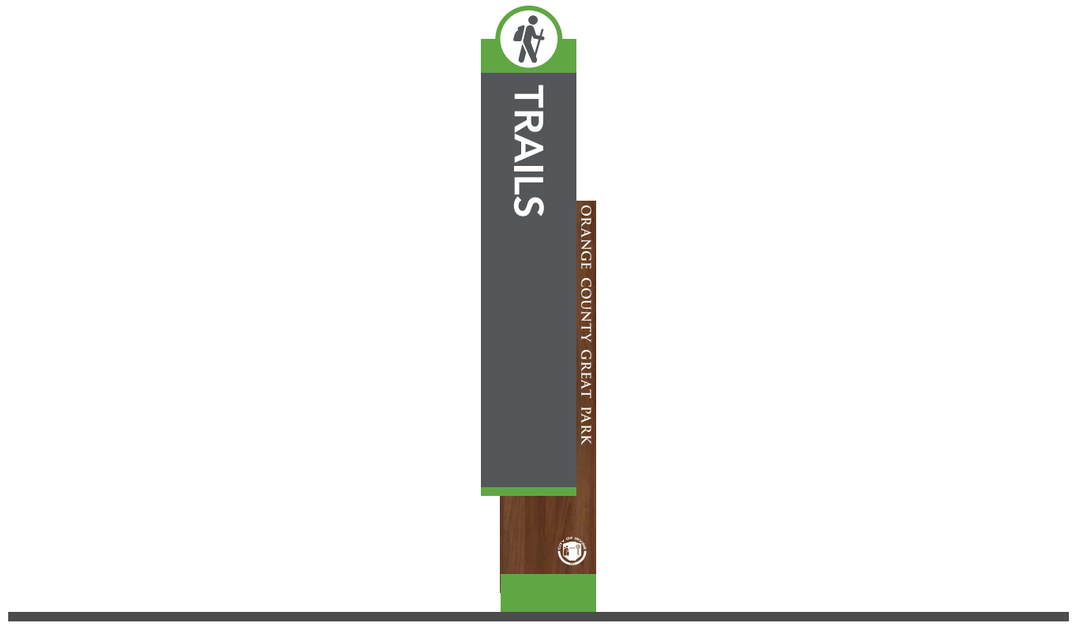
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SIGN TYPE H - TRAIL GATEWAY

- Trail gateway signs identify entrances to the Orange County Great Park and differentiate park trails from neighborhood trails.



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ORANGE COUNTY GREAT PARK

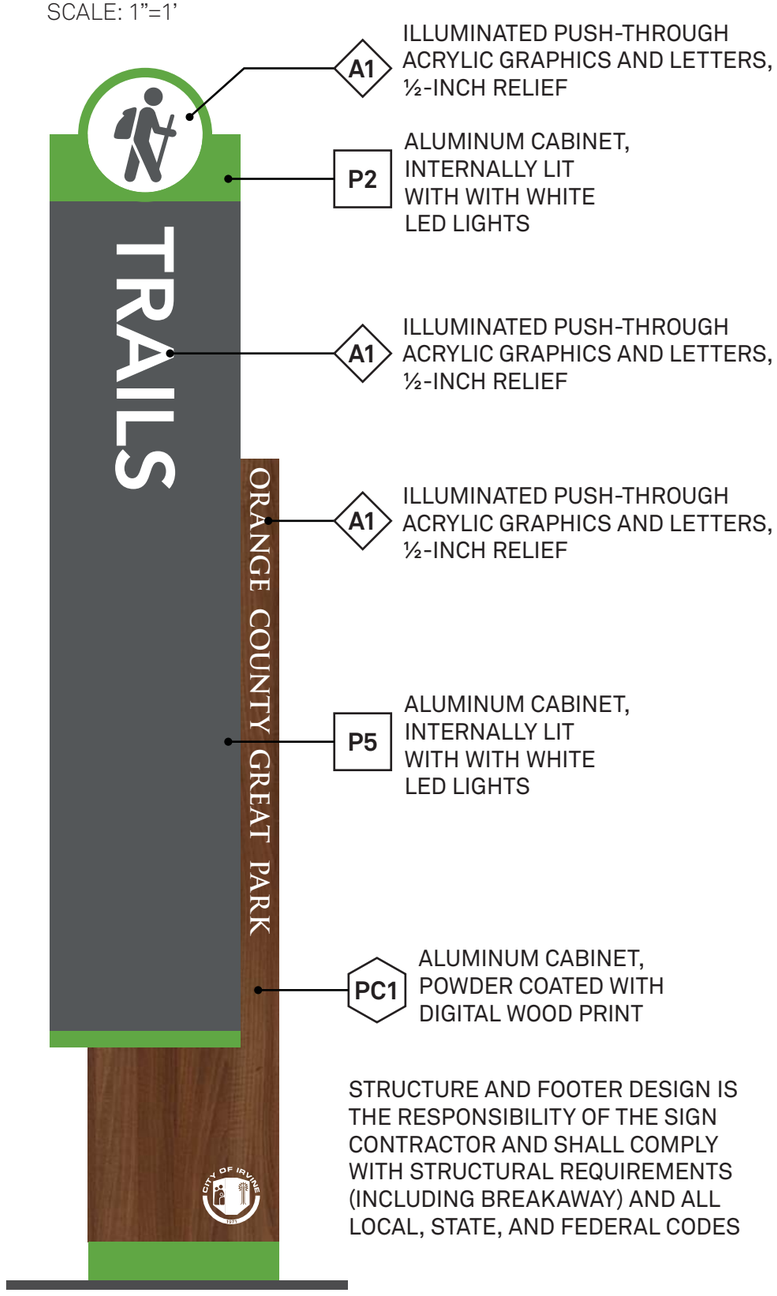
Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

SIGN TYPE H - TRAIL GATEWAY

SIGN FACE LAYOUT
SCALE: 1”=1’



A1 ILLUMINATED PUSH-THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF

P2 ALUMINUM CABINET, INTERNALLY LIT WITH WITH WHITE LED LIGHTS

A1 ILLUMINATED PUSH-THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF

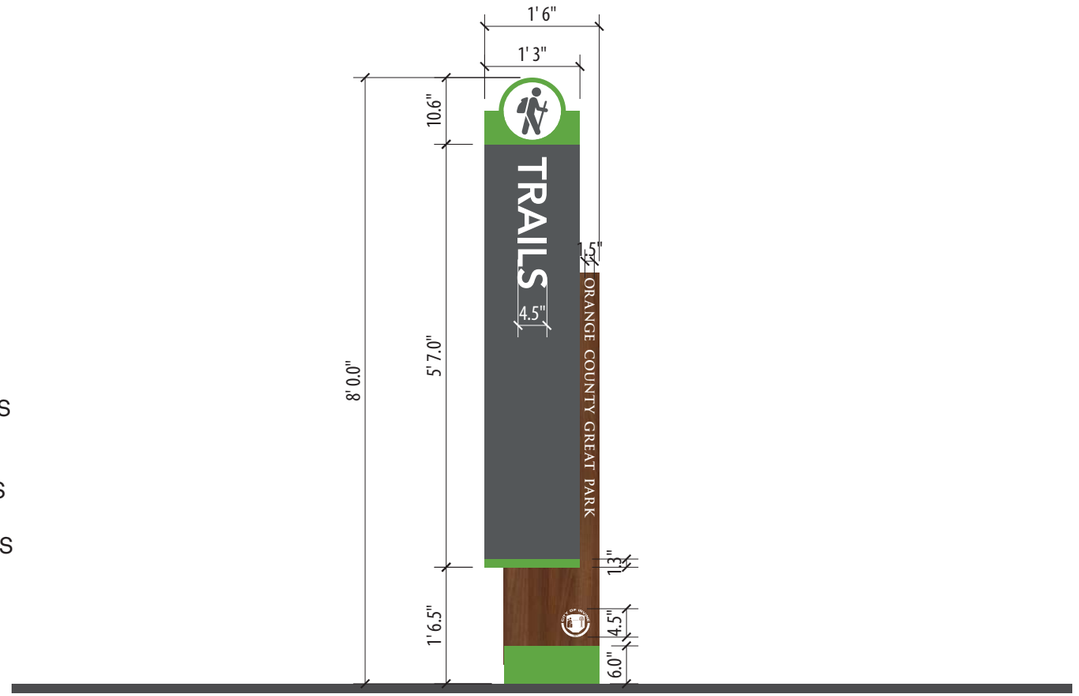
A1 ILLUMINATED PUSH-THROUGH ACRYLIC GRAPHICS AND LETTERS, ½-INCH RELIEF

P5 ALUMINUM CABINET, INTERNALLY LIT WITH WITH WHITE LED LIGHTS

PC1 ALUMINUM CABINET, POWDER COATED WITH DIGITAL WOOD PRINT

STRUCTURE AND FOOTER DESIGN IS THE RESPONSIBILITY OF THE SIGN CONTRACTOR AND SHALL COMPLY WITH STRUCTURAL REQUIREMENTS (INCLUDING BREAKAWAY) AND ALL LOCAL, STATE, AND FEDERAL CODES

SIGN STRUCTURE
SCALE: ½”=1’



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Irvine, CA 92618
(949) 724-7446

DESIGNER
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ORANGE COUNTY GREAT PARK

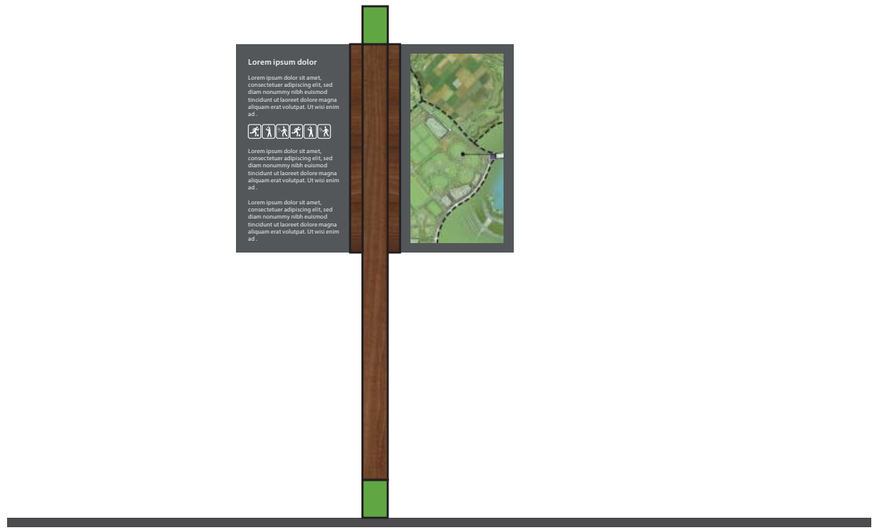
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SIGN TYPE J - POST MOUNTED MAP

- Pedestrian maps provide initial orientation and encourage exploration by informing users of other activities, amenities or landmarks that are nearby.



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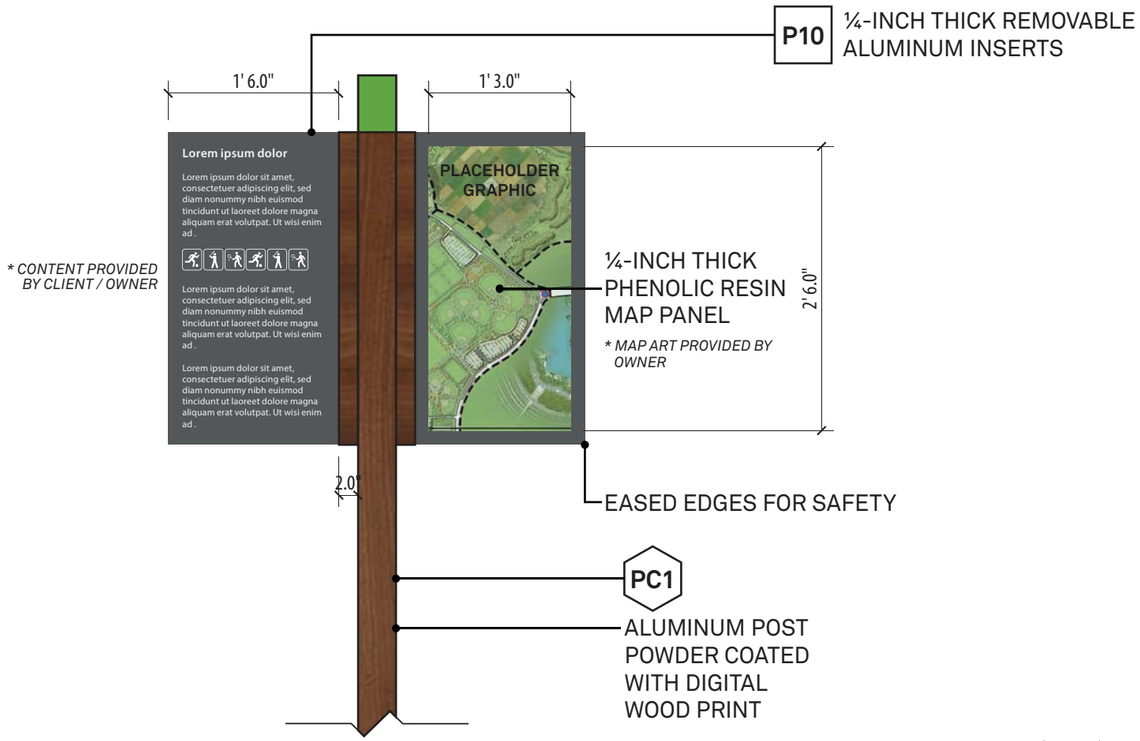
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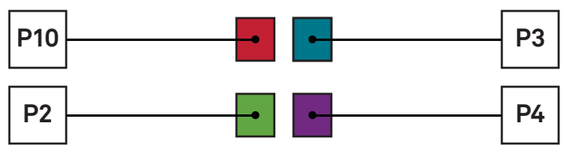
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SIGN TYPE J - POST MOUNTED MAP

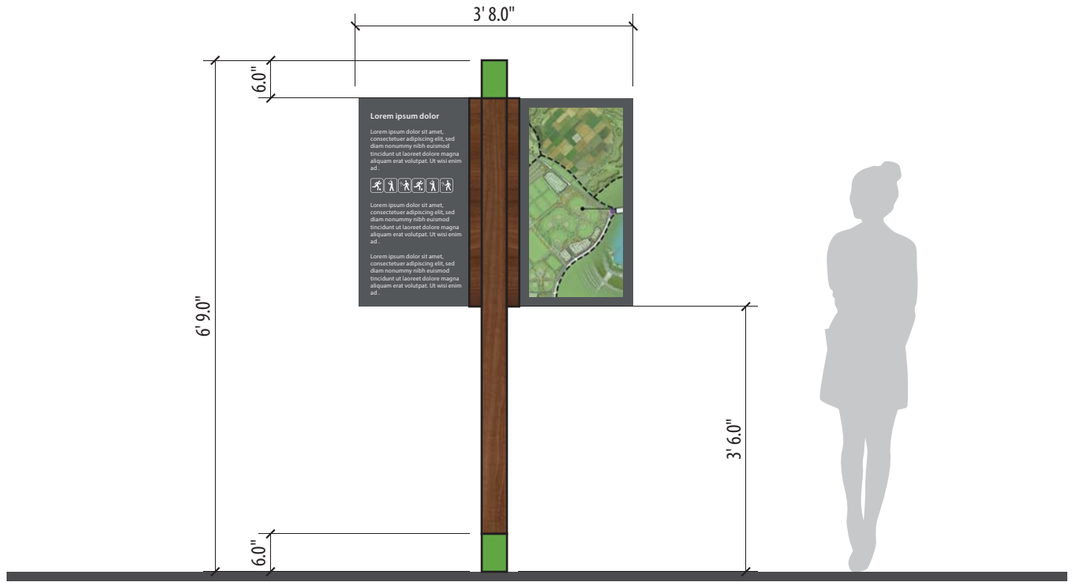
SIGN FACE LAYOUT
SCALE: ¾”=1’



DISTRICT COLOR OPTIONS



POST + PANEL
SCALE: ½”=1’



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Signage & Wayfinding Program

Case No: 00705463-PSS

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SIGN LOCATION PLANS

SIGN TYPE A – SIGN LOCATION PLAN

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND

Sign Number — Sign Location

C2 16

Sign Type

SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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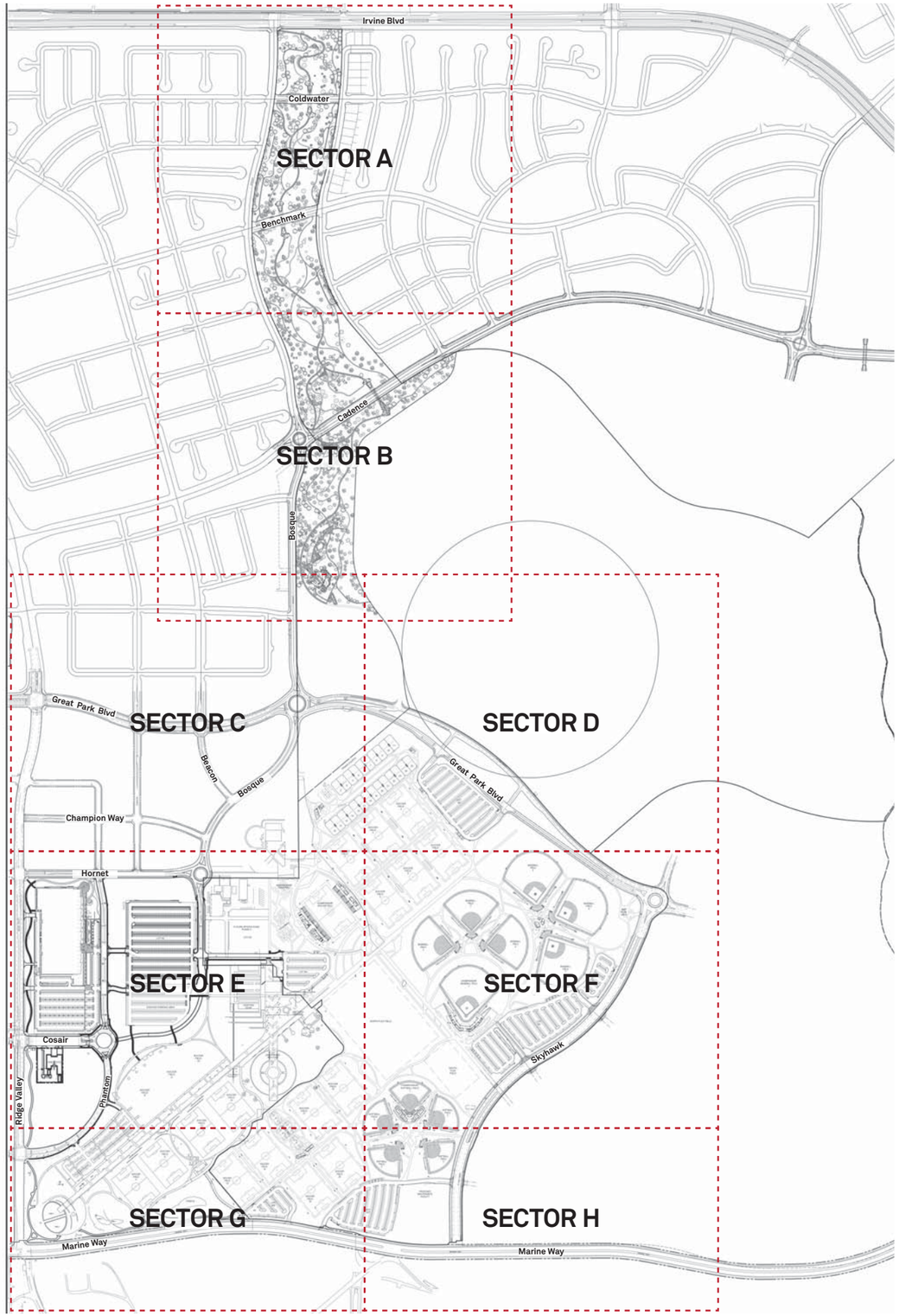
ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

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SECTOR PLAN



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Signage & Wayfinding Program

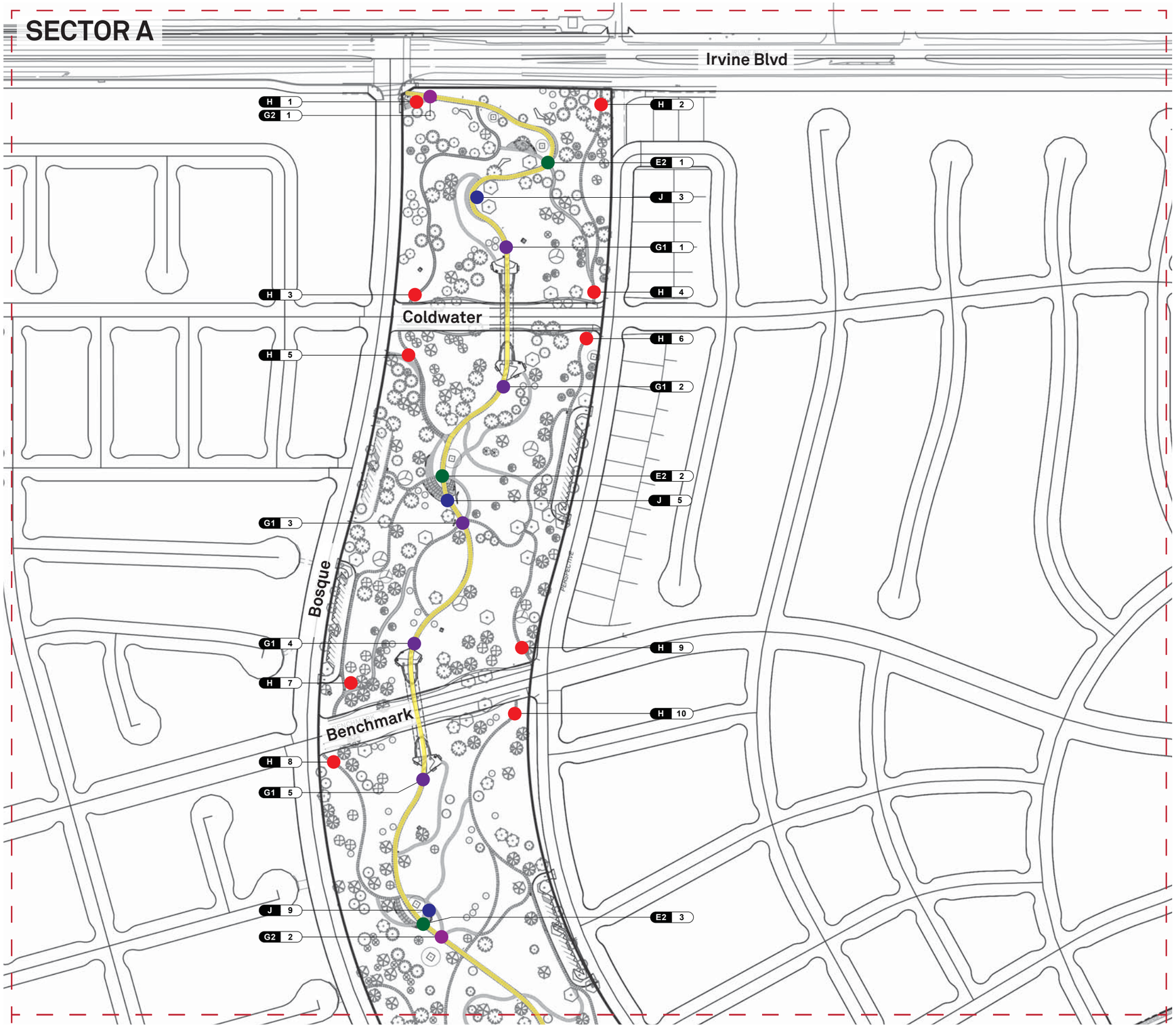
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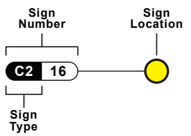
SIGN LOCATION PLAN- SECTOR A

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
Sign Type F1	Soccer Field Identity Sign
Sign Type F2	Volleyball Court Identity Sign
Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
Sign Type F6	Basketball Court Identity Sign
Sign Type G1	Bicycle Directional Sign
Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Signage & Wayfinding Program

Case No: 00705463-PSS

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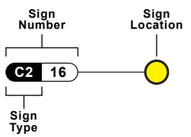
SIGN LOCATION PLAN- SECTOR B

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
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Sign Type C2	Vehicular Parking Lot Identity Sign
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Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Signage & Wayfinding Program

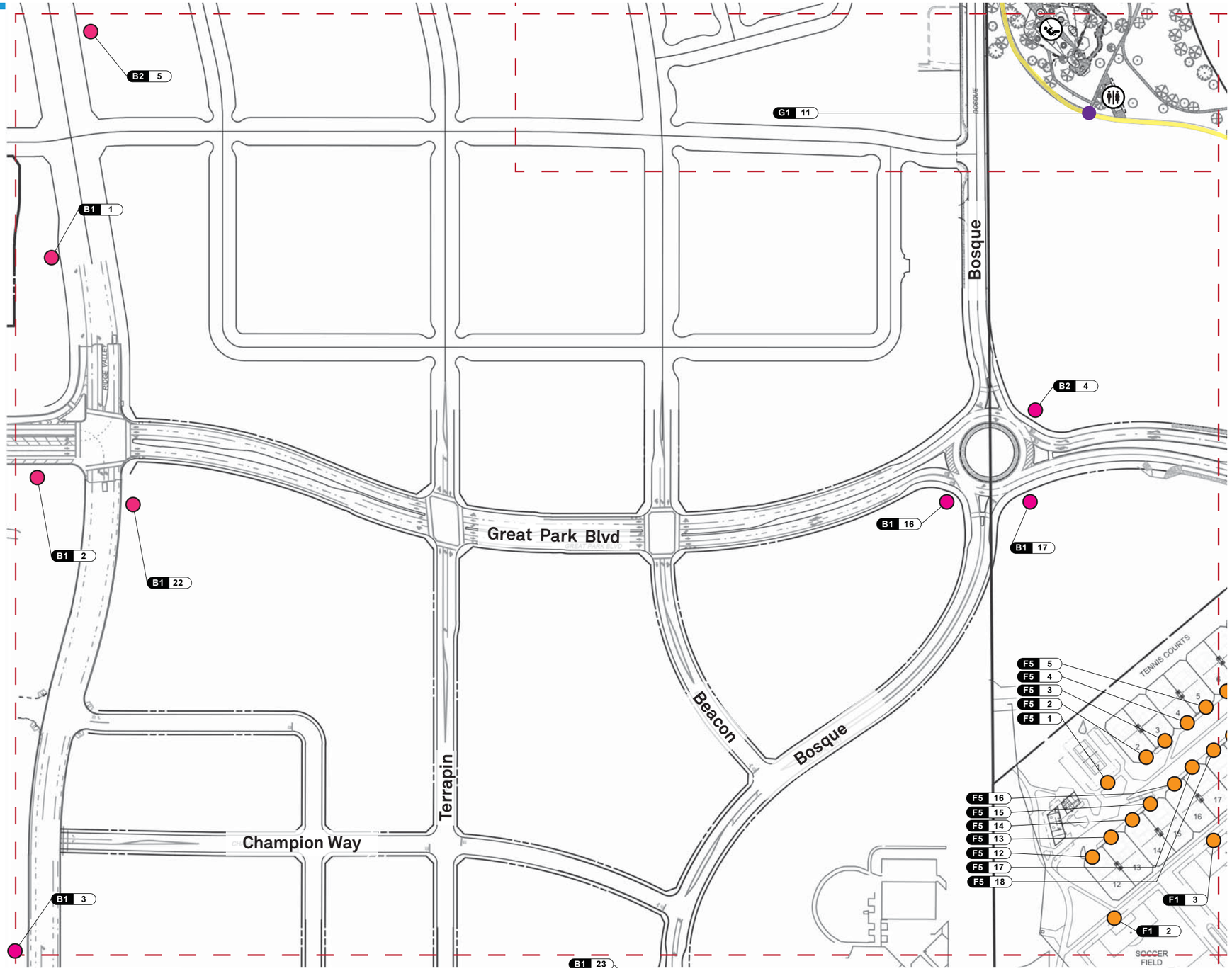
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SIGN LOCATION PLAN- SECTOR C

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND

Sign Number: C2 16 — Sign Location

Sign Type

SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
Sign Type E2	Pedestrian Directional Sign
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Sign Type G2	Bicycle Mile Marker Sign
Sign Type H	Trail Gateway Sign
Sign Type J	Post Mounted Map

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Signage & Wayfinding Program

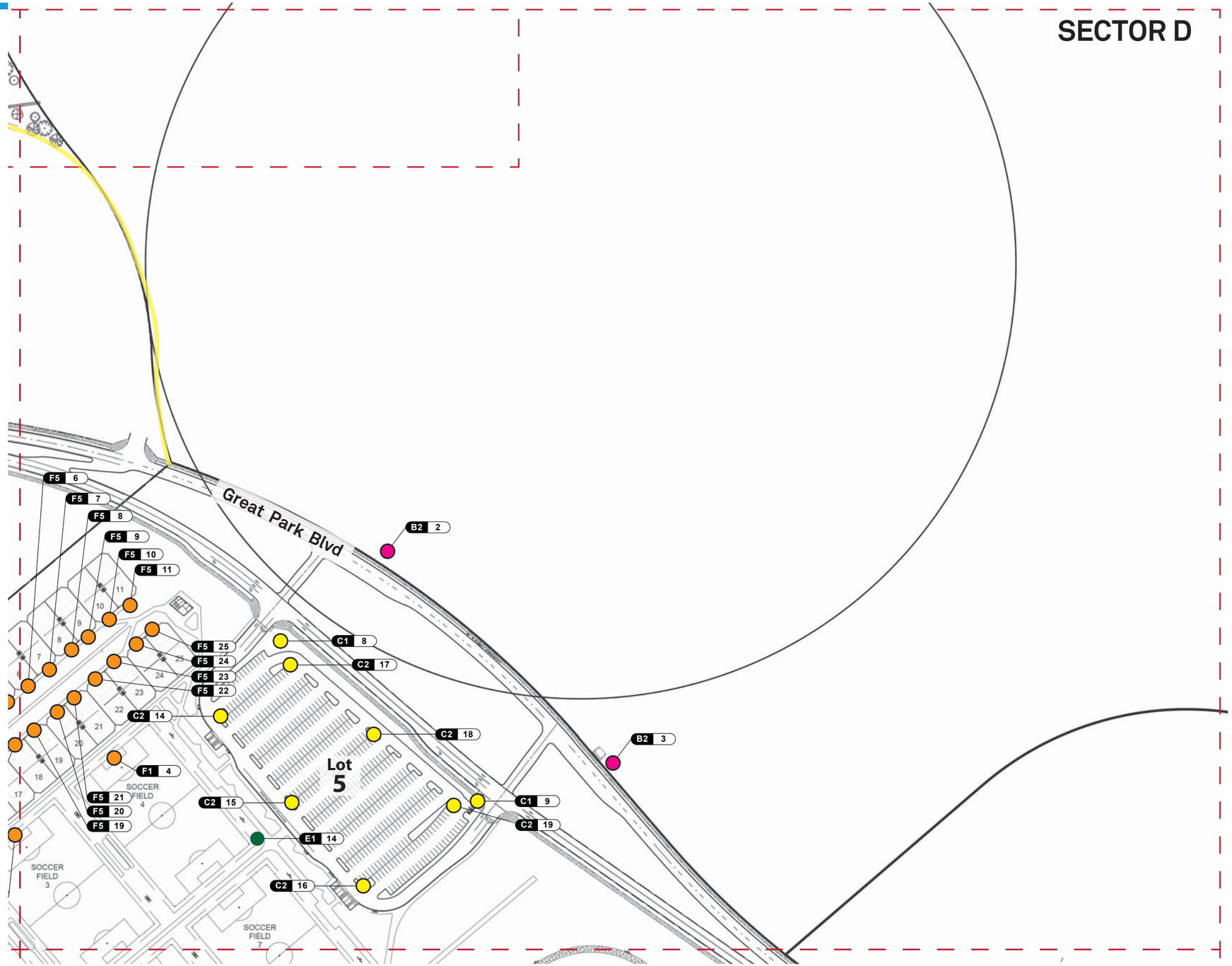
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SIGN LOCATION PLAN- SECTOR D

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND

Sign Number: C2 16 — Sign Location

Sign Type

SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
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Signage & Wayfinding Program

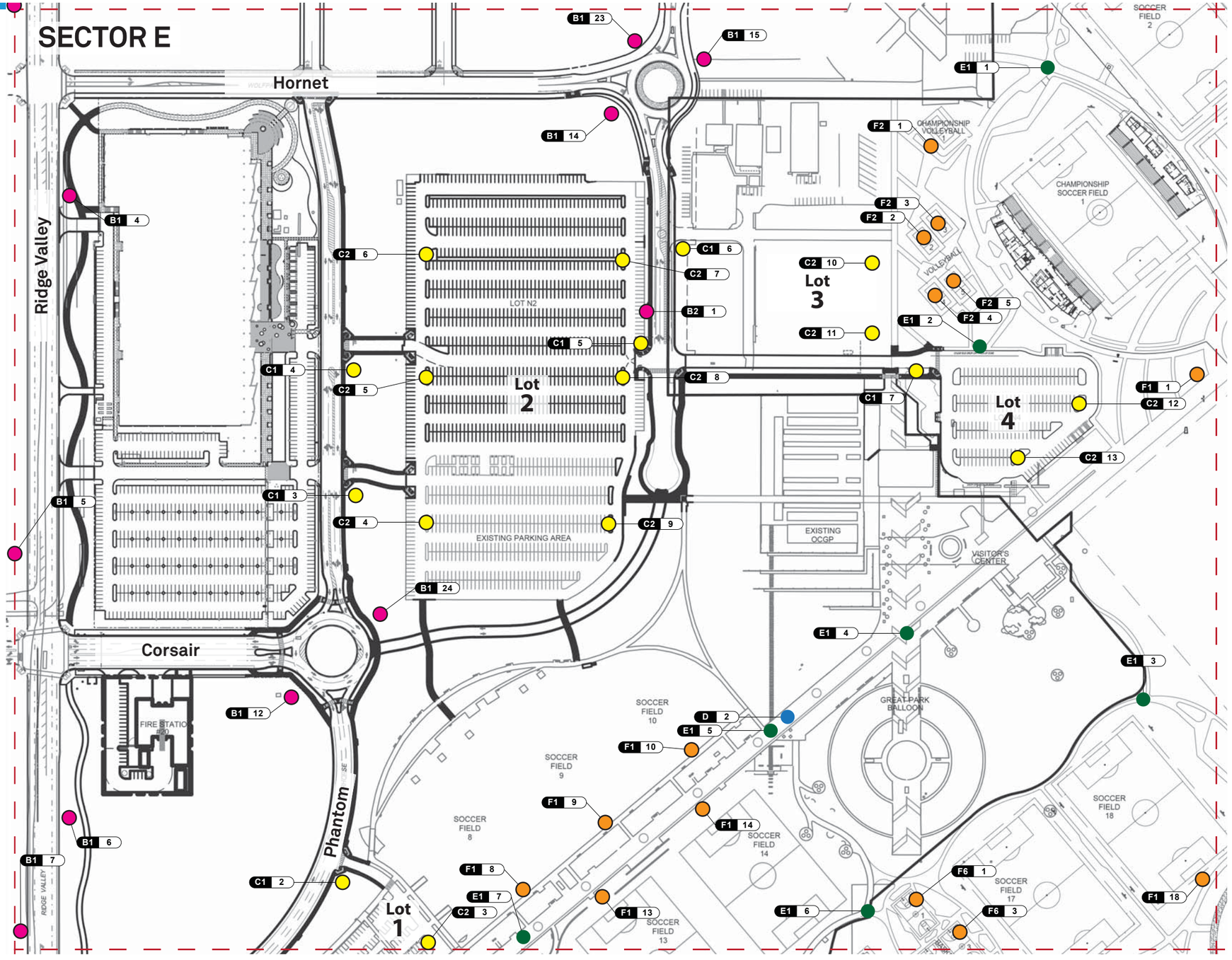
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SIGN LOCATION PLAN- SECTOR E

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND

Sign Number: C2 16 — Sign Location

Sign Type

SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
Sign Type D	Pedestrian Landmark Identity Sign
Sign Type E1	Pedestrian Directional Sign
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Signage & Wayfinding Program

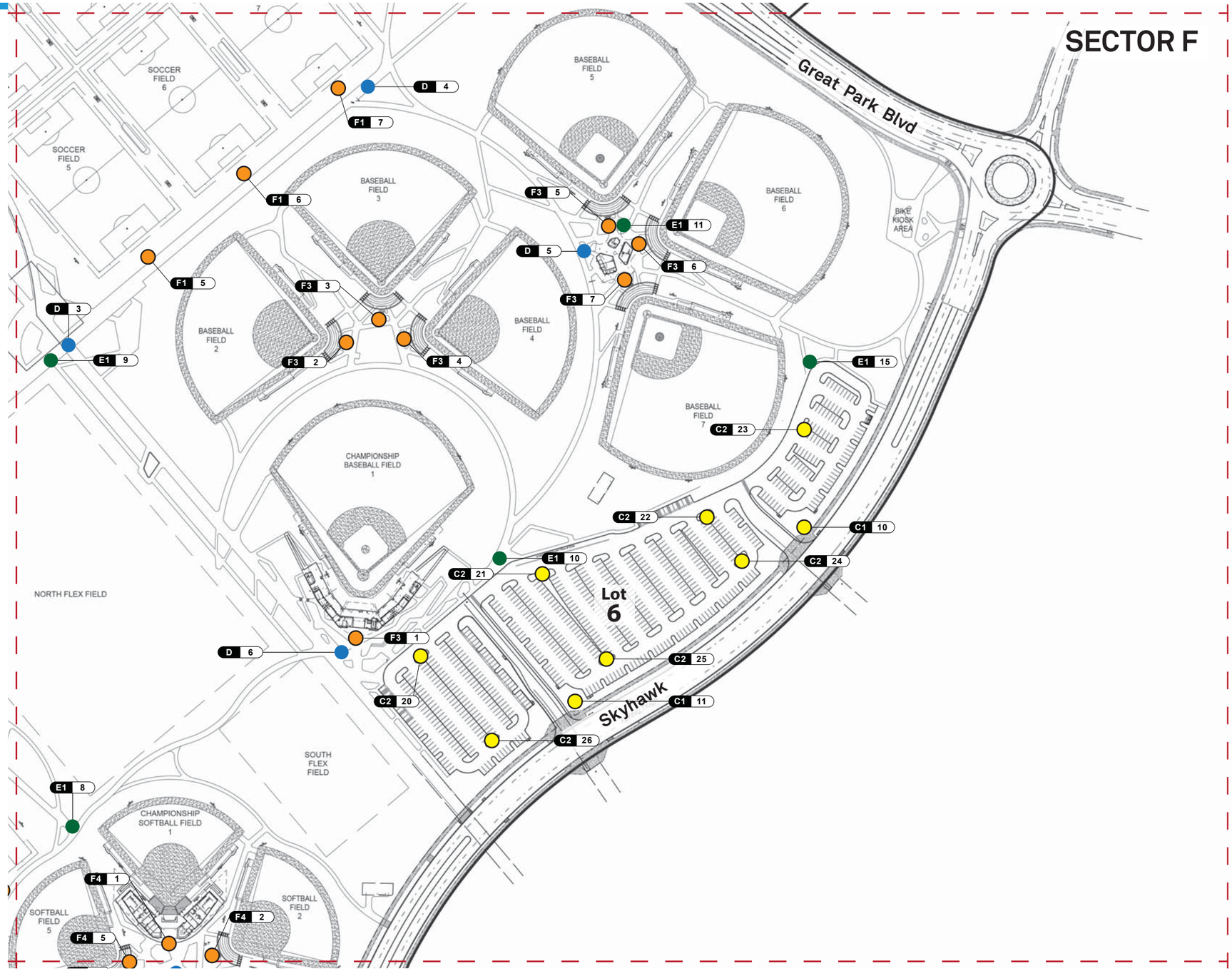
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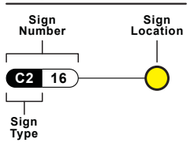
SIGN LOCATION PLAN- SECTOR F

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
Sign Type C1	Vehicular Parking Lot Identity Sign
Sign Type C2	Vehicular Parking Lot Identity Sign
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Signage & Wayfinding Program

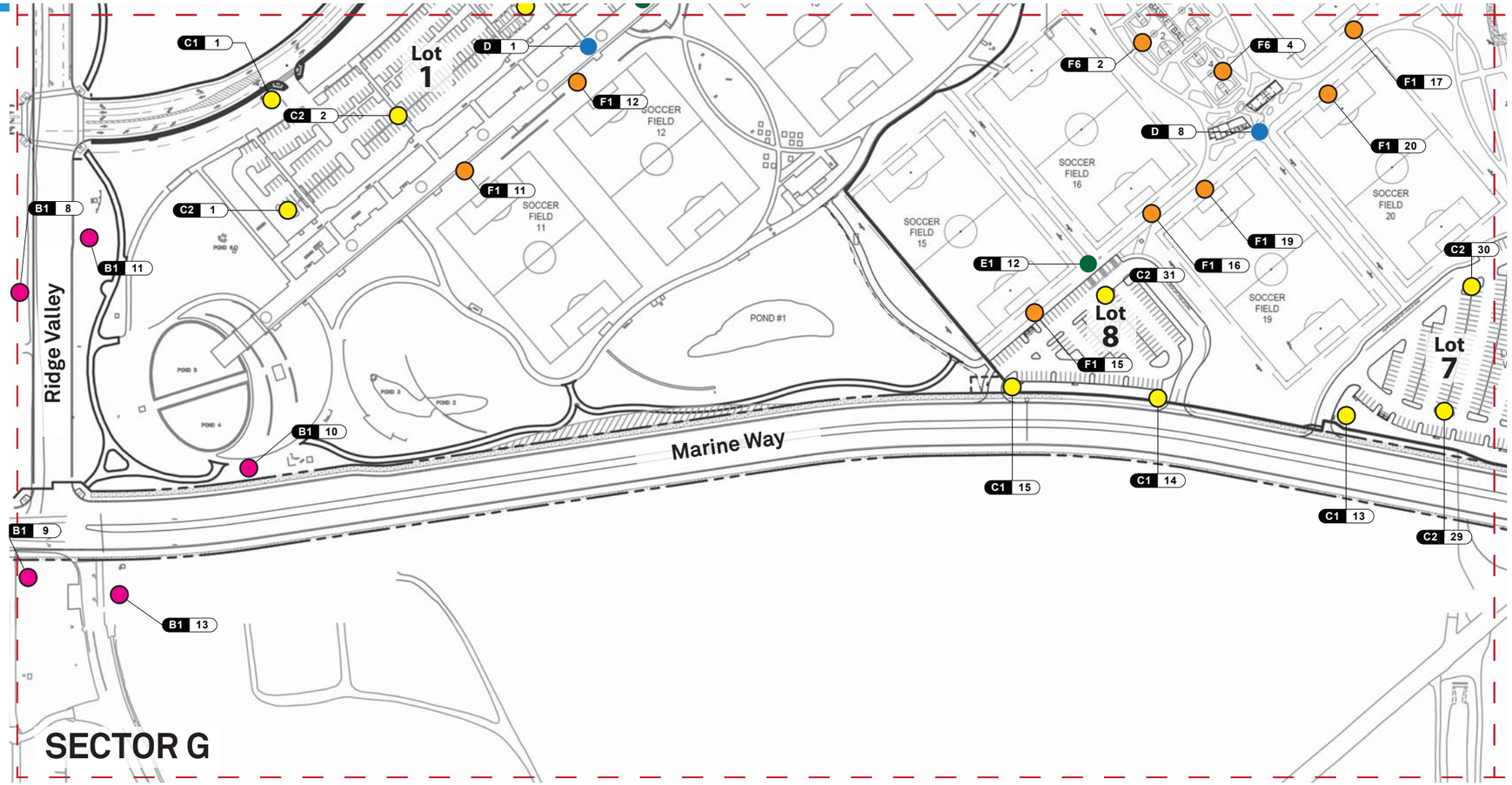
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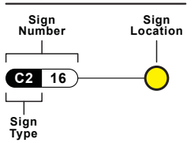
SIGN LOCATION PLAN- SECTOR G

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
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Sign Type J	Post Mounted Map

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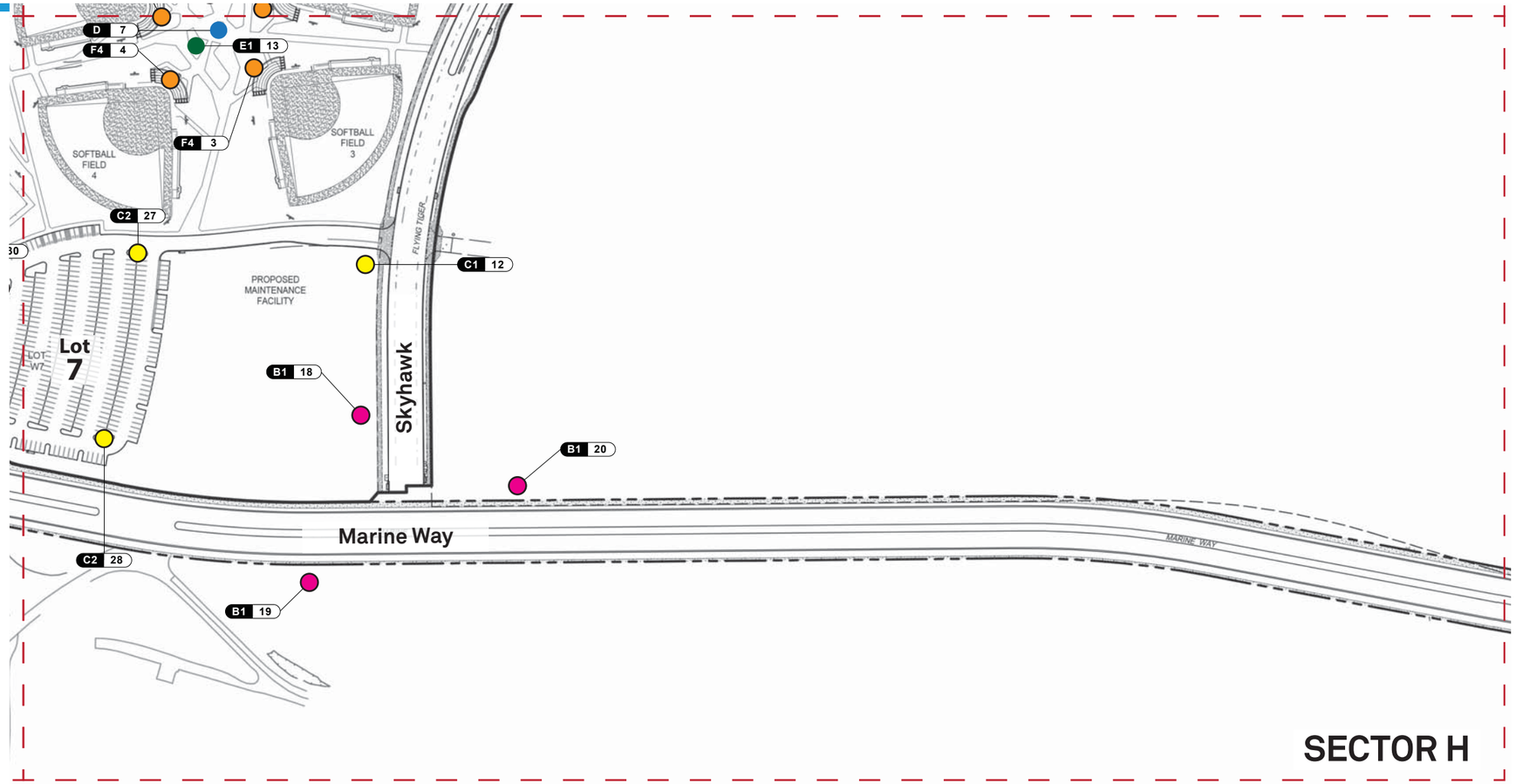
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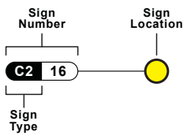
SIGN LOCATION PLAN- SECTOR H

Final sign locations will be field located by contractor and owner.

All proposed signs in the sign program shall comply with the “sight distance triangle” requirement stated in the City of Irvine Standard Plan 403.



LEGEND



SIGN TYPES

Sign Type A	Vehicular Trailblazer Sign
Sign Type B1	Vehicular Directional Sign
Sign Type B2	Vehicular Directional Sign
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Sign Type F3	Baseball Field Identity Sign
Sign Type F4	Softball Field Identity Sign
Sign Type F5	Tennis Court Identity Sign
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Sign Type G2	Bicycle Mile Marker Sign
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Sign Type J	Post Mounted Map

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

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PLACEMENT GUIDELINES

Chapter 2A. General

Section 2A.16 Standardization of Location
Guidance:
04 Signs should be located on the right-hand side of the roadway where they are easily recognized and understood by road users. Signs in other locations should be considered only as supplementary to signs in the normal locations, except as otherwise provided in this Manual.

08 With the increase in traffic volumes and the desire to provide road users regulatory, warning, and guidance information, an order of priority for sign installation should be established.

Support:
09 An order of priority is especially critical where space is limited for sign installation and there is a demand for several different types of signs. Overloading road users with too much information is not desirable.

Guidance:
10 Because regulatory and warning information is more critical to the road user than guidance information, regulatory and warning signing whose location is critical should be displayed rather than guide signing in cases where conflicts occur. Community wayfinding and acknowledgment guide signs should have a lower priority as to placement than other guide signs. Information of a less critical nature should be moved to less critical locations or omitted.

Option:
11 Under some circumstances, such as on curves to the right, signs may be placed on median islands or on the left-hand side of the road. A supplementary sign located on the left-hand side of the roadway may be used on a multi-lane road where traffic in a lane to the right might obstruct the view to the right.

Guidance:
12 In urban areas where crosswalks exist, signs should not be placed within 4 feet in advance of the crosswalk (see Drawing D in Figure 2A-3).

Chapter 2D. Guide Signs—Conventional Roads

Section 2D.01 Scope of Conventional Road Guide Sign Standards
Standard:
01 The provisions of this Chapter shall apply to any road or street other than low-volume roads (as defined in Section 5A.01), expressways, and freeways.

Section 2D.40 Location of Destination Signs

Guidance:
01 When used in high-speed areas, Destination signs should be located 200 feet or more in advance of the intersection, and following any Junction or Advance Route Turn assemblies that might be required. In rural areas, the minimum distance between a Destination sign and either an Advance Route Turn assembly or a Junction assembly should be 200 feet.

Option:
02 In urban areas, shorter advance distances may be used.

03 Because the Destination sign is of lesser importance than the Junction, Advance Route Turn, or Directional assemblies, the Destination sign may be eliminated when sign spacing is critical.

Support:
04 It is more important that guide signs be readable, and that the information and direction displayed thereon be readily understood, at the appropriate time and place than to be located with absolute uniformity.

Standards

- All signs shall be located on the right side of the road and facing the direction of traffic.
- Regulatory and warning signs have priority and take precedence over wayfinding signage. Wayfinding signage may need to be relocated in instances where they obstruct or impede regulatory signage.
- Wayfinding signage shall not impede, restrict or obstruct the driver's view, particulary when travelling through or making turns at intersections.
- Wayfinding signage shall be placed in locations that avoid visual obstructions such as trees, signs and other elements along the streetscape.
- Wayfinding signage shall be located to minimally obstruct the scenic value of the area.

Figure 2A-3. Typical Locations at Intersections
Urban Intersection

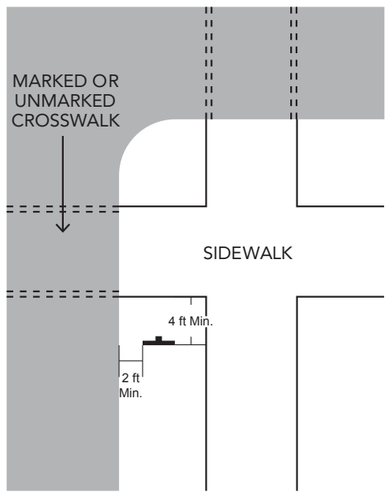
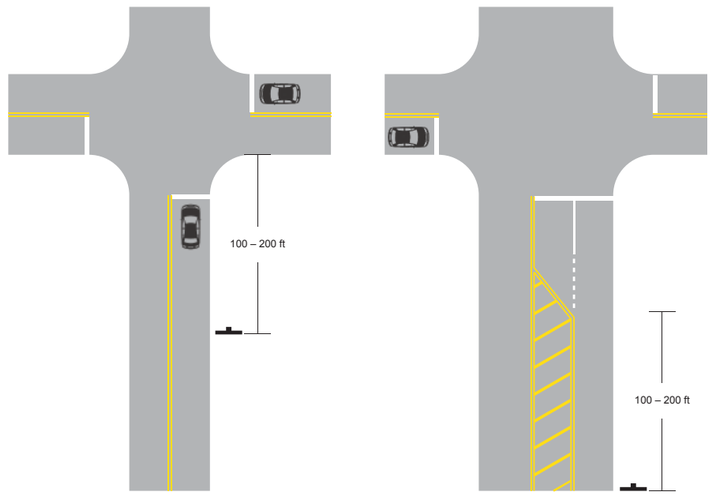


Figure 2A-4. Relative Locations on an Intersection Approach
A – Single-lane approach B – Multi-lane approach



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Original Issue Date:
October 20, 2017
Revisions:

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

AECOM

66

LATERAL OFFSET OF SIGNS

Chapter 2A. General

Section 2A.19 Lateral Offset

02 Post-mounted sign and object marker supports shall be crashworthy (breakaway, yielding, or shielded with a longitudinal barrier or crash cushion) if within the clear zone.

Option:

10 On conventional roads in areas where it is impractical to locate a sign with the lateral offset prescribed by this Section, a lateral offset of at least 2 feet may be used.

11 A lateral offset of at least 1 foot from the face of the curb may be used in business, commercial or residential areas where sidewalk width is limited or where existing poles are close to the curb.

Guidance:

12 Overhead sign supports and post-mounted sign and object marker supports should not intrude into the usable width of a sidewalk or other pedestrian facility.

Section 2A.20 Orientation

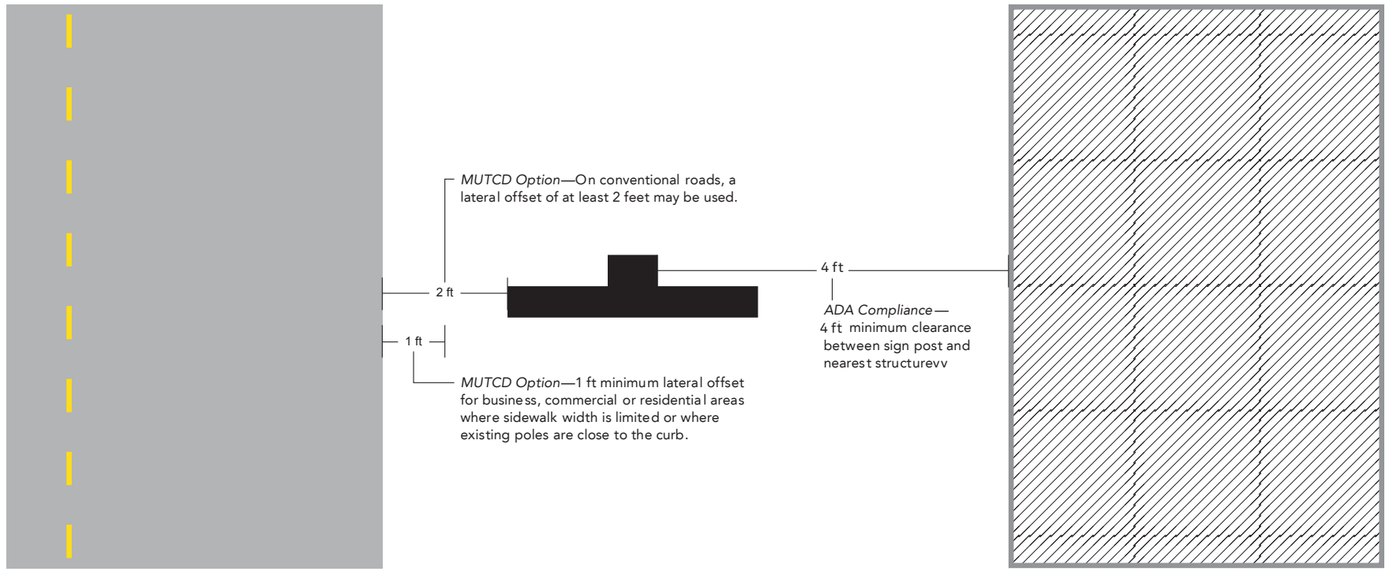
Guidance:

01 Unless otherwise provided in this Manual, signs should be vertically mounted at right angles to the direction of, and facing, the traffic that they are intended to serve.

02 Where mirror reflection from the sign face is encountered to such a degree as to reduce legibility, the sign should be turned slightly away from the road. Signs that are placed 30 feet or more from the pavement edge should be turned toward the road. On curved alignments, the angle of placement should be determined by the direction of approaching traffic rather than by the roadway edge at the point where the sign is located.

Option:

03 On grades, sign faces may be tilted forward or back from the vertical position to improve the viewing angle.



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MAINTENANCE RECOMMENDATIONS

MAINTENANCE RECOMMENDATIONS

Operations and Management

- Management of the wayfinding system should be regulated by the group responsible for decisions regarding funding, maintenance and expansion of the program. A point person or project manager should be assigned to oversee regular maintenance of the system.
- Maintenance activities should consider proper position, cleanliness, legibility, and daytime and nighttime visibility. Damaged or deteriorated signs, gates, or object markers should be replaced.
- To assure adequate maintenance, a schedule for inspecting (both day and night), cleaning, and replacing signs, gates, and object markers should be established.
- Due to the customized aspect of the signs, the in-house sign shop may be limited to changing graphics. An attic stock of materials or parts is recommended to be included in the initial system implementation. These materials or parts include painted panels, brackets and poles.
- Steps should be taken to see that weeds, trees, shrubbery, and construction, maintenance, and utility materials and equipment do not obscure the face of any sign or object marker.
- A regular schedule of replacement of lighting elements for illuminated signs should be maintained.

Cleaning

- The signage system should be cleaned annually, however, twice a year is ideal.
- All signs should be cleaned with a mild cleanser and water.
- Applying automotive wax or paint sealant to all painted surfaces is optional, but ideal for maintaining life of the paint finish.
- Graffiti should be removed as soon as possible with the most effective results coming within 24 hours. It is possible to remove graffiti after 24 hours though it becomes more difficult to remove and may leave more permanent damage.
- Various solvents have different effects on various graffiti. Test an inconspicuous area of the sign before full cleaning. Mild non-abrasive solvents such as mineral spirits should be tested initially, then progress to more aggressive solvents such as acetone, lacquer thinner or standard paint reducers.
- Sticker removal can be cleaned with common adhesive removal products such as Goo Gone or Goof Off.

Vegetation and Trees

- Most tree roots are found in the top 23” of soil and often grow out further than the trees height. If roots are damaged the tree may suffer irreversible harm, so care must be taken when excavating in the vicinity of trees for sign installation.
- Trimming of street trees near or around signage should be done regularly to avoid visual obstructions of the sign.

	0-4 Years	5-9 Years	10–15+ Years
Planning & Design	• Evaluation of the system should be done in the first year for effectiveness and identify any issues. • Minor corrections and adjustments to help the system operate more efficiently. This could include additional signs, or adjustments based on new circulation patterns.	• Review planned or existing projects to update or expand the signage system. Identify new destinations or facilities which have closed. • Additions and deletions of destinations and/or messages and overall routing based on physical changes to the campus.	• Review planned or existing projects to update or expand the signage system. Identify new destinations or facilities which have closed. • Review new circulation/routing and construction projects that may effect the system. • Review consistency with the brand identity and marketing initiatives.
General Maintenance	• Annual Cleaning • Review all signs for damage or vandalism. • Repair or replace damaged signs— new panels, tightening of fasteners, replacement parts due to vandalism or auto damage. • Relocation may be necessary based on problematic sign locations.	• Annual Cleaning • Review all signs for wear, damage or vandalism. • Repair or replace damaged signs— new panels, tightening of fasteners, replacement parts due to vandalism or auto damage. • Materials begin to fade, warranties expire and a more concentrated effort is required to maintain the system. New panels, replacement parts, and sign replacement may be necessary. • Relocation may be necessary based on new routing or circulation.	• Annual Cleaning • Materials begin to reach their life span. Review integrity of materials. • Full sign replacement may be necessary for some signs especially if they have not been maintained in the past. • Relocation may be necessary based on new routing or circulation.
Material Durability	• Retroflective vinyl › 5–7 years • Paint › 10+ years	• Retroflective vinyl › 5–7 years › Individual signs may need replacement if reflectivity is assessed to be ineffective. • Paint › 10+ years › Paint typically holds up, but fading may occur. › Individual signs may need touch up or replacement if fading occurs.	• Retroflective vinyl › Reflectivity becomes less effective. Vinyl may need replacement. • Paint › Fading occurs. › Full sign replacement may be necessary.

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ORANGE COUNTY GREAT PARK

Signage & Wayfinding Program

Case No: 00705463-PSS

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5.2

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: PROPOSED UPDATES TO THE COST RECOVERY POLICY FOR COMMUNITY SERVICES PROGRAMS AND SERVICES

Director of Community Services

City Manager

RECOMMENDED ACTION

Adopt – A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, TO ADOPT THE COST RECOVERY POLICY FOR COMMUNITY SERVICES PROGRAMS AND SERVICES.

EXECUTIVE SUMMARY

The Community Services Department (Department) provides myriad diverse programs and services for residents of all ages and abilities. The City's community centers, parks, trails, athletic amenities, fine arts and aquatics centers are hubs of community activity providing recreation, human services, personal development and self-directed experiences. The Department provides nearly 3,000 life-affirming programs annually to the City's youngest, oldest and most vulnerable populations through senior programs, family and youth services, activities for persons with disabilities, animal care services, after school programs, youth camps and an array of programs supporting the desired activities of Irvine residents.

Growth and changes within the City's population create opportunities to deliver programs and services that meet these diverse needs through the judicious use of resources consistent with City Council goals. For more than 20 years, the existing Fee Policy (Attachment 1), has provided pricing guidance for these programs within a three-tier cost recovery framework to ensure pricing is fiscally responsible and consistent with the City's mission, vision, and values.

The proposed Policy (Attachment 2), has been updated to reflect best practices while maintaining the City's philosophy and cost recovery approach. As an outcome of the Department's cost of services study, the updated policy expands the cost recovery framework from three to five tiers for a more comprehensive alignment of Categories of Service with cost recovery goals. Further guidance has been added to the Policy establishing clear parameters for the implementation of program fee changes enabling the Department to more efficiently manage fees for programs and services within City Council approved cost recovery targets and policy guidance. With these recommendations and the compilation of the Fee Policy into one comprehensive

document, rather than its current format of multiple documents, improved policy implementation is expected.

COMMISSION/BOARD/COMMITTEE RECOMMENDATION

At its July 6, 2017 meeting, the Community Services Commission unanimously recommended the City Council approve a resolution (Attachment 3), to adopt the draft Cost Recovery Policy for Programs and Services. The Finance Commission, on July 17, 2017, unanimously recommended the City Council approve a resolution to adopt the draft Cost Recovery Policy for Programs and Services, with a recommendation that Community Services consider evaluating additional policy language for variable/flexible pricing for non-resident program participation.

ANALYSIS

Existing Fee Policy

The policy provides a framework that supports the City's philosophy and approach to cost recovery and the pricing of the Department's various programs and services. A foundational component of the policy is the concept of a "Benefit Continuum" as shown on the line below.

Community Benefit **Individual Benefit**

0% cost recovery **100% cost recovery**

The interaction of benefit and cost recovery levels on the continuum is a reflection of the City's mission, vision and values. Programs and services that provide a greater community benefit have lower cost recovery. Programs and services at the opposite end of the benefit continuum with more individual benefit, and less focus on community benefit, have higher cost recovery.

The existing policy uses a three-tier model depicted below to group programs and services into differing levels of cost recovery. The three-tier model identifies programs and services that have the greatest community benefit as "Substantially-Supported Activities" and have lower levels of cost recovery with user fees as a nominal source of funding. At the opposite end are "Self-Sufficient Activities" (highly individual benefit) where cost recovery levels are higher and user fees and charges are the primary source of funding. When there are balanced benefits between the community and the individual, in "Partially-Supported Activities", a combination of fee-based revenues and General Fund monies support these activities.

Substantially-Supported Activities	Partially-Supported Activities	Self-Sufficient Activities
Promote a safe, healthy and secure community; target under-served populations; emphasis on youth programs	*Promote economic prosperity; increase quality of life; enhance the scope of opportunities available to participants*	*Developed for and marketed to adults; defined as personal development and predicated on community demand*
Recovery of up to 100% of Direct costs	**Recovery of up to 100% of Direct and Indirect costs**	**Recovery of up to 100% of Direct, Indirect, and Overhead costs**

Challenges of the Existing Policy

The Cost of Services Study (Executive Summary-Attachment 4), recognizes the City and its Policy for being a successful early adopter of cost recovery methodology over 20 years ago. The study also identifies key challenges with administering the current policy as outlined:

- Non-fee based and enterprising activities are not captured within the policy;
- Difficulty in making a comparative cost recovery analysis between categories of services and tiers due to the variable cost definitions and broad cost recovery guidelines of up to 100 percent; and
- Policy implementation focuses on setting specific fees rather than governing overall cost recovery of programs and services to align with the City's priorities.

Proposed Updated Cost Recovery Policy for Programs and Services (Policy)

1. Improvements to the Cost Recovery Framework

    a. *Modifying the Cost Recovery Model from a Three to Five-Tier Model*

    Propose adding two tiers to account for non-fee based programs and enterprising activities. Non-fee activities, based on the benefit continuum, provide a high level of community benefit, with low or nominal cost recovery expectations. These activities include family support services (e.g., FOR Families), youth development (e.g., Youth Action Team) and drop-in use of City facilities.

    Enterprise activities include food concession, merchandising and advertising. Based on the benefit continuum, these activities are highly individualized benefits with expectations to recover 100 percent. At this time, these activities are less than one percent of the General Fund budget; however, staff proposes the tier for consideration of future enterprise activities.

Staff recommends the existing tier names be updated to reflect a full benefit continuum from community to individual benefits. For example, "Substantially Supported" changes to "Considerable Community Benefit", to describe the desired outcomes for the tier.

Adding two tiers provides an expanded, more effective policy model. With the inclusion of non-fee based and enterprising activities, the Department can present a more comprehensive picture of programs and services for City Council evaluation. This improves oversight of expenditures and revenues and supports fiscal responsibility. Below is the framework of the proposed five-tier Cost Recovery Model. (The full model is provided as Attachment 5).

MOSTLY COMMUNITY BENEFIT *(proposed new tier)*	***CONSIDERABLE COMMUNITY BENEFIT*** *(Substantially Supported)*	***BALANCED COMMUNITY AND INDIVIDUAL BENEFIT*** *(Partially Supported)*	***CONSIDERABLE INDIVIDUAL BENEFIT*** *(Self Sufficient)*	***MOSTLY INDIVIDUAL BENEFIT*** *(proposed new tier)*
Community-wide focus; encourages general use of parks and trails; promotes safety and education and addresses community needs.	Promotes a safe, healthy and secure community; targets under-served populations; emphasis on youth programs.	Increases quality of life; and enhances the scope of opportunities available to participants.	Promotes personal development; offering is predicated on community demand.	Enterprise activities that may be in the same market place as the private sector or fall outside of the core mission of the City.
0% to 15% Minimal cost recovery	***10%-35% Low cost recovery***	***30%-60% Moderate cost recovery***	***55%-100% Significant cost recovery***	***100% cost recovery***

b. Consistent Cost Definition Across Tiers

The proposed Policy modifies the cost definition from a variable definition to one consistent cost definition across all tiers as shown below.

	Type of Cost Definition	Cost Definition
Existing Policy	Variable Cost Definitions	*Tier 1*: direct costs *Tier 2*: direct and indirect costs *Tier 3*: direct, indirect and overhead
Updated Policy	Single Cost Definition	All Tiers include direct, indirect and overhead

The existing variable cost definitions allow comparison of cost recovery levels of programs and services within the same tier, but not easily across tiers. Under the proposed Policy, implementing a consistent cost definition creates a basis for comparison of cost recovery levels across tiers. This change more effectively supports the City Council's consideration in placing categories of service within the

desired tier, which guides the assignment of user fees for the Department's programs and services.

c. Aligning cost recovery guidelines for each of the five tiers

The existing policy has the same cost recovery guidelines for all tiers (i.e., maximum of 100 percent). The Cost of Services Study found these guidelines to be too broad to provide guidance and direction for the assigning of categories of service within cost recovery ranges. For example, one tier included programs and services with cost recovery levels ranging from 1 to 100 percent. This broad range does not support effective cost recovery decision making at the policy level.

Under the proposed Policy, the cost recovery ranges are more clearly defined and express the benefit continuum from community to individual benefit. This provides a more effective tool for the City Council to direct cost recovery to align programs and services with the City's mission, vision and goals.

Below are the proposed cost recovery guidelines based on the recommendations of the Cost of Services Study including a description of program goals within each tier. Given the significant number of activities offered to the community, programs and services are grouped into *categories of service* and the City Council determines the assignment of categories into each tier.

Tier 1: Mostly Community Benefit. Minimal cost recovery; 0 to 15 percent. Represents basic public services that benefit the community as a whole. These activities promote education, health and safety; provide support services for seniors, families and youth; provide recreational opportunities for persons with disabilities; and enhance the overall quality of life for residents.

Tier 2: Considerable Community Benefit. Low cost recovery; 10 to 35 percent. Activities that serve the community, but have an increased level of individual benefit. These activities address social needs and focus on underserved populations such as youth and seniors.

Tier 3: Balanced Community & Individual Benefit. Moderate cost recovery; 30 to 60 percent. Represents activities with balanced individual and community benefit. Activities provide social, health and educational enrichment that increases quality of life and enhances the scope of opportunities available to participants.

Tier 4: Considerable Individual Benefit: Significant cost recovery; 55 to 100 percent. Represents activities that are defined as personal development. While these activities may be available elsewhere, offering is predicated on community demand. Activities primarily developed and marketed to adults.

Tier 5: Mostly Individual Benefit: Minimum cost recovery of 100 percent. Represents enterprise activities that may fall outside the core mission of the City or may be in the same market place as the private sector. These services recover full costs since

the activity is designed to provide significant direct individual benefits on a pay-as-you-go basis. These services may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law.

2. Approval of Fees and Charges

The proposed policy ensures that staff adheres to City Council parameters by imposing clear limits to price increases for programs and services. City Council approval is required for:

- Fee changes above 5%
- Fee changes in consecutive fiscal years
- Non-fee based programs assigned a fee for the first time

Benefits of Proposed Updated Policy

The proposed updated Fee Policy maintains the City's approach to cost recovery and pricing of programs and services while improving the overall framework that supports fiscal responsibility and sustainability of services. Specific benefits include:

- Adds two tiers to capture non-fee based and enterprising activities expands the Policy's effectiveness to provide increased oversight of expenditures and revenues and supports fiscal responsibility;

- Provides a more comprehensive representation of City Council priorities related to programs, services, and community benefits;

- Implements a consistent cost definition creates a basis for comparison of cost recovery levels across tiers that enables better decision-making on setting user fees for the Department's programs and services;

- Modifies the fee approval process, within clearly defined parameters, to more efficiently support programming needs and changes related to: public preferences; convenience and flexible scheduling; participation levels; direct program costs, and market trends;

- Aligns Policy to be more consistent with the approach used to set athletics fees at the Orange County Great Park Sports complex; and

- Updates the 20-year old policy to provide clearer guidance within a comprehensive policy document as opposed to a compilation of historical City Council resolutions/actions.

Implementation and Next Steps

Adoption of the proposed Cost Recovery Policy for Programs and Services establishes an improved framework for administering cost recovery and pricing for programs and services. With Policy approval, staff will update and implement budgeting and programming evaluation tools. This will support the Department's internal processes to ensure continued compliance with the policy. The City's master fee schedule will be updated accordingly.

ALTERNATIVES CONSIDERED

The City Council may suggest alternative variations on the proposed Policy or adopt only portions of the recommended updates.

FINANCIAL IMPACT

The proposed Policy improves the City Council's strategic oversight of cost recovery, and the updated fee approval process improves the Department's fiscal responsiveness maintaining City Council approved cost recovery levels. With improved operational ability to manage cost recovery levels and related fees, within a clear set of parameters, the Department can more actively manage cost recovery levels over time.

REPORT PREPARED BY Mike Cribbin, Senior Management Analyst
Kim Mahon, Senior Management Analyst

ATTACHMENTS:
1. Existing Policy - Cost Recovery Structure and Cost Recovery Guidelines
2. Proposed Cost Recovery Policy for Programs and Services
3. Proposed Resolution
4. Community Services Cost of Services Study Executive Summary
5. Proposed Five-Tier Model Diagram

COST RECOVERY STRUCTURE
FOR FY 2016-17 FEE-BASED PROGRAMS

SUBSTANTIALLY-SUPPORTED ACTIVITIES	PARTIALLY - SUPPORTED ACTIVITIES	SELF-SUFFICIENT ACTIVITIES
Promote a safe, healthy and secure community; target under-served populations; emphasis on youth programs	*Promote economic prosperity; increase quality of life; enhance the scope of opportunities available to participants*	*Developed for and marketed to adults; defined as personal development; and while may be available elsewhere offering is predicated on community demand*
• *CHILD, YOUTH, AND FAMILY RECREATION*	• *STAFFED EXCURSIONS FOR CHILDREN, YOUTH AND FAMILIES*	• *STAFF LED PRIVATE PARTY EVENTS*
• *CAMPS*	• *CONTRACT ACTIVITIES FOR CHILDREN, YOUTH AND FAMILIES*	• *CONTRACT ACTIVITIES FOR ADULTS*
• *CHILD SERVICES*	• *CONTRACT ACTIVITIES FOR SENIORS*	• *ADULT RECREATION*
• *LEARN TO SWIM*	• *CONTRACT ACTIVITIES FOR PERSONS WITH DISABILITIES*	• *ANIMAL SERVICE FEES*
• *SPECIAL EVENTS*	• *ANIMAL ADOPTIONS*	• *EQUIPMENT RENTALS*
• *SENIOR RECREATION*		• *ADVERTISING*
• *RECREATION FOR PERSONS WITH DISABILITIES*	• *MISCELLANEOUS FEES & MEMBERSHIPS*	
• *COMMUNITY SAFETY/ EDUCATION*		
• *TRIPS*		
• *ANIMAL LICENSING & SHELTER*		
RECOVERY OF UP TO 100% OF DIRECT COSTS	RECOVERY OF UP TO 100% OF DIRECT AND INDIRECT COSTS	RECOVERY OF UP TO 100% OF DIRECT, INDIRECT AND DEPT. OVERHEAD COSTS

ATTACHMENT 1

GUIDELINES FOR FEES FOR COMMUNITY SERVICES PROGRAMS/ACTIVITIES NOT INCLUDED IN LIST OF APPROVED FEES

To provide the flexibility necessary to operate fee-based programs in a business-like manner, allowing for the elimination and replacement of programs that are not performing well or to take advantage of changing and/or emerging markets, the following guidelines will be used in developing new Community Services Fees in fiscal year 2016-17:

I. RESIDENT FEES

Fees for resident users of City of Irvine Community Services fee-based activities and services such as those itemized on the approved List of Community Services Fees shall be set as follows:

Substantially-Supported Activities -
Maximum 100% recovery of direct costs

Child, Youth and Family Recreation; Camps; Child Services; Learn to Swim; Special Events; Senior Recreation; Recreation for Persons with Disabilities; Community Safety/Education; TRIPS; Animal Licensing and Sheltering.

Partially-Supported Activities -
Maximum 100% recovery of direct and indirect costs

Staffed Excursions for Children, Youth and Families; Contract Activities for Children, Youth, and Families; Contract Activities for Seniors and Persons with Disabilities; Animal Adoptions; Miscellaneous Fees and Memberships.

Self-Sufficient Activities -
Maximum 100% recovery of direct, indirect, and Department overhead costs

Contract Activities for Adults; Adult Recreation; Excursions for Adults; Contract Excursions; Equipment Rentals and Advertising.

Reasonable fees for individual activities and/or services may be set above and below these standards at the discretion of the Director, not to exceed the Department Cost Level.

II. FEES TO NON-RESIDENTS

Fees for non-resident users of Community Services fee-based activities and services such as those itemized on the approved list of Community Services Fees shall be determined as to recover an additional per participant per activity fee:

- Activities with a fee of $10.00 or less — no additional fee
- Activities with a fee of $11.00 - $74.00 — $5.00 additional fee
- Activities with a fee of $75.00 and over — $10.00 additional fee

III. MISCELLANEOUS FEES

Fees to residents for activities and services such as those categorized as "Miscellaneous" in the approved List of Community Services Fees, shall be set with the goal to recover up to 100% of costs at the Indirect Cost Level, with exceptions as noted in said list and in item I above.

OVERHEAD COSTS

DIRECT COSTS:

Direct Costs are the budgeted costs associated with providing programs. Costs included at the Direct Costs level are:

- Instructor(s) or Program leader(s) (contract and/or staff)
- Supervision of the program staff and/or contractor(s)
- Supplies (office and disposable/consumable)
- Telephone, Postage & Duplicating (specifically identified)
- Vehicle leases/rentals and Local mileage reimbursement
- Entrance fees
- Section management
- Special training

INDIRECT OVERHEAD COSTS:

Indirect Overhead Costs are costs related to general support of programs within the section, and other general costs that are specifically related to program activities. Costs included at this level are allocated to each activity/program according to the size of the program's budget (i.e., costs are allocated on a "percentage of budget" basis).

- Section Administrative Support staff
- Advertising and Publications
- Public information and assistance
- Registration handling/processing
- Facility maintenance

DEPARTMENT OVERHEAD COSTS:

Department Overhead Costs are incurred for the overall administration and management of the Department. These costs are allocated to all departmental programs and activities, based on size of the budget, and include:

- Department Director and Managers
- Department Administrative Support Services (Clerical, Budget, Finance, HR and Special Projects)
- Departmental portion of shared costs Civic Center Maintenance and Operations; Telephone, Postage and Duplicating; Strategic Technology Plan

COMMUNITY SERVICES DEPARTMENT

(Proposed) Cost Recovery Policy
for Programs and Services

Number: Reso. No. 17-XX

Approved: _____

Approved by: _____ *Amended:* _____

1.0 POLICY STATEMENT

The Community Services Department (Department) is responsible for managing a public park and recreation system and delivering a broad mix of programs and services including classes, outdoor recreation, health and human services and community events that enhance the quality of life enjoyed by the community. In an effort to continuously improve the Department's overall effectiveness in delivery of service, this Cost Recovery and Pricing Policy is established to ensure programs and services are: (1) aligned with the City's core values, vision and mission; (2) fiscally responsible; and (3) supportive of a healthy, vibrant and sustainable community.

2.0 PURPOSE AND INTENT

The purpose and intent of this Policy is to establish a cost recovery framework that guides Department pricing for programs and services provided to the community. The Policy considers cost recovery and pricing in relation to: (1) levels of community and individual benefit; (2) maintaining core services; (3) ability to administer the of program; (4) support of the City's youngest, oldest, and most vulnerable populations; (5) promotion of health, safety and quality of life; (7) providing opportunities for personal development and (8) marketplace conditions.

3.0 COST RECOVERY APPROACH

Cost recovery is a decision to recover some level of direct, indirect and overhead costs. Fundamentally, the level of cost recovery, and associated pricing, moves along a *benefits continuum* representing activities that provide general community benefit on one end to activities that provide increasingly individualized benefit on the other end. When activities benefit the general community, cost recovery is lower and non-user fee revenues are the core source of funding. As activities provide a more specific or individualized benefit, cost recovery is higher and user fees and charges are an increasing source for recovering costs.

When establishing cost recovery levels for activities, considerations independent of the benefits continuum, may influence cost recovery levels and the allocation of the City's resources. These considerations include: City Council direction; contractual, legal and legislative restrictions; Strategic Business Plan priorities; needs and abilities of special populations; budgetary constraints; feasibility (ability to collect fees for activities); public interest levels; and market constraints (e.g. program participation levels, pricing comparisons with public agencies and/or private companies providing similar activities).

4.0 THE FIVE TIER MODEL FOR COST RECOVERY

The *Five Tier Model for Cost Recovery* (Model) establishes the cost recovery framework that serves to align the Department's programs and services with the City's mission, vision and values (Attachment I). Each of the five tiers represents the balance of community and individual benefit with corresponding cost recovery guidelines. Cost recovery guidelines are expressed as a range to account for the broad variety of programs in each tier and variable participation rates at the individual program or service level. Each tier contains "categories of service" which group the Department's programs and services by similarity of content, audience and historical cost recovery level. Below are descriptions of the categories of service within each tier and the associated cost recovery guidelines.

TIER 1: Mostly Community Benefit - 0% - 15%

Represents public services that benefit the community as a whole. The activities may promote education, health and safety; provide support services for seniors, families, youth and persons with disabilities; may be open to the entire community; and enhance the overall quality of life for residents.

Drop-in Use of City Facilities
Stewardship of public spaces and facilities and public use that include activities that are non-registered, non-instructed, and/or do not require additional direct supervision by staff (e.g., trail use, open space, playgrounds, passive park areas, volunteer-run activity, mobile recreation, lectures and exhibits).

Community Safety/Education
Activities that provide education and promote a safe, healthy and secure community. Activities may include referral services and safety training classes such as CPR & First Aid training, distracted driving, and bike safety.

Family and Senior Support Services
Social outreach and support services such as Earned Income Tax Credit; FOR Families; child care coordination (e.g., referral services, training and assistance); senior support services such as information and referral services, in-home care management and health and nutrition services.

Support for Persons with Disabilities
Inclusion support services; awareness training; and community resource and referral services.

Youth Development
Youth outreach activities such as Youth Action Teams at Middle and High School, volunteerism and youth employment services.

Senior Wellness
General recreation, social and instructional activities that strengthen emotional, cognitive, physical and social health.

Special Events
Community-wide events typically offered on an annual basis and open to the general public (e.g., Global Village Festival, Spooktacular, Winter Wonderland, movies on the lawn and summer concerts).

TIER 2: Considerable Community Benefit – 10% to 35%

Represents activities that serve the community, but have an increased level of individual benefit. The activities may address social needs and focus on underserved populations such as youth and seniors.

Introductory Child, Youth and Family Activities
Recreational and learning activities that are introductory, and exploratory with beginner and basic skill level instruction.

TRIPS (Seniors and Disabilities)
Accessible transportation services for eligible Irvine seniors and persons with disabilities in maintaining independence, community involvement and employment.

Animal Care Services
Irvine Animal Care Center services including sheltering; licensing and adoptions; and basic veterinary care.

Activities for Persons with Disabilities
Social and recreational activities designed for individuals with disabilities.

Introductory Aquatics Programs
Instructional activities focused on beginning water safety and swimming skills.

Seniors Recreation
Activities designed to provide introductory lessons or education to seniors.

Use of Monitored City Facilities
Activities offered through membership at a staff or volunteer monitored facility (e.g., Computer lab, Fine Arts Studio, and Senior Fitness Center).

TIER 3: Balanced Community & Individual Benefit – 30% to 60%

Represents activities with balanced individual and community benefit. Activities provide social, health and educational enrichment that increases quality of life and enhances the scope of opportunities available to participants.

Continuing or Progressive Classes, Workshops and Clinics
Recreational and continued learning activities that provide enrichment and intermediate level of instruction that is beyond introductory levels.

Excursions and Specialized Services for Children, Youth, Family & Seniors
Field trips, staff-led exploratory excursions, tours and specialized activities.

After-School Camps and Programs
Child and youth camps and seasonal intersession activities such as Kid's Club, and teen camps, with a social or educational focus, and may include field trips.

Athletic Programs (Non-professional leagues and activities)
Organized non-professional sports leagues and tournaments.

Intermediate Aquatics Programs
Intermediate instructional and recreational activities that provide a progressive, continued, enriched level of learning.

TIER 4: Considerable Individual Benefit – 55% to 100%

Represents activities that are defined as highly specialized or highly individualized personal development, and, while may be available elsewhere, offering is predicated on community demand.

Specialized/Advanced/Extended Classes, Workshops and Clinics
Recreational and learning activities that are advanced, specialized and/or highly individualized for adults, seniors, children, youth and families.

Private/Semi-Private Lessons (Tennis, Aquatics or Other Personalized Instruction)
A personalized session or individualized focus to develop advanced skills at a high level such as tennis, aquatics or other personalized/advanced instruction.

TIER 5: Mostly Individual Benefit – minimum of 100%

Represents activities that may fall outside the core mission of the City or may be similar to activities seen in the private sector. These servicesare designed to recover full costs since the activity provides significant direct individual benefits on a pay-as-you-go basis. These services may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law.

Merchandising
Items sold for individual or group use or consumption (e.g., consignment items and pro-shop items such as athletic wear, and tennis balls).

Concessions and Vending
Food, beverages and snacks sold for individual or group use or consumption.

Advertising
Advertisement space in City's publication, facilities or amenities.

5.0 POLICY ESTABLISHMENT AND UPDATING

A City Council resolution establishes the Cost Recovery Policy for Community Services programs and services. This Policy may be updated as part of the Cost of Services Study performed every five years, in accordance with the City's Financial and Budget policies, or as directed by City Council.

Upon staff analysis, the Department will make recommendations to the City Council if cost recovery goals are not being met at the Category of Service level. The recommendation could include a modification of fees and/or service delivery levels or a change to the placement of the Category of Service in the Policy's Five-Tier Model. Modification of Category of Service placement within the tier framework, requires City Council approval.

6.0 PRICING APPROACH AND CALCULATION FOR PROGRAMS AND SERVICES

Pricing shall be established to meet the City Council approved cost recovery guidelines and to support delivery of programs and services in a sustainable manner, allowing for: (1) the addition of mission aligned programs and services to adjust with changing and/or emerging markets, and (2) the elimination of activities that are not meeting cost recovery guidelines.

Price Calculation for New Programs and Services
Pricing for programs and services is established according to the cost recovery guidelines as outlined in Section 4.0. The process to validate cost recovery guidelines includes a staff prepared financial model detailing estimates for program costs and participation levels. New programs or services pricing is established based on historical pricing for similarly categorized programs or a comparative market price when appropriate. The new program or service pricing is included in the financial model and evaluated to ensure that the new program or service meets the approved cost recovery guidelines.

Price Changes for Existing Programs and Services
Changes in program costs, participation levels and/or market conditions affect cost recovery levels for programs and services. These considerations, when viewed over time, may indicate the need for a price change. For example, when increases in direct costs (e.g. fuel or field trip venue prices for travelling summer camps) indicate a trend (not a one-time or limited event) that cannot be offset by participation level increases, a price increase may be needed to maintain cost recovery levels.

In order to maintain pricing stability for the benefit of the community, limitations are placed on price changes. Pricing for program and service may not increase more than five percent (5%) in any one increment, rounded to the nearest dollar, without City Council approval. Prices at the twenty-dollar ($20.00) or lower level may not increase more than one dollar ($1.00) without City Council approval. A price cannot increase in consecutive years without City Council approval. Non-fee based programs shall not be assigned a fee without prior City Council approval.

Due to holidays, school start date and other factors, sometimes the duration (hours of service delivery) of a program or service changes, either adding or subtracting hours from a given program or service. The intent is to keep the hourly price of the program or service consistent. For this reason, this type of event, it is not considered a formal price change, as the program or service pricing will be computed on a pro-rata basis at the existing approved price rate.

Price Calculation for Contract Classes
Programs and services provided by outside contract instructors, "contract classes", are a cost effective way of presenting a wide variety of offerings to the community. Contract class pricing and related revenue split are contractually negotiated. The City collects revenue and a percentage of revenue is paid to the contract instructor. The revenue split negotiated between the contract instructor and the City is generally within a range of 40% to 80% based on various factors. For example, contract classes delivered at a City facility tend towards a 50/50 split due to City incurred facility costs. Classes delivered at a non-City facility tend towards a 75/25 (with 75% due to contractor) split since the facility costs are not incurred by the City.

The revenue split, is also influenced by the benefit continuum of the Five Tier Model. For example, contract classes serving seniors tend towards a highersplit to the instructor in order to keep program fees lower for senior participants. This aligns with the *Seniors Recreation* category of service in Tier II, low cost recovery, on the Model. Due to market demands, price changes for contractual programs are not subject to the limitations described in the *Price Changes for Existing Programs and Services* section above.

Review of Pricing
Programs and services are reviewed by staff on an ongoing basis. During the City's annual budget process, program costs, participation levels, and the comparative market place are evaluated to ensure program and service pricing achieves compliance with the Policy. City Council approval is required: for price increases greater than 5%, when non-

fee programs are assigned fees for the times and when price increases are recommended in consecutive years. In accordance with the City's Financial and Budget Policy, a Cost of Services Study is performed every five years. This includes a comprehensive evaluation of actual cost recovery levels and Policy compliance.

7.0 OTHER PROGRAM FEES

Non-Resident Fees
For cost recovery activities of less than 100%, there shall be a differential in rates between residents and non-residents.

Activities with a fee of $10.00 or less	no additional fee
Activities with a fee of $11.00 - $74.00	$5.00 additional fee
Activities with a fee of $75.00 and over	$10.00 additional fee

In the event that an additional charge is not feasible, or will harm or cancel the program and deny residents the opportunity to participate, the Community Services Director or their designee may approve a fee modification or not charge the non-resident fee differential for that specific activity.

Pass-Through Fees
Programs and services may be enriched with value-added services provided by an outside organization. These services may include, but are not limited to, obtaining a sport's tournament rating, earning a certificate of completion (e.g. Red Cross certification) or admission to an event hosted by an outside vendor. The costs for these services are set by the outside organization and may be considered a pass-through paid by the participant and not included in fee or fee change calculations for programs and services.

8.0 SCHOLARSHIPS

Through administration of its Scholarship Policy, the City shall seek to ensure affordability and maximum resident participation in City programs and services by means of scholarships, partnerships and cultivating of volunteers.

9.0 ADDITIONAL CITY POLICIES AND AGREEMENTS

This Policy may be superseded, when City Council establishes or has approved policies and/or agreements that establish separate user fee structures and/or cost recovery goals for specific programs and services as identified below.

- Public Facility Reservation and Fee Policy
- Joint Use Agreements for reciprocal use of City and school district facilities
- Orange County Great Park Sports Complex Field Allocation and Fee Policy
- Orange County Great Park Balloon and the Carousel Fees
- Relationship Policy for reciprocal support between the City and community partner
- Sponsorship agreements

10.0 DEFINITIONS

Activity: Specific program or service offered by the Community Services department.

Benefit Continuum: Used to evaluate an activity based on the degree to which services impact or benefit the community. Cost recovery levels are low for activities that mostly provide a community benefit. Cost recovery levels increase as the benefit becomes more individual based.

Category of Service: A collection of activities offered through Community Services Department that are combined based on similarity in type of activity, target market, and/or desired outcome.

Community Benefit: Economic, environmental, social value that maintains or improves quality of life for community in general.

Core Services: Activities that satisfy the City's mission, vision and goals and provide a community-wide benefit.

Cost Recovery: Setting of fees to recover up to 100% of direct, indirect and/or department overhead costs. Cost recovery is the amount of the annual budgeted operating expense that is, or can be, offset by user-fees and charges.

Department Overhead: A cost incurred for the overall administration and management of the Department. These costs are allocated based on size of budget and may include department management, budget, finance, human resources and internal shared costs.

Direct Cost:
A cost that can be easily and fairly accurately identified with a specific activity or facility (e.g. class instructors; technical and functional supervision; delivery or consistent support or monitoring of an activity; supplies; and admissions to a theme park). A cost may be direct even if cost is not directly interacting with the end user if the cost is narrowly defined and can be fairly accurately measured. For example, a Program Coordinator at a Community Park is considered a direct cost, as the delivery of their service is typically limited to one location (narrowly defined) and it is easy and fairly accurate to recognize the time spent among the activities provided at the individual Community Park.

Indirect Cost:
A cost that is not attributable to one specific activity or not easily or accurately identified to an activity (e.g. general management, advertising, registration and maintenance) These costs typically extend over multiple locations such as business support services and department administration, and section management with multiple locations.

Market Rate: Reflects a generally accepted price point determined by supply and demand forces in a given geographical area. Market rate is supported by benchmarking against similar services in local, regional or national markets.

Resource Allocation: How sources of funding are determined to be used by the City in its delivery of activities.

Scholarship: Registration subsidies to income-eligible residents to facilitate their participation in activities.

FIVE TIER MODEL FOR COST RECOVERY

TIER I Mostly Community Benefit (Fully Supported)	TIER II Considerable Community Benefit (Substantially Supported)	TIER III Balanced Community & Individual Benefit (Partially Supported)	TIER IV Considerable Individual Benefit (Minimally Supported)	TIER V Mostly Individual Benefit (Self-Sufficient)
DROP-IN USE OF CITY FACILITIES - Trails, playgrounds and other passive park areas **COMMUNITY SAFETY/EDUCATIONAL** -Basic safety, informational, educational, and referral resources, workshops and seminars **FAMILY AND SENIOR SUPPORT SERVICES** -for Families, Earned Income Tax Credit, senior in-home care and nutrition, child care referral services **SUPPORT FOR PERSONS WITH DISABILITIES** -Inclusion services, awareness training, and resource referral services **YOUTH DEVELOPMENT** -Youth Action Team, mobile recreation and youth employment services. **SENIOR WELLNESS** -Social and instructional activities that strengthen emotional, cognitive, physical and social health **SPECIAL EVENTS** -Community-wide events such as Global Village Festival, Spooktacular, movies on the lawn and summer concert series	**INTRODUCTORY CHILD, YOUTH & FAMILY ACTIVITIES** -Recreational and learning activities that are introductory, exploratory, with beginner and basic skill level instruction **TRIPS (SENIORS AND DISABILITIES)** -Accessible transportation for eligible seniors and persons with disabilities **ANIMAL CARE SERVICES** -Sheltering, licensing, adoptions, and basic veterinary care **ACTIVITIES FOR PERSONS WITH DISABILITIES** -Social and recreational activities **INTRODUCTORY AQUATICS PROGRAMS** -Beginner level aquatic programs and activities **SENIORS RECREATION** -Activities designed to provide introductory lessons or education to seniors **USE OF MONITORED CITY FACILITIES** -Fitness Center membership, use of special equipment and facilities such as Fine Arts Studio	**CONTINUING OR PROGRESSIVE CLASSES, WORKSHOPS & CLINICS** -Recreational and continued learning activities that provide enrichment and intermediate level instruction; beyond basic and introductory levels **EXCURSIONS AND SPECIALIZED SERVICES FOR ECHIDREN, YOUTH, FAMILIES AND SENIORS** -Field trips, staff-led exploratory excursions, tours and other specialized activities **AFTER-SCHOOL CAMPS AND PROGRAMS** -Child and youth camps and seasonal intercession activities (e.g., Kid's Club and teen camps) **ATHLETIC PROGRAMS (NON-PROFESSIONAL LEAGUES AND ACTIVITIES)** -Organized non-professional sports leagues and tournaments **INTERMEDIATE AQUATICS PROGRAMS** -Intermediate and recreational activities that provide a progressive, continued, enriched level of learning	**SPECIALIZED/ADVANCED/EXTENDED CLASSES, WORKSHOPS & CLINICS** -Recreational and learning activities that are advanced, specialized and/or highly individualized **PRIVATE/SEMI-PRIVATE LESSONS** ***(TENNIS, AQUATICS OR OTHER PERSONALIZED INSTRUCTION)*** -Personalized sessions or individualized focus to develop advanced skills at a high level such as tennis, aquatics or other personalized/advanced instruction	**MERCHANDISING** **CONCESSIONS AND VENDING** **ADVERTISING**
0%-15% **Minimal Cost Recovery**	**10%-35%** **Low Cost Recovery**	**30%-60%** **Moderate Cost Recovery**	**55%-100%** **Significant Cost Recovery**	**100%** **Market Cost Recovery**

CITY COUNCIL RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IRVINE, CALIFORNIA, TO ADOPT THE COST RECOVERY POLICY FOR COMMUNITY SERVICES PROGRAMS AND SERVICES

WHEREAS, the City has found it beneficial to provide residents with a wide variety of recreational activities; and

WHEREAS, the Community Services Department ("Department") is responsible for managing a public park and recreation system and delivering a broad mix of programs and services including classes, outdoor recreation, health and human services and community events that enhance the quality of life enjoyed by the community; and

WHEREAS, the City Council finds that it is in the public interest and welfare to establish a cost recovery policy for these programs and services; and

WHEREAS, the City Council is empowered to impose fees, rates, and charges for municipal services; and

WHEREAS, in connection with the annual budget process, on June 14, 2016, the City Council adopted City Council Resolution 16-48, which approved a "Community Services Department List of Proposed Changes or New Program or Activity Fees 2016-17"; and

WHEREAS, through the adoption of City Council Resolution 16-48, the City Council also approved "Guidelines for Fees for Community Services Programs/Activities Not Included in List of Approved Fees" (the "2016 Fee Guidelines"), which are intended to establish a cost recovery framework and, to that end, authorize the City to set fees for fiscal year 2016-17 programs and activities that are not otherwise identified on the above-referenced list in accordance with those guidelines; and

WHEREAS, on July 12, 2016, the City Council adopted City Council Resolution 16-64, which among other things, approved a comprehensive list of fees and service charges for programs and services offered by all City departments into a single document known as the "Master Fee Schedule"; and

WHEREAS, numerous fees and service charges for programs, services, activities, and public facilities offered by the Community Services Department are currently set forth in City Council Resolution 16-64, which is part of the Master Fee Schedule; and

ATTACHMENT 3

WHEREAS, in March of 2017, a City consultant (GreenPlay, LLC) completed a "Cost of Services Study," which generally determined that the Community Services Department's fees for programs and services are within cost recovery targets as established by the 2016 Fee Guidelines, and confirmed that those fees did not exceed the total cost of service, but the consultant also noted that the 2016 Fee Guidelines could be improved to provide better guidance and recommended updating those guidelines to provide the Community Services Department with more clear guidance on pricing and cost recovery levels that are in alignment with the City's goals and priorities; and

WHEREAS, on March 15, 2017, the City's Community Service Commission reviewed the Cost of Services Study and, by a unanimous vote, voted to receive the Study report and recommend staff return with a draft updated cost recovery policy; and

WHEREAS, on March 20, 2017, the City's Finance Commission reviewed the Cost of Services Study and, by a unanimous vote, voted to receive the Study report and recommend staff return with a draft updated cost recovery policy; and

WHEREAS, in accordance with the recommendations of the City's consultant, Community Services Commission, and Finance Commission, Staff has prepared a draft updated "Cost Recovery Policy for Community Services Programs and Services," which is attached hereto as Exhibit A and incorporated herein by this reference (the "2017 Cost Recovery Policy"); and

WHEREAS, the purpose of the 2017 Cost Recovery Policy is to establish a cost recovery framework for the Community Services Department's programs, services, and activities and to ensure programs and services are: (1) aligned with the City's core values, vision and mission; (2) fiscally responsible; and (3) supportive of a healthy, vibrant and sustainable community; and

WHEREAS, the 2017 Cost Recovery Policy better enables the Department to manage pricing to respond to new public preferences for a variety of programming, public desire for convenient and flexible scheduling, participation level changes, program cost changes and market conditions; and

WHEREAS, unlike the 2016 Fee Guidelines (which are based on a *three*-tier model), the 2017 Cost Recovery Policy establishes a *five*-tier model for cost recovery — adding two tiers to capture non-fee based and enterprising activities expands the policy's effectiveness to provide increased oversight of expenditures and revenues and supports fiscal responsibility; and

WHEREAS, with the potential exception of certain "Tier 5" fees and charges (which pertain to enterprise activities that may fall outside the core mission of the City or may be in the same market place as the private sector and, therefore, may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law), the fees and charges authorized by the 2017 Cost Recovery Policy will not

exceed the reasonable costs incurred by the City of Irvine in providing said programs, and/or services; and

WHEREAS, on July 6, 2017, the City's Community Service Commission considered the 2017 Cost Recovery Policy and, by a unanimous vote, recommended the City Council approve the Policy; and

WHEREAS, on July 17, 2017, the City's Finance Commission considered the 2017 Cost Recovery Policy and, by a unanimous vote, recommended the City Council approve the Policy, with an amendment recommending the Department consider including additional policy language on variable/flexible pricing for non-resident program participation; and

WHEREAS, at its regular meeting on November 28, 2017, the City Council considered and provided an opportunity for members of the public to comment on the proposed 2017 Cost Recovery Policy; and

WHEREAS, the City Council has considered the staff report, staff presentation, the Cost of Services Study prepared by the City's consultant, the recommendations of the City's consultant, the Community Services Commission, and the Finance Commission, and all of the information, evidence, and testimony received at the November 28, 2017 City Council meeting.

NOW, THEREFORE, the City Council of the City of Irvine does hereby resolve as follows:

SECTION 1. The Recitals above are true and correct and incorporated herein by this reference.

SECTION 2. Adoption of New Cost Recovery Policy. The City Council hereby repeals the 2016 Fee Guidelines attached as Exhibit B to City Council Resolution 16-48 in their entirety and hereby adopts the 2017 Cost Recovery Policy attached hereto as Exhibit A.

SECTION 3. Calculation of Fees for Programs and Services.

The City Council hereby authorizes and approves the imposition or adjustment of fees and charges for programs, services, and activities offered by the Department in accordance with the 2017 City Council adopted Cost Recovery Policy. With the potential exception of certain "Tier 5" fees and charges (which may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law), new or amended fees established pursuant to this Resolution and the 2017 Cost Recovery Policy shall not exceed the cost of providing the programs or services for which the fees are collected.

To ensure that new and amended fees do not exceed the cost of providing the programs or services for which the fees are collected and to ensure that the fees allow the City to meet the cost recovery targets outlined in the 2017 Cost Recovery Policy (*i.e.*, 0% – 15% for "Tier 1", 10% – 35% for "Tier 2", and so on), the Director shall prepare a statement documenting the estimated expenses (*e.g.*, staff salaries, contractor payments, supplies, etc.) and revenues (*i.e.*, fees) of the program or service. At a minimum, this statement must include: (1) the total estimated cost of the program or service, (2) the total estimated revenue that will be generated by the program or service, and (3) the percentage of the cost the City anticipates it will recover through the revenue

SECTION 4. Fees Do Not Exceed Costs. The City Council hereby finds, based on the full record before it, that — with the potential exception of certain "Tier 5" fees and charges (which may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law) — none of the new or amended fees or charges authorized by this Resolution and the 2017 Cost Recovery Policy will exceed the reasonable cost of providing the service or program for which the fee or charge applies.

SECTION 5. Invalid Fees.

The City Council hereby declares that, should any one or more fees or charges authorized by this Resolution or the 2017 Cost Recovery Policy, or any portion of this Resolution or the 2017 Cost Recovery Policy, be declared for any reason to be invalid, it is the intent of the City Council that it would have adopted all other fees or charges and portions of this Resolution and the 2017 Cost Recovery Policy independent of the elimination therefrom of any such fee or charge, or such portion of the Resolution or Policy as may be declared invalid.

In the event that any amended fee or charge established by the Director pursuant to this Resolution or the 2017 Cost Recovery Policy is declared invalid, the City Council hereby authorizes the City to impose that fee or charge in the amount most recently approved by the City Council through the adoption of City Council Resolution 16-64.

SECTION 6. The City Council hereby authorizes those ministerial actions and the expenditure of those amounts necessary to implement the 2017 Cost Recovery Policy attached hereto as Exhibit A, including without limitation, preparing a draft Resolution for the City Council's consideration amending the Master Fee Schedule to ensure it is consistent with the 2017 Cost Recovery Policy.

PASSED AND ADOPTED by the City Council of the City of Irvine at a regular meeting held on the 28 day of November 2017.

MAYOR OF THE CITY OF IRVINE

ATTEST:

CITY CLERK OF THE CITY OF IRVINE

STATE OF CALIFORNIA)
COUNTY OF ORANGE) SS
CITY OF IRVINE)

I, MOLLY MCLAUGHLIN, City Clerk of the City of Irvine, HEREBY DO CERTIFY that the foregoing resolution was duly adopted at a regular meeting of the City Council of the City of Irvine, held on the 28 day of November 2017.

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

CITY CLERK OF THE CITY OF IRVINE

COMMUNITY SERVICES DEPARTMENT

(Proposed) Cost Recovery Policy
for Community Services Programs and Services

Number: *Reso. No. 17-XX*

Approved: _____

*Approved by:*_____ *Amended:* _____

1.0 POLICY STATEMENT

The Community Services Department (Department) is responsible for managing a public park and recreation system and delivering a broad mix of programs and services including classes, outdoor recreation, health and human services and community events that enhance the quality of life enjoyed by the community. In an effort to continuously improve the Department's overall effectiveness in delivery of service, this Cost Recovery and Pricing Policy is established to ensure programs and services are: (1) aligned with the City's core values, vision and mission; (2) fiscally responsible; and (3) supportive of a healthy, vibrant and sustainable community.

2.0 PURPOSE AND INTENT

The purpose and intent of this Policy is to establish a cost recovery framework that guides Department pricing for programs and services provided to the community. The Policy considers cost recovery and pricing in relation to: (1) levels of community and individual benefit; (2) maintaining core services; (3) ability to administer the of program; (4) support of the City's youngest, oldest, and most vulnerable populations; (5) promotion of health, safety and quality of life; (7) providing opportunities for personal development and (8) marketplace conditions.

3.0 COST RECOVERY APPROACH

Cost recovery is a decision to recover some level of direct, indirect and overhead costs. Fundamentally, the level of cost recovery, and associated pricing, moves along a *benefits continuum* representing activities that provide general community benefit on one end to activities that provide increasingly individualized benefit on the other end. When activities benefit the general community, cost recovery is lower and non-user fee revenues are the core source of funding. As activities provide a more specific or individualized benefit, cost recovery is higher and user fees and charges are an increasing source for recovering costs.

When establishing cost recovery levels for activities, considerations independent of the benefits continuum, may influence cost recovery levels and the allocation of the City's resources. These considerations include: City Council direction; contractual, legal and legislative restrictions; Strategic Business Plan priorities; needs and abilities of special populations; budgetary constraints; feasibility (ability to collect fees for activities); public interest levels; and market constraints (e.g. program participation levels, pricing comparisons with public agencies and/or private companies providing similar activities).

4.0 THE FIVE TIER MODEL FOR COST RECOVERY

The *Five Tier Model for Cost Recovery* (Model) establishes the cost recovery framework that serves to align the Department's programs and services with the City's mission, vision and values (Attachment I). Each of the five tiers represents the balance of community and individual benefit with corresponding cost recovery guidelines. Cost recovery guidelines are expressed as a range to account for the broad variety of programs in each tier and variable participation rates at the individual program or service level. Each tier contains "categories of service" which group the Department's programs and services by similarity of content, audience and historical cost recovery level. Below are descriptions of the categories of service within each tier and the associated cost recovery guidelines.

TIER 1: Mostly Community Benefit - 0% - 15%

Represents public services that benefit the community as a whole. The activities may promote education, health and safety; provide support services for seniors, families, youth and persons with disabilities; may be open to the entire community; and enhance the overall quality of life for residents.

Drop-in Use of City Facilities
Stewardship of public spaces and facilities and public use that include activities that are non-registered, non-instructed, and/or do not require additional direct supervision by staff (e.g., trail use, open space, playgrounds, passive park areas, volunteer-run activity, mobile recreation, lectures and exhibits).

Community Safety/Education
Activities that provide education and promote a safe, healthy and secure community. Activities may include referral services and safety training classes such as CPR & First Aid training, distracted driving, and bike safety.

Family and Senior Support Services
Social outreach and support services such as Earned Income Tax Credit; FOR Families; child care coordination (e.g., referral services, training and assistance); senior support services such as information and referral services, in-home care management and health and nutrition services.

Support for Persons with Disabilities
Inclusion support services; awareness training; and community resource and referral services.

Youth Development
Youth outreach activities such as Youth Action Teams at Middle and High School, volunteerism and youth employment services.

Senior Wellness
General recreation, social and instructional activities that strengthen emotional, cognitive, physical and social health.

Special Events
Community-wide events typically offered on an annual basis and open to the general public (e.g., Global Village Festival, Spooktacular, Winter Wonderland, movies on the lawn and summer concerts).

TIER 2: Considerable Community Benefit – 10% to 35%

Represents activities that serve the community, but have an increased level of individual benefit. The activities may address social needs and focus on underserved populations such as youth and seniors.

Introductory Child, Youth and Family Activities
Recreational and learning activities that are introductory, and exploratory with beginner and basic skill level instruction.

TRIPS (Seniors and Disabilities)
Accessible transportation services for eligible Irvine seniors and persons with disabilities in maintaining independence, community involvement and employment.

Animal Care Services
Irvine Animal Care Center services including sheltering; licensing and adoptions; and basic veterinary care.

Activities for Persons with Disabilities
Social and recreational activities designed for individuals with disabilities.

Introductory Aquatics Programs
Instructional activities focused on beginning water safety and swimming skills.

Seniors Recreation
Activities designed to provide introductory lessons or education to seniors.

Use of Monitored City Facilities
Activities offered through membership at a staff or volunteer monitored facility (e.g., Computer lab, Fine Arts Studio, and Senior Fitness Center).

TIER 3: Balanced Community & Individual Benefit – 30% to 60%

Represents activities with balanced individual and community benefit. Activities provide social, health and educational enrichment that increases quality of life and enhances the scope of opportunities available to participants.

Continuing or Progressive Classes, Workshops and Clinics
Recreational and continued learning activities that provide enrichment and intermediate level of instruction that is beyond introductory levels.

Excursions and Specialized Services for Children, Youth, Family & Seniors
Field trips, staff-led exploratory excursions, tours and specialized activities.

After-School Camps and Programs
Child and youth camps and seasonal intersession activities such as Kid's Club, and teen camps, with a social or educational focus, and may include field trips.

Athletic Programs (Non-professional leagues and activities)
Organized non-professional sports leagues and tournaments.

Intermediate Aquatics Programs
Intermediate instructional and recreational activities that provide a progressive, continued, enriched level of learning.

TIER 4: Considerable Individual Benefit – 55% to 100%

Represents activities that are defined as highly specialized or highly individualized personal development, and, while may be available elsewhere, offering is predicated on community demand.

Specialized/Advanced/Extended Classes, Workshops and Clinics
Recreational and learning activities that are advanced, specialized and/or highly individualized for adults, seniors, children, youth and families.

Private/Semi-Private Lessons (Tennis, Aquatics or Other Personalized Instruction)
A personalized session or individualized focus to develop advanced skills at a high level such as tennis, aquatics or other personalized/advanced instruction.

TIER 5: Mostly Individual Benefit – minimum of 100%

Represents activities that may fall outside the core mission of the City or may be similar to activities seen in the private sector. These servicesare designed to recover full costs since the activity provides significant direct individual benefits on a pay-as-you-go basis. These services may generate revenue to offset other City expenses where appropriate and as permitted by state and federal law.

Merchandising
Items sold for individual or group use or consumption (e.g., consignment items and pro-shop items such as athletic wear, and tennis balls).

Concessions and Vending
Food, beverages and snacks sold for individual or group use or consumption.

Advertising
Advertisement space in City's publication, facilities or amenities.

5.0 POLICY ESTABLISHMENT AND UPDATING

A City Council resolution establishes the Cost Recovery Policy for Community Services programs and services. This Policy may be updated as part of the Cost of Services Study performed every five years, in accordance with the City's Financial and Budget policies, or as directed by City Council.

Upon staff analysis, the Department will make recommendations to the City Council if cost recovery goals are not being met at the Category of Service level. The recommendation could include a modification of fees and/or service delivery levels or a change to the placement of the Category of Service in the Policy's Five-Tier Model. Modification of Category of Service placement within the tier framework, requires City Council approval.

6.0 PRICING APPROACH AND CALCULATION FOR PROGRAMS AND SERVICES

Pricing shall be established to meet the City Council approved cost recovery guidelines and to support delivery of programs and services in a sustainable manner, allowing for: (1) the addition of mission aligned programs and services to adjust with changing and/or emerging markets, and (2) the elimination of activities that are not meeting cost recovery guidelines.

Price Calculation for New Programs and Services
Pricing for programs and services is established according to the cost recovery guidelines as outlined in Section 4.0. The process to validate cost recovery guidelines includes a staff prepared financial model detailing estimates for program costs and participation levels. New programs or services pricing is established based on historical pricing for similarly categorized programs or a comparative market price when appropriate. The new program or service pricing is included in the financial model and evaluated to ensure that the new program or service meets the approved cost recovery guidelines.

Price Changes for Existing Programs and Services
Changes in program costs, participation levels and/or market conditions affect cost recovery levels for programs and services. These considerations, when viewed over time, may indicate the need for a price change. For example, when increases in direct costs (e.g. fuel or field trip venue prices for travelling summer camps) indicate a trend (not a one-time or limited event) that cannot be offset by participation level increases, a price increase may be needed to maintain cost recovery levels.

In order to maintain pricing stability for the benefit of the community, limitations are placed on price changes. Pricing for program and service may not increase more than five percent (5%) in any one increment, rounded to the nearest dollar, without City Council approval. Prices at the twenty-dollar ($20.00) or lower level may not increase more than one dollar ($1.00) without City Council approval. A price cannot increase in consecutive years without City Council approval. Non-fee based programs shall not be assigned a fee without prior City Council approval.

Due to holidays, school start date and other factors, sometimes the duration (hours of service delivery) of a program or service changes, either adding or subtracting hours from a given program or service. The intent is to keep the hourly price of the program or service consistent. For this reason, this type of event, it is not considered a formal price change, as the program or service pricing will be computed on a pro-rata basis at the existing approved price rate.

Price Calculation for Contract Classes
Programs and services provided by outside contract instructors, “contract classes”, are a cost effective way of presenting a wide variety of offerings to the community. Contract class pricing and related revenue split are contractually negotiated. The City collects revenue and a percentage of revenue is paid to the contract instructor. The revenue split negotiated between the contract instructor and the City is generally within a range of 40% to 80% based on various factors. For example, contract classes delivered at a City facility tend towards a 50/50 split due to City incurred facility costs. Classes delivered at a non-City facility tend towards a 75/25 (with 75% due to contractor) split since the facility costs are not incurred by the City.

The revenue split, is also influenced by the benefit continuum of the Five Tier Model. For example, contract classes serving seniors tend towards a highersplit to the instructor in order to keep program fees lower for senior participants. This aligns with the *Seniors Recreation* category of service in Tier II, low cost recovery, on the Model. Due to market demands, price changes for contractual programs are not subject to the limitations described in the *Price Changes for Existing Programs and Services* section above.

Review of Pricing
Programs and services are reviewed by staff on an ongoing basis. During the City’s annual budget process, program costs, participation levels, and the comparative market place are evaluated to ensure program and service pricing achieves compliance with the Policy. City Council approval is required: for price increases greater than 5%, when non-

fee programs are assigned fees for the times and when price increases are recommended in consecutive years. In accordance with the City's Financial and Budget Policy, a Cost of Services Study is performed every five years. This includes a comprehensive evaluation of actual cost recovery levels and Policy compliance.

7.0 OTHER PROGRAM FEES

Non-Resident Fees
For cost recovery activities of less than 100%, there shall be a differential in rates between residents and non-residents.

Activities with a fee of $10.00 or less	no additional fee
Activities with a fee of $11.00 - $74.00	$5.00 additional fee
Activities with a fee of $75.00 and over	$10.00 additional fee

In the event that an additional charge is not feasible, or will harm or cancel the program and deny residents the opportunity to participate, the Community Services Director or their designee may approve a fee modification or not charge the non-resident fee differential for that specific activity.

Pass-Through Fees
Programs and services may be enriched with value-added services provided by an outside organization. These services may include, but are not limited to, obtaining a sport's tournament rating, earning a certificate of completion (e.g. Red Cross certification) or admission to an event hosted by an outside vendor. The costs for these services are set by the outside organization and may be considered a pass-through paid by the participant and not included in fee or fee change calculations for programs and services.

8.0 SCHOLARSHIPS

Through administration of its Scholarship Policy, the City shall seek to ensure affordability and maximum resident participation in City programs and services by means of scholarships, partnerships and cultivating of volunteers.

9.0 ADDITIONAL CITY POLICIES AND AGREEMENTS

This Policy may be superseded, when City Council establishes or has approved policies and/or agreements that establish separate user fee structures and/or cost recovery goals for specific programs and services as identified below.

- Community Facilities Reservation Policy
- Public Sports Facilities Reservation and Fee Policy
- Joint Use Agreements for reciprocal use of City and school district facilities
- Orange County Great Park Sports Complex Field Allocation and Fee Policy
- Orange County Great Park Balloon and the Carousel Fees
- Relationship Policy for reciprocal support between the City and community partner
- Sponsorship agreements

10.0 DEFINITIONS

Activity: Specific program or service offered by the Community Services department.

Benefit Continuum: Used to evaluate an activity based on the degree to which services impact or benefit the community. Cost recovery levels are low for activities that mostly provide a community benefit. Cost recovery levels increase as the benefit becomes more individual based.

Category of Service: A collection of activities offered through Community Services Department that are combined based on similarity in type of activity, target market, and/or desired outcome.

Community Benefit: Economic, environmental, social value that maintains or improves quality of life for community in general.

Core Services: Activities that satisfy the City's mission, vision and goals and provide a community-wide benefit.

Cost Recovery: Setting of fees to recover up to 100% of direct, indirect and/or department overhead costs. Cost recovery is the amount of the annual budgeted operating expense that is, or can be, offset by user-fees and charges.

Department Overhead: A cost incurred for the overall administration and management of the Department. These costs are allocated based on size of budget and may include department management, budget, finance, human resources and internal shared costs.

Direct Cost:
A cost that can be easily and fairly accurately identified with a specific activity or facility (e.g. class instructors; technical and functional supervision; delivery or consistent support or monitoring of an activity; supplies; and admissions to a theme park). A cost may be direct even if cost is not directly interacting with the end user if the cost is narrowly defined and can be fairly accurately measured. For example, a Program Coordinator at a Community Park is considered a direct cost, as the delivery of their service is typically limited to one location (narrowly defined) and it is easy and fairly accurate to recognize the time spent among the activities provided at the individual Community Park.

Indirect Cost:
A cost that is not attributable to one specific activity or not easily or accurately identified to an activity (e.g. general management, advertising, registration and maintenance) These costs typically extend over multiple locations such as business support services and department administration, and section management with multiple locations.

Market Rate: Reflects a generally accepted price point determined by supply and demand forces in a given geographical area. Market rate is supported by benchmarking against similar services in local, regional or national markets.

Resource Allocation: How sources of funding are determined to be used by the City in its delivery of activities.

Scholarship: Registration subsidies to income-eligible residents to facilitate their participation in activities.

COST RECOVERY STRUCTURE
FOR FY 2016-17 FEE-BASED PROGRAMS

SUBSTANTIALLY-SUPPORTED ACTIVITIES	PARTIALLY - SUPPORTED ACTIVITIES	SELF-SUFFICIENT ACTIVITIES
Promote a safe, healthy and secure community; target under-served populations; emphasis on youth programs	*Promote economic prosperity; increase quality of life; enhance the scope of opportunities available to participants*	*Developed for and marketed to adults; defined as personal development; and while may be available elsewhere offering is predicated on community demand*
• *CHILD, YOUTH, AND FAMILY RECREATION*	• *STAFFED EXCURSIONS FOR CHILDREN, YOUTH AND FAMILIES*	• *STAFF LED PRIVATE PARTY EVENTS*
• *CAMPS*	• *CONTRACT ACTIVITIES FOR CHILDREN, YOUTH AND FAMILIES*	• *CONTRACT ACTIVITIES FOR ADULTS*
• *CHILD SERVICES*	• *CONTRACT ACTIVITIES FOR SENIORS*	• *ADULT RECREATION*
• *LEARN TO SWIM*	• *CONTRACT ACTIVITIES FOR PERSONS WITH DISABILITIES*	• *ANIMAL SERVICE FEES*
• *SPECIAL EVENTS*	• *ANIMAL ADOPTIONS*	• *EQUIPMENT RENTALS*
• *SENIOR RECREATION*		• *ADVERTISING*
• *RECREATION FOR PERSONS WITH DISABILITIES*	• *MISCELLANEOUS FEES & MEMBERSHIPS*	
• *COMMUNITY SAFETY/ EDUCATION*		
• *TRIPS*		
• *ANIMAL LICENSING & SHELTER*		
RECOVERY OF UP TO 100% OF DIRECT COSTS	RECOVERY OF UP TO 100% OF DIRECT AND INDIRECT COSTS	RECOVERY OF UP TO 100% OF DIRECT, INDIRECT AND DEPT. OVERHEAD COSTS

EXHIBIT B

GUIDELINES FOR FEES FOR COMMUNITY SERVICES PROGRAMS/ACTIVITIES NOT INCLUDED IN LIST OF APPROVED FEES

To provide the flexibility necessary to operate fee-based programs in a business-like manner, allowing for the elimination and replacement of programs that are not performing well or to take advantage of changing and/or emerging markets, the following guidelines will be used in developing new Community Services Fees in fiscal year 2016-17:

I. RESIDENT FEES

Fees for resident users of City of Irvine Community Services fee-based activities and services such as those itemized on the approved List of Community Services Fees shall be set as follows:

Substantially-Supported Activities -
Maximum 100% recovery of direct costs

Child, Youth and Family Recreation; Camps; Child Services; Learn to Swim; Special Events; Senior Recreation; Recreation for Persons with Disabilities; Community Safety/Education; TRIPS; Animal Licensing and Sheltering.

Partially-Supported Activities -
Maximum 100% recovery of direct and indirect costs

Staffed Excursions for Children, Youth and Families; Contract Activities for Children, Youth, and Families; Contract Activities for Seniors and Persons with Disabilities; Animal Adoptions; Miscellaneous Fees and Memberships.

Self-Sufficient Activities -
Maximum 100% recovery of direct, indirect, and Department overhead costs

Contract Activities for Adults; Adult Recreation; Excursions for Adults; Contract Excursions; Equipment Rentals and Advertising.

Reasonable fees for individual activities and/or services may be set above and below these standards at the discretion of the Director, not to exceed the Department Cost Level.

II. FEES TO NON-RESIDENTS

Fees for non-resident users of Community Services fee-based activities and services such as those itemized on the approved list of Community Services Fees shall be determined as to recover an additional per participant per activity fee:

- Activities with a fee of $10.00 or less — no additional fee
- Activities with a fee of $11.00 - $74.00 — $5.00 additional fee
- Activities with a fee of $75.00 and over — $10.00 additional fee

Guidelines for Fees for Community Services
Programs/Activities Not Included in List of Approved Fees

III. MISCELLANEOUS FEES

Fees to residents for activities and services such as those categorized as "Miscellaneous" in the approved List of Community Services Fees, shall be set with the goal to recover up to 100% of costs at the Indirect Cost Level, with exceptions as noted in said list and in item I above.

OVERHEAD COSTS

DIRECT COSTS:

Direct Costs are the budgeted costs associated with providing programs. Costs included at the Direct Costs level are:

- Instructor(s) or Program leader(s) (contract and/or staff)
- Supervision of the program staff and/or contractor(s)
- Supplies (office and disposable/consumable)
- Telephone, Postage & Duplicating (specifically identified)
- Vehicle leases/rentals and Local mileage reimbursement
- Entrance fees
- Section management
- Special training

INDIRECT OVERHEAD COSTS:

Indirect Overhead Costs are costs related to general support of programs within the section, and other general costs that are specifically related to program activities. Costs included at this level are allocated to each activity/program according to the size of the program's budget (i.e., costs are allocated on a "percentage of budget" basis).

- Section Administrative Support staff
- Advertising and Publications
- Public information and assistance
- Registration handling/processing
- Facility maintenance

DEPARTMENT OVERHEAD COSTS:

Department Overhead Costs are incurred for the overall administration and management of the Department. These costs are allocated to all departmental programs and activities, based on size of the budget, and include:

- Department Director and Managers
- Department Administrative Support Services (Clerical, Budget, Finance, HR and Special Projects)
- Departmental portion of shared costs Civic Center Maintenance and Operations; Telephone, Postage and Duplicating; Strategic Technology Plan

Cost of Services Study
Community Services Department
City of Irvine, California

March 2017











ATTACHMENT 4

Executive Summary

Purpose

In January of 2016, the Community Services Department began a cost of services study to comply with City policy and identify the total cost for each program and service, and evaluate cost recovery levels and best practices for recommending and establishing fees in order to sustain services.

Scope

The focus of this study was Fiscal Year 2014-15, the most recent fiscal year for which complete audited actual data was available. The study objectives were:

1. To measure the cost recovery of services against cost recovery targets established by City policy.
2. To determine how well the policy informs a pricing philosophy that supports the Department mission.
3. To determine how well the policy guides staff, commission, and City Council decision-making regarding the pricing of programs and activities.
4. To consider possible improvements to the policy to better serve the Department, the City and the community.

Methodology

The cost of service analysis evaluated 115 distinct activities in the General Fund and 12 distinct activities in the Great Park Special Fund 180. The framework for this analysis used FY 2014-15 actual cost data information to identify direct, indirect (including Public Works maintenance) and department overhead for all services and programs delivered to the community (e.g. Health and Human services, Contract classes, Safety/Education programs and Special events). A net analysis (expenditures minus program revenues) was performed for each program or activity and the results were measured against the City's cost recovery structure guidelines established under the City's Fee Policy, which is reviewed and approved annually by City Council during the fiscal year budget process.

The following tasks were included in the methodology of this cost of services study:

1. Review of Department service delivery practices and related policies established by City Council such as the "Public Facilities Reservation and Fee Policies" and the "Cost Recovery Guidelines."
2. Evaluation of cost definitions to ensure that all costs are allocated appropriately to Department services.

3. Review of the categories of services to ensure that every activity is captured in the analysis, and that each category of service is placed in the appropriate City policy tier.
4. Evaluation of FY 2014-15 actual revenues and expenditures by activity/section, category of service and tier.
5. Evaluation of compliance with cost recovery targets established by City policy.
6. Preparation of report with analysis, findings and recommendations for the best cost recovery practices and possible policy enhancements.

Policy and Practice Background

The Community Services Department is guided by a three-tier cost recovery policy ("Fee Policy") outlined in the table below. The three-tier policy structure has been used to guide the setting of fees and services for twenty years. Cost recovery, or the rate at which expenses are offset by non-tax revenue, is determined for each tier, and is used as the basis of financial measurement for this study. Department activities are grouped into categories of service and are assigned to a tier level based on the desired outcomes of the activities. Pricing is set to achieve the targeted levels of cost recovery for the corresponding tier.

Tier: Level of Support	Desired Outcomes	Level of Cost Recovery
Substantially-Supported Activities	Safe, healthy, secure community. Target under-served populations. Emphasis on youth-program.	Up to 100% of Direct Costs
Partially-Supported Activities	Economic prosperity, quality of life and enhance scope of opportunities available to community.	Up to 100% of Direct and Indirect Costs
Self-Supported Activities	Adult programs, personal development and based on community demand.	Up to 100% of Direct, Indirect and Overhead Costs

Department staff evaluates fees and service charges in conjunction with the annual budget process. Staff makes recommendations to the City Council on possible new or adjusted fees and charges and what would be the appropriate amount in accordance with the Fee Policy. The City Council, historically, approves by resolution any new or adjusted fee or service charge.

Findings

The Community Services Department is operating well within policy guidelines. This study finds all Fee Policy tier levels measure at or below the maximum cost recovery targets, and are therefore in compliance with City policy. The study findings are:

- All categories of service identified when the policy was adopted fall within the cost recovery maximums established.
- The Fee Policy ensures that pricing for services does not exceed *total cost* of providing services, and in many cases, does not exceed the *direct cost* of providing service.
- The Fee Policy cost recovery targets are broadly defined and may not provide meaningful guidance for determining appropriate program pricing and subsidy levels.
- The high volume and broad scope of services offered by the City, and the sophistication of the concepts required in effective cost recovery modeling, indicate that this study should be viewed as a starting point for an on-going and more in depth look at the Fee Policy structure and its constituent parts (tiers and categories of service).

Recommendations

The Fee Policy on cost recovery has served the Department well in the past; however, engaging in this cost of services study has identified areas where the policy could be strengthened and updated with industry best practices. Implementation of the following recommendations would provide a more effective and easy to follow model:

1. Adjust the Fee Policy model (tier descriptions, categories of service and cost definitions) to reflect best practices and ensure appropriate alignment of programming and pricing with the City's mission and philosophy.
2. Update the Fee Policy to address all services (not just fee-based programs) by adding two new tiers; one for non-fee based programs and one for market-rate programs.
3. Clarify in the Fee Policy that the cost recovery goal is applied only to the tier level as a whole and not to each category of service level. This is not clarified in the existing policy.

Future Considerations

The existing Fee Policy is twenty years old and provides a substantial building block for moving forward. Refining the policy, but not changing direction, will improve understanding and implementation of the cost recovery model for meeting the City's programming and pricing needs. Cost recovery analysis helps determine if a fee should be charged and what fee level will reach certain cost recovery targets. It does not, however, determine if a service should be offered by an agency in the first place. The logical follow up to this cost of services study is a comprehensive services assessment to develop a clearly defined programming process that engages community members and City decision makers in selecting desired programs that can be sustained into the future with appropriate service delivery and cost recovery levels.

FIVE TIER MODEL FOR COST RECOVERY

TIER I Mostly Community Benefit (Fully Supported)	TIER II Considerable Community Benefit (Substantially Supported)	TIER III Balanced Community & Individual Benefit (Partially Supported)	TIER IV Considerable Individual Benefit (Minimally Supported)	TIER V Mostly Individual Benefit (Self-Sufficient)
DROP-IN USE OF CITY FACILITIES - Trails, playgrounds and other passive park areas **COMMUNITY SAFETY/EDUCATIONAL** -Basic safety, informational, educational, and referral resources, workshops and seminars **FAMILY AND SENIOR SUPPORT SERVICES** -for Families, Earned Income Tax Credit, senior in-home care and nutrition, child care referral services **SUPPORT FOR PERSONS WITH DISABILITIES** -Inclusion services, awareness training, and resource referral services **YOUTH DEVELOPMENT** -Youth Action Team, mobile recreation and youth employment services. **SENIOR WELLNESS** -Social and instructional activities that strengthen emotional, cognitive, physical and social health **SPECIAL EVENTS** -Community-wide events such as Global Village Festival, Spooktacular, movies on the lawn and summer concert series	**INTRODUCTORY CHILD, YOUTH & FAMILY ACTIVITIES** -Recreational and learning activities that are introductory, exploratory, with beginner and basic skill level instruction **TRIPS (SENIORS AND DISABILITIES)** -Accessible transportation for eligible seniors and persons with disabilities **ANIMAL CARE SERVICES** -Sheltering, licensing, adoptions, and basic veterinary care **ACTIVITIES FOR PERSONS WITH DISABILITIES** -Social and recreational activities **INTRODUCTORY AQUATICS PROGRAMS** -Beginner level aquatic programs and activities **SENIORS RECREATION** -Activities designed to provide introductory lessons or education to seniors **USE OF MONITORED CITY FACILITIES** -Fitness Center membership, use of special equipment and facilities such as Fine Arts Studio	**CONTINUING OR PROGRESSIVE CLASSES, WORKSHOPS & CLINICS** -Recreational and continued learning activities that provide enrichment and intermediate level instruction; beyond basic and introductory levels **EXCURSIONS AND SPECIALIZED SERVICES FOR ECHIDREN, YOUTH, FAMILIES AND SENIORS** -Field trips, staff-led exploratory excursions, tours and other specialized activities **AFTER-SCHOOL CAMPS AND PROGRAMS** -Child and youth camps and seasonal intercession activities (e.g., Kid's Club and teen camps) **ATHLETIC PROGRAMS (NON-PROFESSIONAL LEAGUES AND ACTIVITIES)** -Organized non-professional sports leagues and tournaments **INTERMEDIATE AQUATICS PROGRAMS** -Intermediate and recreational activities that provide a progressive, continued, enriched level of learning	**SPECIALIZED/ADVANCED/EXTENDED CLASSES, WORKSHOPS & CLINICS** -Recreational and learning activities that are advanced, specialized and/or highly individualized **PRIVATE/SEMI-PRIVATE LESSONS** ***(TENNIS, AQUATICS OR OTHER PERSONALIZED INSTRUCTION)*** -Personalized sessions or individualized focus to develop advanced skills at a high level such as tennis, aquatics or other personalized/advanced instruction	**MERCHANDISING** **CONCESSIONS AND VENDING** **ADVERTISING**
0%-15% **Minimal Cost Recovery**	**10%-35%** **Low Cost Recovery**	**30%-60%** **Moderate Cost Recovery**	**55%-100%** **Significant Cost Recovery**	**100%** **Market Cost Recovery**

ATTACHMENT 5

5.3

REQUEST FOR CITY COUNCIL ACTION

MEETING DATE: NOVEMBER 28, 2017

TITLE: REQUEST FOR PROPOSALS – CONSULTING SERVICES TO CONDUCT SEARCH FOR CITY MANAGER

Director of Administrative Services

City Manager

RECOMMENDED ACTION

Authorize staff to release the attached Request for Proposals for consulting services to conduct a search for City Manager.

EXECUTIVE SUMMARY

On November 14, 2017, the City Council discussed recruitment options to address the pending vacancy associated with the upcoming retirement of City Manager Sean Joyce. With the goal of identifying firms well qualified in executive searches at the national level, staff was directed to prepare a Request for Proposals and submit for City Council consideration. Included is a draft Request for Proposals, Scope of Services, and a summary of the policy governing the RFP process.

ANALYSIS

Irvine's Request for Proposal (RFP) policy entails competitive bidding procedures, which includes posting on the City's website and an evaluation of proposals. In this instance, staff will present results of the RFP for City Council action/award of bid.

The following timeline is proposed for the RFP process. RFP proposers will be required to submit timeline estimates for the executive search as part of their proposals.

Post RFP	November 29, 2017
RFP Question Cutoff	December 11, 2017
Post Addenda	December 13, 2017
RFP Closes	December 20, 2017
Evaluate Proposals	December 21, 2017 – January 12, 2018
City Council Contract Award	January 23, 2018

Based upon previous experience filling positions using executive firms, combined with the amount of resignation notice typically given by executives, staff estimates a city manager start date would occur approximately six months following the start of the executive search. A draft Scope of Services (Attachment 1) and RFP for City Manager Executive Recruitment Services (Attachment 2) reflecting these estimates are included for the City Council's review and consideration.

ALTERNATIVES

1) Consultant Team – Existing Master Agreements
   The City Council could forgo an RFP and direct staff to receive a proposal from one of the existing pre-qualified executive firms in which we are currently contracted to perform these services. This would save time but limit the City's ability to use other available firms.

2) RFP Process
   The City Council could direct staff to proceed with the RFP as submitted or under different parameters and timing. If the City Council elects to proceed with a RFP, it has the option of participating with staff in the evaluation process as a whole or via a subcommittee. Once the highest rated firm is identified, the Purchasing Agent will award the contract on the City's behalf or staff can be directed to provide the City Council with recommendations for award. The timeline provided assumes staff will provide the City Council with a recommendation for award.

3) Internally Managed Selection Process
   The City Council could conduct the search using internal resources. Staff reporting directly to the City Council would save time associated with a RFP and the costs associated with conducting the search via third party. This alternative is not recommended as positions at the City Manager/Chief Executive level are typically conducted by an executive firm with national contacts for such an undertaking.

4) Direct Appointment
   The City Council has the authority to appoint any candidate at any time. No formal selection process is required.

FINANCIAL IMPACT

The cost associated with utilizing an executive search firm will be known once a firm is selected as proposals will be required to contain detailed financial terms. However, it is expected the cost will range from $25,000 to $30,000 plus expenses.

REPORT PREPARED BY Jimmee Medina, Deputy Director of Administrative Services

ATTACHMENTS

1) Scope of Services
2) Request for Proposals

City Manager Executive Recruitment Services

SCOPE OF SERVICES

Contractor shall perform the services as set forth below.

1. Act as the primary contact to the Irvine City Council; guide and advise them through the recruitment and selection process.

2. Work with the Irvine City Council to obtain desired characteristics and develop an ideal candidate profile.

3. Develop recruitment brochure, timelines and related materials.

4. Conduct a comprehensive nationwide outreach and advertising campaign aimed at producing the highest quality City Manager candidates.

5. Advertise the availability of the City Manager position nationwide, including to appropriate professional organizations, membership agencies, and publications.

6. Source job candidates through a number of different channels including proactively reaching out to candidates in the marketplace that may not be actively seeking the position and accessing the firm's network of qualified C-level candidates and other best practice recruitment strategies utilized in the industry.

7. Advise the Irvine City Council on all phases of the recruitment. Provide progress reports and attend periodic City Council meetings to assure that quality work is being performed and that the project schedule is being met.

8. Screen applicant resumes' for conformance to required and desired qualifications and conduct preliminary phone interviews with the most qualified candidates.

9. Maintain appropriate communication and update applicants at each phase of the recruitment.

10. Conduct in-person interviews with top candidates prior to recommending the best-qualified candidates for City Council consideration.

11. Meet with the Irvine City Council to review top candidate profiles and discuss candidate qualifications.

12. Coordinate the selection process and related materials to include a comprehensive oral panel interview with the Irvine City Council. Other selection/testing requirements may be appropriate.

13. Make arrangements to schedule interview activities and travel arrangements for top candidates per City of Irvine specifications.

14. Conduct reference and background checks on select candidate(s) prior to consideration of extending an offer of employment.

15. Work with the Irvine City Council to negotiate employment contract.

November 29, 2017

REQUEST FOR PROPOSALS for

City Manager Executive Recruitment Services

Thank you for considering the attached Request for Proposals (RFP). If you are interested in submitting a Proposal, please follow these instructions for submissions:

Only RFP documents downloaded from the City's website (www.cityofirvine.org/purchasing) shall be considered official, as the City must track RFP holders in the event an addendum is issued. Failure to register and download the RFP document and any addendum from the website will result in disqualification of the proposal.

Due Date and Time: **No Later than December 20, 2017 at 4:00:00 pm**

NO LATE PROPOSALS WILL BE ACCEPTED.

RFP Number: **18-1360**

This RFP number must be referenced in the proposal document, which must be submitted electronically via the City's website.

Proposal Submittal: Proposals must be submitted electronically via the City's BidsOnline system as set forth in this RFP document. (Proposals submitted by any other method such as hard copy or email will be disqualified.) Please refer to the Submittal Instructions section of this RFP for details.

Any requests for clarification or other questions concerning this RFP must be submitted in writing and sent via email to Jimmee Medina with a copy to Portia Mina (as shown below) no later than December 11, 2017 at 4:00:00 p.m.

Jimmee Medina
Deputy Director of Administrative Services
Email: jmedina@cityofirvine.org

Portia Mina
Purchasing Agent
Email: pmina@cityofirvine.org

The City of Irvine reserves the right to reject any or all Proposals, to waive any informality in any Proposal, and to select the Proposal that best meets the City's needs.

ATTACHMENT 2

RFP Number: 18-1360

REQUEST FOR PROPOSALS
FOR
CITY MANAGER EXECUTIVE RECRUITMENT SERVICES

Dear Proposers:

The City of Irvine invites qualified executive search firms and consultants to submit a proposal to conduct a national recruitment for the City of Irvine's next City Manager.

The purpose of this solicitation is to obtain a qualified executive search firm to conduct a nationwide executive recruitment with associated services to identify qualified candidates to fill the position of City Manager for the City of Irvine. The search firm should specialize in, or have considerable experience in, recruiting executive professionals for public/governmental entities, and possess extensive nationwide recruitment experience for City Manager and Chief Executive Officer level recruitments.

To be able to respond to this proposal, the proposing firm must demonstrate that it, or its principals assigned to the project, have successfully completed searches similar to the one specified in the Scope of Work section of this RFP.

Proposals must be submitted electronically no later than the date and time stated on this RFP cover sheet. Proposals shall be reviewed and rated as set forth in the Selection Process section of this RFP. The City will then determine which proposal(s) best meets the City's requirements.

LATE PROPOSALS WILL NOT BE ACCEPTED

The City reserves the right to reject any or all proposals, to waive any informality in any proposal and to select the proposal that best meets the City's needs.

MINIMUM QUALIFICATIONS REQUIRED FOR PROPOSAL SUBMITTAL

Firms who fail to meet the minimum qualifications set forth below should not submit a proposal; any such proposal shall be deemed non-responsive and not be considered.

1. Minimum of three (3) public agency/local government executive recruitment experience in the past three (3) years at a national level for City Manager.

OVERVIEW AND SCOPE OF WORK

This Request for Proposals is for City Manager Executive Recruitment Services as set forth in Attachment I.

TERMS AND CONDITIONS

The City's standard Agreement for Contract Services is included as Attachment II. Upon award of the contract, it is expected that the successful proposer will accept the Agreement terms and conditions "as is" without modification. (Please refer to Part III Special Provisions of Attachment II for special requirements relating to these services.)

At the discretion of the City, any or all parts of the respondent's proposal shall be made a binding part of the selected firm's contract. The City reserves the right to reject in whole or in part any of the proposals.

Time frame for submittal of insurance documents: At the time the contract is awarded, the firm must be able to provide all required insurance documentation to the City's insurance certificate tracking company as set forth in Attachment II. If these requirements are not met, the City reserves the right to select the next best qualified firm.

ORGANIZATION OF PROPOSAL

If your proposal does not include all of the items below, it may be deemed non-responsive. The proposal will be evaluated by the City and shall include, at a minimum, the following information:

- **BUSINESS INFORMATION**

  State the full legal name of your firm, including the state of incorporation if applicable. Include your address, phone number, fax number and email address.

- **EXPERIENCE / QUALIFICATIONS INFORMATION**

  Executive Summary: provide a summary of the organization, qualifications and proposed approach for working with the City of Irvine. This summary should be a maximum of three (3) pages in length.

  Provide a list of current clients and the positions being recruited. This list should include position and agency name.

  Provide names of all professional staff who will be assigned to work with the City of Irvine along with a brief resume of their background and experience. Explain the work each staff will perform.

- **PROJECT APPROACH / METHODOLOGY**

  Provide a detailed description of your proposed methodology/project approach based on your understanding of the Scope of Services (ATTACHMENT 1) to included a detailed timeline to conduct the recruitment.

- **REFERENCES**

  Provide a minimum of three (3) public agency/local government references for which the firm has performed executive recruitment experience within the last three (3) years at a national level for City Manager. Include a detailed description of the services, the agency names, contact names and phone numbers, and dates of services performed.

- **PRICING PROPOSAL**

  Provide hourly rates with a total not-to-exceed amount to conduct all services listed in this RFP.

  The City shall not provide reimbursement for business or travel-related expenses; therefore, such costs must be absorbed in the hourly or lump sum fee structure. Provide hourly rates for each category of employee or subconsultant required to perform the services as set forth in ATTACHMENT I, Scope of Services.

- **SIGNATURE**

  The proposal shall be signed by an official authorized to bind the firm, including his or her printed name and title, and shall contain a statement to the effect that the proposal is valid for ninety (90) days.

SELECTION PROCESS

The contract award will be made after selection of one (1) respondent's proposal from among all respondents with implementation of services to follow. However, this RFP does not indicate a commitment by the City to award a contract to any successful respondent. An award of contract is estimated to occur within approximately sixty (60) days after receipt of proposals. The City intends to evaluate the proposed services based upon the data presented in response to the RFP. The following general selection criteria will be used to evaluate the proposals:

Phase 1:

1. Experience and qualifications of firm and designated project management staff, other key personnel, and sub-consultants, if applicable (40%)
2. Methodology/Project Approach provided (30%)
3. Proposal Pricing (20%)
4. Responsiveness to the Request for Proposals (10%)

Phase 2 for highest-rated firm(s):

- The City reserves the right to conduct interviews with the highest-rated firm or firms. In the event the City does perform an interview process, we anticipate they will be conducted the week of January 15, 2018 and the additive weighting shall be 50%.

Phase 3 for highest-rated firm(s)

- The City will perform reference checks for similar work completed within the last three years for the highest-rated firm(s), with an additive weighting of 20%.

The City reserves the right to negotiate final pricing with the highest-rated firm(s).

The City reserves the right to reject any or all proposals, to waive any informality in any proposal, and to select the proposal that best meets the City's needs.

SUBMITTAL INSTRUCTIONS

To download the RFP document or check for addenda, please visit the City's website at: ***cityofirvine.org/purchasing***

Click on the "Supplier Registration and Bid Opportunities" link, and then click on the "BidsOnline" link. Next, click on "Bid Opportunities" to locate and view the RFP document. (If you haven't already done so, you will be required to register as a City of Irvine vendor before downloading the RFP document.)

Proposals must be submitted as follows:

Proposals must be submitted electronically by visiting the City's website at *www.cityofirvine.org/purchasing*. Click on the "Supplier Registration and Bid Opportunities" link. Next, click the BidsOnline link and then click "Log In." Enter your User Name and Password. Click "Bid Opportunities" and then select the RFP. Click on "Place eBid" and follow the instructions.

The deadline for proposal submissions is:

December 20, 2017 at 4:00:00 p.m. However, submittals may be submitted at any time prior to the deadline. (Submitted proposals may be withdrawn and resubmitted at any time prior to the deadline, and cannot be viewed by City staff until the close date and time.)

Late proposals will not be accepted.

- **Proposals must be submitted via the City's BidsOnline system as a single zip folder.**
- **No other form of submission will be accepted.**
- **Large files may take time to upload so plan the timing of your submittal accordingly.**

- **Failure to completely upload your documents by the deadline shall result in disqualification.**

Proposal Submittal

- Name your file “companyname” but do NOT exceed 20 characters or your file will not upload. Do not use symbols (i.e. “%” or “&” as your file may not load correctly. If your name is too long, then abbreviate. Failure to upload document shall result in disqualification.
- If the proposal contains more than one file, you should create a zip folder, containing the various PDF proposal documents.
- Name the zip folder “companyname.”

To create a zip folder:

- Right click on your desktop
- Select “New,” and then “Compressed Zip Folder”
- Name the folder “companyname.”
- Drag your various proposal PDF documents into the Folder

Mac users

- Create a folder for your files and name it “companyname”
- Drag your various proposal PDF documents into the folder
- Right-click the folder and select “create archive”

Technical Support

In the event you encounter technical difficulties during the uploading process, please contact the Planet Bids, BidsOnline system team as shown below (M-F from 8 am to 5 pm):

support@planetbids.com **or** **call (818) 992-1771 ext. 0**

GENERAL INFORMATION

The City will make payments monthly on approved invoices, with payment terms of net 30 days upon receipt of invoice. Payment for additional work, if any, will be negotiated as required. Final payment will be made after approval and acceptance of the work.

Any costs incurred in the preparation of a proposal, presentation to the City, travel in conjunction with such presentations, or samples of items shall be the responsibility of the respondent. The City assumes no responsibility and no liability for costs incurred by respondents prior to issuance of a contract or purchase order.

The proposer shall furnish the City with such additional information as the City may reasonably require.

Any questions or requests for clarification must be submitted in writing and sent via email as set forth on the cover sheet of this RFP.

All data, documents and other products used or developed during performance of the services will remain the property of the City upon completion of the services.

Sincerely,

Portia Mina, CPSM, CPPB
Purchasing Agent

Attachments

ATTACHMENT I

City Manager Executive Recruitment Services

SCOPE OF SERVICES

Contractor shall perform the services as set forth below.

1. Act as the primary contact to the Irvine City Council; guide and advise them through the recruitment and selection process.

2. Work with the Irvine City Council to obtain desired characteristics and develop an ideal candidate profile.

3. Develop recruitment brochure, timelines and related materials.

4. Conduct a comprehensive nationwide outreach and advertising campaign aimed at producing the highest quality City Manager candidates.

5. Advertise the availability of the City Manager position nationwide, including to appropriate professional organizations, membership agencies, and publications.

6. Source job candidates through a number of different channels including proactively reaching out to candidates in the marketplace that may not be actively seeking the position and accessing the firm's network of qualified C-level candidates and other best practice recruitment strategies utilized in the industry.

7. Advise the Irvine City Council on all phases of the recruitment. Provide progress reports and attend periodic City Council meetings to assure that quality work is being performed and that the project schedule is being met.

8. Screen applicant resumes' for conformance to required and desired qualifications and conduct preliminary phone interviews with the most qualified candidates.

9. Maintain appropriate communication and update applicants at each phase of the recruitment.

10. Conduct in-person interviews with top candidates prior to recommending the best-qualified candidates for City Council consideration.

11. Meet with the Irvine City Council to review top candidate profiles and discuss candidate qualifications.

12. Coordinate the selection process and related materials to include a comprehensive oral panel interview with the Irvine City Council. Other selection/testing requirements may be appropriate.

13. Make arrangements to schedule interview activities and travel arrangements for top candidates per City of Irvine specifications.

14. Conduct reference and background checks on select candidate(s) prior to consideration of extending an offer of employment.

15. Work with the Irvine City Council to negotiate employment contract.

ATTACHMENT II

AGREEMENT FOR CONTRACT SERVICES

THIS AGREEMENT FOR CONTRACT SERVICES (the "Agreement") is made and entered into as of _____ 2018, by and between the CITY OF IRVINE, a municipal corporation ("City"), and _____, a (insert legal entity such as "a sole proprietorship" or "a California corporation") ("Contractor"). (The term Contractor includes professionals performing in a consulting capacity.)

PART I

FUNDAMENTAL TERMS

A. Location of Project: The City of Irvine location(s) as set forth in PART IV, Scope of Services, included herein.

B. Description of Services/Goods to be Provided: City Manager Executive Recruitment Services in accordance with PART IV, Scope of Services, included herein (reference RFP 18-1360).

C. Term: Unless terminated earlier as set forth in this Agreement, the services shall commence on February 21, 2018 ("Commencement Date") and shall continue through _____.

D. Party Representatives:

D.1. The City designates the following person/officer to act on City's behalf: Jimmee Medina, email: jmedina@cityofirvine.org

D.2. The Contractor designates the following person to act on Contractor's behalf: _____, email: _____

E. Notices: Contractor shall deliver all notices and other writings required to be delivered under this Agreement to City at the address set forth in Part II ("General Provisions"). The City shall deliver all notices and other writings required to be delivered to Contractor at the address set forth following Contractor's signature below.

F. Attachments: This Agreement incorporates by reference the following Attachments to this Agreement:

F.1.	Part I:	Fundamental Terms
F.2.	Part II:	General Provisions
F.3.	Part III:	Special Provisions
F.4.	Part IV:	Scope of Services
F.5.	Part V:	Budget

G. Integration: This Agreement represents the entire understanding of City and Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with regard to those matters covered by this Agreement. This Agreement supersedes and cancels any and all previous negotiations, arrangements, agreements, and understandings, if any, between the parties, and none shall be used to interpret this Agreement.

IN WITNESS WHEREOF, the parties have executed and entered into this Agreement as of the date first set forth above.

CITY OF IRVINE

By: _____

Kristin Griffith

Its: Director of Administrative Services

CONTRACTOR'S NAME

By: _____

Its: _____

By: _____

Its: _____

Attest:

By: _____

Molly McLaughlin
City Clerk

APPROVED AS TO FORM:
RUTAN & TUCKER, LLP

_____

Jeffrey Melching

Contractor Information
Address for Notices and Payments:

Attn:
Telephone:
Email:

PART II

GENERAL PROVISIONS

SECTION ONE: SERVICES OF CONTRACTOR

1.1 Scope of Services. In compliance with all terms and conditions of this Agreement, Contractor shall provide the goods and/or services shown on Part IV hereto ("Scope of Services"), which may be referred to herein as the "services" or the "work." If this Agreement is for the provision of goods, supplies, equipment or personal property, the terms "services" and "work" shall include the provision (and, if designated in the Scope of Services, the installation) of such goods, supplies, equipment or personal property.

1.2 Changes and Additions to Scope of Services. City shall have the right at any time during the performance of the services, without invalidating this Agreement, to order extra work beyond that specified in the Scope of Services or make changes by altering, adding to, or deducting from said work. No such work shall be undertaken unless a written order is first given by City to Contractor, incorporating therein any adjustment in (i) the Budget, and/or (ii) the time to perform this Agreement, which adjustments are subject to the written approval of the Contractor. City approval and/or payment for work claimed by Contractor as changed or additional shall not act to prevent City at any time to claim such work is covered by the Scope of Work and should be performed by Contractor without additional consideration due. It is expressly understood by Contractor that the provisions of this Section 1.2 shall not apply to services specifically set forth in the Scope of Services or reasonably contemplated therein. Contractor hereby acknowledges that it accepts the risk that the services to be provided pursuant to the Scope of Services may be more costly or time consuming than Contractor anticipates and that Contractor shall not be entitled to additional compensation therefor.

1.3 Standard of Performance. Contractor agrees that all services shall be performed in a competent, professional, and satisfactory manner in accordance with the standards prevalent in the industry, and that all goods, materials, equipment or personal property included within the services herein shall be of good quality, fit for the purpose intended.

1.4 Performance to Satisfaction of City. Notwithstanding any other provision herein, Contractor agrees to perform all work to the satisfaction of City within the time specified. If City reasonably determines that the work is not satisfactory, City shall have the right to take appropriate action, including but not limited to: (i) meeting with Contractor to review the quality of the work and resolve matters of concern; (ii) requiring Contractor to repeat unsatisfactory work at no additional charge until it is satisfactory; (iii) suspending the delivery of work to Contractor for an indefinite time; (iv) withholding payment; and (v) terminating this Agreement as hereinafter set forth.

1.5 Instructions from City. In the performance of this Agreement, Contractor shall report to and receive instructions from the City's Representative designated in Paragraph D.1 of Part I ("Fundamental Terms") of this Agreement. Tasks or services other than those specifically described in the Scope of Services shall not be performed without the prior written approval of the City's Representative.

1.6 Familiarity with Work. By executing this Agreement, Contractor warrants that Contractor (i) has thoroughly investigated and considered the scope of services to be performed, (ii) has carefully considered how the services should be performed, and (iii) fully understands the facilities, difficulties, and restrictions attending performance of the services under the Agreement. If

the services involve work upon any site, Contractor warrants that Contractor has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services hereunder. Should the Contractor discover any conditions, including any latent or unknown conditions, which will materially affect the performance of the services hereunder, Contractor shall immediately inform the City of such fact in writing and shall not proceed except at Contractor's risk until written instructions are received from the City's Representative.

1.7 Identity of Persons Performing Work.

(A) Contractor represents that it employs or will employ at its own expense all personnel required for the satisfactory performance of any and all tasks and services required hereunder. Any personnel performing the services under this Agreement on behalf of Contractor shall at all times be under Contractor's exclusive direction and control. Contractor shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of services under this Agreement and as required by law.

(B) Contractor represents that the tasks and services required hereunder will be performed by Contractor or under its direct supervision, and that all personnel engaged in such work shall be fully qualified and shall be authorized and permitted under applicable State and local law to perform such tasks and services. Contractor will exclusively determine the means, methods and details of performing the services subject to the requirements of this Agreement.

(C) This Agreement contemplates the personal services of Contractor and Contractor's employees, and it is recognized by the parties hereto that a substantial inducement to City for entering into this Agreement was, and is, the professional reputation and competence of Contractor. Neither this Agreement nor any interest therein may be assigned by Contractor, except upon written consent of City.

1.8 Prohibition Against Subcontracting or Assignment. Contractor shall not contract with any other entity to perform in whole or in part the services required hereunder without the express written approval of City. In addition, neither the Agreement nor any interest herein may be transferred, assigned, conveyed, hypothecated, or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior written approval of City. In the event of any unapproved transfer, including any bankruptcy proceeding, City may void the Agreement at City's option in its sole and absolute discretion. No approved transfer shall release any surety of Contractor of any liability hereunder without the express written consent of City.

SECTION TWO: INSURANCE AND INDEMNIFICATION

2.1 Insurance. Without limiting Contractor's indemnification obligations, Contractor shall procure and maintain, at its sole cost and for the duration of this Agreement, insurance coverage as provided below, against all claims for injuries against persons or damages to property which may arise from or in connection with the performance of the work hereunder by Contractor, its agents, representatives, employees, and/or subcontractors. In the event that Contractor subcontracts any portion of the work in compliance with Section 1.8 of this Agreement, the contract between the Contractor and such subcontractor shall require the subcontractor to maintain the same policies of insurance that the contractor is required to maintain pursuant to this Section 2.1.

2.1.1 Insurance Coverage Required. The policies and amounts of insurance required hereunder shall be as follows:

A. Comprehensive General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00 01 including completed operations and contractual liability, with limits of liability of not less than $1,000,000 per occurrence and $2,000,000 annual aggregate for liability arising out of Contractor's performance of this Agreement. The limits shall be provided by either a single primary policy or combination of policies. If limits are provided with excess and/or umbrella coverage the limits combined with the primary will equal the minimum limits set forth above. If written with an aggregate, the aggregate shall be double the each occurrence limit. Such insurance shall be endorsed to:

(1) Name the City of Irvine and its employees, representatives, officers and agents (collectively hereinafter "City and City Personnel") as additional insured for claims arising out of Contractor's performance of this Agreement.

(2) Provide that the insurance is primary and non-contributing with any other valid and collectible insurance or self-insurance available to City.

A statement on an insurance certificate will not be accepted in lieu of the actual endorsement.

B. Automobile Liability Insurance with a limit of liability of not less than $1,000,000 each occurrence and $1,000,000 annual aggregate. The limits shall be provided by either a single primary policy or combination of policies. If limits are provided with excess and/or umbrella coverage the limits combined with the primary will equal the minimum limits set above. Such insurance shall include coverage for all "owned," "hired" and "non-owned" vehicles, or coverage for "any auto." Such insurance shall be endorsed to:

(1) Name the City of Irvine and its employees, representatives, officers and agents as additional insured for claims arising out of Contractor's performance of this Agreement.

(2) Provide that the insurance is primary and non-contributing with any other valid and collectible insurance or self-insurance available to City.

A statement on an insurance certificate will not be accepted in lieu of the actual endorsement.

C. Workers' Compensation Insurance in accordance with the Labor Code of California and covering all employees of the Contractor providing any service in the performance of this agreement. Such insurance shall be endorsed to:

(1) Waive the insurer's right of Subrogation against the City and City Personnel.

A statement on an insurance certificate will not be accepted in lieu of the actual endorsement unless your insurance carrier is the State of California Insurance Fund (SCIF) and the endorsement numbers 2570 and 2065 are referenced on the certificate of insurance.

Contractor's completion of the form attached hereto as Exhibit 1 shall be a condition precedent to Contractor's rights under this Agreement. Should Contractor certify, pursuant to Exhibit 1, that, in the performance of the work under this

Agreement, it shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, Contractor shall nonetheless maintain responsibility for requiring that any subcontractors performing work under this Agreement have and maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the work performed under this Agreement.

D. Professional Liability Insurance with minimum limits of $1,000,000 each claim. Covered professional services shall include all work performed under this Agreement and delete any exclusion that may potentially affect the work to be performed.

E. Evidence of Insurance: Contractor shall provide to City a Certificate(s) of Insurance evidencing such coverage together with copies of the required policy endorsements no later than five (5) business days prior to commencement of service and at least fifteen (15) business days prior to the expiration of any policy. Coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits, non-renewed, or materially changed for any reason, without thirty (30) days prior written notice thereof given by the insurer to City by U.S. mail, or by personal delivery, except for nonpayment of premiums, in which case ten (10) days prior notice shall be provided.

The City project title or description MUST be included in the "Description of Operations" box on the certificate.

The City's insurance certificate tracking services provider, Exigis, LLC, will send Contractor an email message providing instructions for submitting insurance certificates and endorsements.

Certificate Holder:

City of Irvine, California
c/o: Exigis LLC
PO Box 4668 ECM #35050
New York, NY 10168-4668

F. Endorsements: A statement on an insurance certificate will not be accepted in lieu of the actual endorsement. Insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval.

Additional Insured Endorsements shall not:

1. Be limited to "Ongoing Operations"
2. Exclude "Contractual Liability"
3. Restrict coverage to the "Sole" liability of Contractor
4. Contain any other exclusion contrary to the Agreement.

G. Any Deductible in Excess of $50,000 and/or Self-Insured Retentions must be approved in writing by the City.

H. Acceptability of Insurers. Each policy shall be from a company with current A.M. Best's rating of A- VII or higher and authorized to do business in the State of California, or otherwise allowed to place insurance through surplus lines brokers under applicable provisions of the California Insurance Code or any federal law. Any other rating must be approved in writing by the City.

l. Insurance of Subcontractors. Contractor shall be responsible for causing Subcontractors to maintain the same types and limits of coverage in compliance with this Agreement, including naming the City as an additional insured to the Subcontractor's policies.

2.2 Indemnification. Contractor shall indemnify, defend, and hold City and City Personnel harmless from and against any and all actions, suits, claims, demands, judgments, attorney's fees, costs, damages to persons or property, losses, penalties, obligations, expenses or liabilities (herein "claims" or "liabilities") that may be asserted or claimed by any person or entity arising out of the willful or negligent acts, errors or omissions of Contractor, its employees, agents, representatives or subcontractors which directly or indirectly relate to the work being performed or services being provided under this Agreement, whether or not there is concurrent active or passive negligence on the part of City and/or City Personnel, but excluding such claims or liabilities arising from the sole active negligence or willful misconduct of City or City Personnel in connection therewith:

2.2.1 Contractor shall defend any action or actions filed in connection with any such claims or liabilities, and shall pay all costs and expenses, including attorney's fees incurred in connection therewith.

2.2.2 Contractor shall promptly pay any judgment rendered against City or any City Personnel for any such claims or liabilities.

2.2.3 In the event City and/or any City Personnel is made a party to any action or proceeding filed or prosecuted for any such damages or other claims arising out of or in connection with the work being performed or services being provided under this Agreement, Contractor shall pay to City any and all costs and expenses incurred by City or City Personnel in such action or proceeding, together with reasonable attorney's fees and expert witness fees.

SECTION THREE: LEGAL RELATIONS AND RESPONSIBILITIES

3.1 Compliance with Laws. Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect those employed by it or in any way affect the performance of services pursuant to this Agreement. Contractor shall at all times observe and comply with all such laws, ordinances, and regulations and shall be responsible for the compliance of all work and services performed by or on behalf of Contractor. When applicable, Contractor shall not pay less than the prevailing wage, which rate is determined by the Director of Industrial Relations of the State of California.

3.2 Licenses, Permits, Fees and Assessments. Contractor shall obtain at its sole cost and expense all licenses, permits, and approvals that may be required by law for the performance of the services required by this Agreement. Contractor shall have the sole obligation to pay any fees, assessments, and taxes, plus applicable penalties and interest, which may be imposed by law and arise from or are necessary for Contractor's performance of the services required by this Agreement, and shall indemnify, defend, and hold harmless City against any such fees, assessments, taxes, penalties, or interest levied, assessed, or imposed against City thereunder.

3.3 Covenant against Discrimination. Contractor covenants for itself, its heirs, executors, assigns, and all persons claiming under or through it, that there shall be no discrimination against any person on account of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status of any person, in the performance of this Agreement. Contractor further covenants and agrees to comply with the terms of the Americans with Disabilities Act of 1990 (42 U.S.C. §12101 et seq.) as the same may be amended from time to time.

3.4 Independent Contractor. Contractor shall perform all services required herein as an independent contractor of City and shall remain at all times as to City a wholly independent contractor. City shall not in any way or for any purpose become or be deemed to be a partner of Contractor in its business or otherwise, or a joint venturer, or a member of any joint enterprise with Contractor. Contractor shall not at any time or in any manner represent that it or any of its agents or employees are agents or employees of City. Neither Contractor nor any of Contractor's employees shall, at any time, or in any way, be entitled to any sick leave, vacation, retirement, or other fringe benefits from the City; and neither Contractor nor any of its employees shall be paid by City time and one-half for working in excess of forty (40) hours in any one week. City is under no obligation to withhold State and Federal tax deductions from Contractor's compensation. Neither Contractor nor any of Contractor's employees shall be included in the competitive service, have any property right to any position, or any of the rights an employee may have in the event of termination of this Agreement.

3.5 Covenant against Contingent Fees. Contractor warrants that it has not employed or retained any company or person other than a bona fide employee working for Contractor, to solicit or secure this Agreement and that it has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon, or resulting from, the award or making of this Agreement. For breach or violation of this warranty, City shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

3.6 Use of Patented Materials. Contractor shall assume all costs arising from the use of patented or copyrighted materials, including but not limited to equipment, devices, processes, and software programs, used or incorporated in the services or work performed by Contractor under this Agreement. Contractor shall indemnify, defend, and save the City harmless from any and all suits, actions or proceedings of every nature for or on account of the use of any patented or copyrighted materials consistent with Section 2.2 herein.

3.7 Proprietary Information. All proprietary information developed specifically for City by Contractor in connection with, or resulting from, this Agreement, including but not limited to inventions, discoveries, improvements, copyrights, patents, maps, reports, textual material, or software programs, but not including Contractor's underlying materials, software, or know-how, shall be the sole and exclusive property of City, and are confidential and shall not be made available to any person or entity without the prior written approval of City. Contractor agrees that the compensation to be paid pursuant to this Agreement includes adequate and sufficient compensation for any proprietary information developed in connection with or resulting from the performance of Contractor's services under this Agreement. Contractor further understands and agrees that full disclosure of all proprietary information developed in connection with, or resulting from, the performance of services by Contractor under this Agreement shall be made to City, and that Contractor shall do all things necessary and proper to perfect and maintain ownership of such proprietary information by City.

3.8 Retention of Funds. Contractor hereby authorizes City to deduct from any amount payable to Contractor (whether arising out of this Agreement or otherwise) any amounts the payment of which may be in dispute hereunder or which are necessary to compensate City for any losses, costs, liabilities, or damages suffered by City, and all amounts for which City may be liable to third parties, by reason of Contractor's negligent acts, errors, or omissions, or willful misconduct, in performing or failing to perform Contractor's obligations under this Agreement. City in its sole and absolute discretion, may withhold from any payment due Contractor, without liability for interest, an amount sufficient to cover such claim or any resulting lien. The failure of City to exercise such right to deduct or withhold shall not act as a waiver of Contractor's obligation to pay City any sums Contractor owes City.

3.9 Termination by City. City reserves the right to terminate this Agreement at any time, with or without cause, upon written notice to Contractor. Upon receipt of any notice of termination from City, Contractor shall immediately cease all services hereunder except such as may be specifically approved in writing by City. Contractor shall be entitled to compensation for all services rendered prior to receipt of City's notice of termination and for any services authorized in writing by City thereafter. If termination is due to the failure of Contractor to fulfill its obligations under this Agreement, City may take over the work and prosecute the same to completion by contract or otherwise, and Contractor shall be liable to the extent that the total cost for completion of the services required hereunder, including costs incurred by City in retaining a replacement contractor and similar expenses, exceeds the Budget.

3.10 Right to Stop Work; Termination by Contractor. Contractor shall have the right to stop work and terminate only if City fails to timely make a payment required under the terms of the Budget. Contractor shall provide City thirty (30) day prior written notice of such claimed payment owed and City shall have an opportunity to remedy any such claimed breach during such time with no legal consequence to City. Contractor shall immediately cease all services hereunder following the thirty (30) day notice, except such services as may be specifically approved in writing by City. Contractor shall be entitled to compensation for all services rendered prior to termination and for any services authorized in writing by City thereafter. If Contractor terminates this Agreement because of an error, omission, or a fault of Contractor, or Contractor's willful misconduct, the terms of Section 3.9 relating to City's right to take over and finish the work and Contractor's liability shall apply.

3.11 Waiver. No delay or omission in the exercise of any right or remedy by a nondefaulting party with respect to any default shall impair such right or remedy or be construed as a waiver. A party's consent to or approval of any act by the other party requiring the party's consent or approval shall not be deemed to waive or render unnecessary consent to or approval of any subsequent act. A waiver by either party of any default must be in writing.

3.12 Legal Actions. Legal actions concerning any dispute, claim, or matter arising out of or in relation to this Agreement shall be instituted and maintained in the Superior Courts of the State of California in the County of Orange, or in any other appropriate court with jurisdiction in such County, and Contractor agrees to submit to the personal jurisdiction of such court.

3.13 Rights and Remedies are Cumulative. Except as may be expressly set forth in this Agreement, the rights and remedies of the parties are cumulative and the exercise by either party of one or more of such rights or remedies or other rights or remedies as may be permitted by law or in equity shall not preclude the exercise by such party, at the same or different times, of any other rights or remedies to which such party may be entitled.

3.14 Attorneys' Fees. In any action between the parties hereto seeking enforcement of any of the terms or provisions of this Agreement or in connection with the performance of the work hereunder, the party prevailing in the final judgment in such action or proceeding, in addition to any other relief which may be granted, shall be entitled to have and recover from the other party its reasonable costs and expenses, including, but not limited to, reasonable attorney's fees, expert witness fees, and courts costs. If either party to this Agreement is required to initiate or defend litigation with a third party because of the violation of any term or provision of this Agreement by the other party, then the party so litigating shall be entitled to its reasonable attorney's fees and costs from the other party to this Agreement.

3.15 Force Majeure. The time period specified in this Agreement for performance of services shall be extended because of any delays due to unforeseeable causes beyond the control and without the fault or negligence of City or Contractor, including, but not restricted to, acts of nature or of the public enemy, unusually severe weather, fires, earthquakes, floods, epidemics, quarantine restrictions, riots, strikes, freight embargoes, wars, litigation, and/or acts of any governmental agency, including City, if the delaying party shall within ten (10) days of the commencement of such delay notify the other party in writing of the causes of the delay. If Contractor is the delaying party, City shall ascertain the facts and the extent of delay, and extend the time for performing the services for the period of the enforced delay when and if in the judgment of City such delay is justified. City's determination shall be final and conclusive upon the parties to this Agreement. In no event shall Contractor be entitled to recover damages against City for any delay in the performance of this Agreement, however caused. Contractor's sole remedy shall be extension of this Agreement pursuant to this Section 3.15.

3.16 Non-liability of City Officers and Employees. No officer, official, employee, agent, representative, or volunteer of City shall be personally liable to Contractor, or any successor in interest, in the event of any default or breach by City, or for any amount which may become due to Contractor or its successor, or for breach of any obligation of the terms of this Agreement.

3.17 Conflicts of Interest.

A. No officer, official, employee, agent, representative or volunteer of City shall have any financial interest, direct or indirect, in this Agreement, or participate in any decision relating to this Agreement that affects his or her financial interest or the financial interest of any corporation, partnership, association or other entity in which he or she is interested, in violation of any federal, state or city statute, ordinance or regulation. Contractor shall not employ any such person while this Agreement is in effect.

B. Contractor represents, warrants and covenants that he, she or it presently has no interest, direct or indirect, which would interfere with or impair in any manner or degree the performance of Contractor's obligations and responsibilities under this Agreement. Contractor further agrees that while this Agreement is in effect, Contractor shall not acquire or otherwise obtain any interest, direct or indirect, that would interfere with or impair in any manner or degree the performance of Contractor's obligations and responsibilities under this Agreement.

C. Contractor acknowledges that pursuant to the provisions of the Political Reform Act (Government Code section 87100 *et seq.*), City may determine Contractor to be a "Consultant" as that term is defined by the Act. In the event City makes such a determination, Contractor agrees to complete and file a "Statement of Economic Interest" with the City Clerk to disclose such financial interests as required by City. In such event, Contractor further agrees to require any other person doing work under this Agreement to complete and file

a "Statement of Economic Interest" to disclose such other person's financial interests as required by City.

3.18 Contractor Ethics. Contractor represents and warrants that it has not provided or promised to provide any gift or other consideration, directly or indirectly, to any officer, employee, or agent of City to obtain City's approval of this Agreement. Contractor shall not, at any time, have any financial interest in this Agreement or the project that is the subject of this Agreement other than the compensation to be paid to Contractor as set forth in this Agreement. In the event the work and/or services to be performed hereunder relate to a project and/or application under consideration by or on file with the City, (i) Contractor shall not possess or maintain any business relationship with the applicant or any other person or entity which Contractor knows to have a personal stake in said project and/or application, (ii) other than performing its work and/or services to City in accordance with this Agreement Contractor shall not advocate either for or against said project and/or application, and (iii) Contractor shall immediately notify City in the event Contractor determines that Contractor has or acquires any such business relationship with the applicant or other person or entity which has a personal stake in said project and/or application. The provisions in this Section shall be applicable to all of Contractor's officers, directors, employees, and agents, and shall survive the termination of this Agreement.

3.19 Compliance with California Unemployment Insurance Code Section 1088.8. If Contractor is a Sole Proprietor, then prior to signing the Agreement, Contractor shall provide to the City a completed and signed Form W-9, Request for Taxpayer Identification Number and Certification. Contractor understands that pursuant to California Unemployment Insurance Code Section 1088.8, the City will report the information from Form W-9 to the State of California Employment Development Department, and that the information may be used for the purposes of establishing, modifying, or enforcing child support obligations, including collections, or reported to the Franchise Tax Board for tax enforcement purposes.

3.20 CalPERS Annuitants. If Contractor is a California Public Employees' Retirement System ("CalPERS") annuitant, Contractor must provide the City with written notification of such fact a minimum of 14 calendar days prior to commencement of services under this Agreement. Failure to provide such notification may result in termination of the Agreement, and any penalties or other costs relating thereto shall be borne by Contractor. If this Agreement remains in place, Contractor shall execute any amendment(s) to this Agreement requested by the City in order to comply with all laws and regulations applicable to CalPERS annuitants.

SECTION FOUR: MISCELLANEOUS PROVISIONS

4.1 Records and Reports. The City Manager of the City of Irvine or his/her designee reserves the right to perform such audits, performance reviews, and other evaluations (collectively 'audit') that relate to or concern this Agreement at any time. Contractor agrees to participate and cooperate in up to five (5) hours of meetings and interviews (at no additional cost to City), if the same are requested by the City in connection with such an audit. Further, provided that the City pays Contractor's commercially reasonable hourly rate for services, Contractor agrees to participate and cooperate in such additional meetings and interviews (in excess of five (5) hours), if the same are requested by the City in connection with such an audit. Upon request by City, Contractor shall prepare and submit to City any reports concerning Contractor's performance of the services rendered under this Agreement. City shall have access, with 72 hours advance written notice delivered to Contractor, to the books and records of

Contractor related to Contractor's performance of this Agreement in the event any audit is required. All drawings, documents, and other materials prepared by Contractor in the performance of this Agreement (i) shall be the property of City and shall be delivered at no cost to City upon request of City or upon the termination of this Agreement, and (ii) shall not be made available to any individual or entity without prior written approval of City. The obligations of this Section 4.1 shall survive the expiration (or earlier termination) of this Agreement for a period of three (3) years. During said three (3) year period, Contractor shall keep and maintain all records and reports related to this Agreement, and City shall have access to such records in the event any audit is required.

4.2 Notices. Unless otherwise provided herein, all notices required to be delivered under this Agreement or under applicable law shall be personally delivered, or delivered by United States mail, prepaid, certified, return receipt requested, or by reputable document delivery service that provides a receipt showing date and time of delivery. Notices personally delivered or delivered by a document delivery service shall be effective upon receipt. Notices delivered by mail shall be effective at 5:00 p.m. on the second calendar day following dispatch. Notices to the City shall be delivered to the following address, to the attention of the City Representative set forth in Paragraph D.1 of the Fundamental Terms of this Agreement:

To City: City of Irvine
One Civic Center Plaza (92606) (Hand Deliveries)
P. O. Box 19575
Irvine, CA 92623-9575

Notices to Contractor shall be delivered to the address set forth below Contractor's signature on Part I of this Agreement, to the attention of Contractor's Representative set forth in Paragraph D.2 of the Fundamental Terms of this Agreement. Changes in the address to be used for receipt of notices shall be effected in accordance with this Section 4.2.

4.3 Construction and Amendment. The terms of this Agreement shall be construed in accordance with the meaning of the language used and shall not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction which might otherwise apply. The headings of sections and paragraphs of this Agreement are for convenience or reference only, and shall not be construed to limit or extend the meaning of the terms, covenants and conditions of this Agreement. This Agreement may only be amended by the mutual consent of the parties by an instrument in writing.

4.4 Severability. Each provision of this Agreement shall be severable from the whole. If any provision of this Agreement shall be found contrary to law, the remainder of this Agreement shall continue in full force.

4.5 Authority. The person(s) executing this Agreement on behalf of the parties hereto warrant that (i) such party is duly organized and existing, (ii) they are duly authorized to execute and deliver this Agreement on behalf of said party, (iii) by so executing this Agreement, such party is formally bound to the provisions of this Agreement, and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which said party is bound.

4.6 Special Provisions. Any additional or supplementary provisions or modifications or alterations of these General Provisions shall be set forth in Part III of this Agreement ("Special Provisions").

4.7 **Precedence**. In the event of any discrepancy between Part I ("Fundamental Terms"), Part II ("General Provisions"), Part III ("Special Provisions"), Part IV ("Scope of Services"), and/or Part V ("Budget") of this Agreement, the order of precedence shall be as follows.
Part III
Part II
Part IV
Part V
Part I

PART III

SPECIAL PROVISIONS

1) **Business License Requirement.** Contractors who provide services for the City of Irvine within the city limits of Irvine shall obtain, within five (5) days of executing this Agreement and prior to commencing any work herein, a City of Irvine business license and shall maintain a current business license throughout the term of this Agreement.

PART IV

SCOPE OF SERVICES

Services shall be performed as set forth below and in accordance with ATTACHMENT I. (TO BE INSERTED AFTER CONTRACT AWARD)

PART V

BUDGET

Pricing shall be as set forth below and in accordance with ATTACHMENT II.
(TO BE INSERTED AFTER CONTRACT AWARD)

Included in the total compensation are all ordinary and overhead expenses incurred by Contractor and its agents and employees, including meetings with City representatives, and incidental costs incurred in performing under this Agreement. The total compensation for the Scope of Services set forth herein **shall not exceed $_____**, including all amounts payable to Contractor for its overhead, payroll, profit, and all costs of whatever nature, including without limitation all costs for subcontracts, materials, equipment, supplies, and costs arising from or due to termination of this Agreement.

No work shall be performed in connection with this Agreement until the receipt of a signed City of Irvine Purchase Order; and no work shall be performed with a value in excess of the Purchase Order amount as the City has not authorized nor is it obligated to pay Contractor any such excess amount.

In the event Contractor anticipates the potential need to perform services beyond those set forth herein where additional funding may be needed, Contractor shall notify City in writing allowing sufficient time for City to consider further action.

Payment for services will be made monthly on invoices deemed satisfactory to the City, with payment terms of net 30 days upon receipt of invoice. Contractor shall submit invoices within fifteen (15) days from the end of each month in which services have been provided. Contractor shall provide invoices with sufficient detail to ensure compliance with pricing as set forth in this Agreement. The information required may include: date(s) of work, hours of work, hourly rate(s), and material costs.

The Purchase Order number must be included on all invoices, along with the City Representative's name. Failure to include this information on the invoice shall result in the return of the unpaid invoice.

Contractors should submit invoices electronically to: **invoicesubmittal@cityofirvine.org**

Payment by City under this Agreement shall not be deemed as a waiver of the City's right to claim at a later point that such payment was not due under the terms of this Agreement.

Exhibit 1

WORKERS' COMPENSATION INSURANCE CERTIFICATION

Contract Services Description: City Manager Executive Recruitment Services

WORKERS' COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:

(CHECK ONE APPLICABLE BOX BELOW)

☐ **I have and will maintain workers' compensation insurance**, as required by Section 3700 of the Labor Code, for the performance of the work to be performed under this Agreement and shall submit insurance certificates evidencing such coverage as set forth herein.

☐ I certify that, in the performance of the work under this Agreement, **I shall not employ any person** in any manner so as to become subject to the workers' compensation laws of California, and I hereby agree to indemnify, defend, and hold harmless the City of Irvine and all of its officials, employees, and agents from and against any and all claims, liabilities, and losses relating to personal injury or death, economic losses, and property damage arising out of my failure to provide such worker's compensation insurance. I further agree that, **if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions and immediately furnish insurance certificates** evidencing such coverage as set forth herein.

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

Dated:	
Contracting Firm:	
Signature:	
Title:	
Address:	