

DRAFT

INITIAL STUDY

**OUR LADY OF PEACE PROJECT
CITY OF IRVINE**

(LSA Project No. 20241645)



June 2026

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DRAFT

INITIAL STUDY

OUR LADY OF PEACE PROJECT CITY OF IRVINE

Submitted to:

Diocese of Orange
Our Lady of Peace Korean Catholic Center
14010 Remington
Irvine, California 92602

Prepared by:

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Project No. 20241645

The logo for LSA, consisting of the letters 'LSA' in a bold, blue, sans-serif font.

June 2026

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LIST OF ABBREVIATIONS AND ACRONYMS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
af	acre-feet
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act of 1972
APN	Assessor's Parcel Number
Basin	South Coast Air Basin
Basin Plan	Water Quality Control Plan for the Santa Ana River Basin
BMPs	best management practices
BRA	Biological Resources Assessment
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Fire and Forestry Protection
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code
CGS	California Geological Survey

CHRIS	California Historical Resources Information System
CIP	Capital Improvement Program
City	City of Irvine
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
Cortese List	Hazardous Waste and Substances Sites List
CPOC Basin	Coastal Plain of Orange County Groundwater Basin
CPUC	California Public Utilities Commission
CPUC Strategic Plan	CPUC's Energy Efficiency Strategic Plan
CRSR	Cultural Resource Survey Report
CUP	Conditional Use Permit
CWA	Clean Water Act
dBA	A-weighted decibel
DDT	dichlorodiphenyltrichloroethane
DOC	California Department of Conservation
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
FDC	Fire Department Connection
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
FRAP	Fire and Resources Assessment Program

GHG	greenhouse gas
GSPs	Groundwater Sustainability Plans
HCP	Habitat Conservation Plan
HVAC	heating, ventilation, and air conditioning
I-5	Interstate 5
IEPR	CEC's Integrated Energy Policy Report
IESNA	Illuminating Engineering Society of North America
IPD	Irvine Police Department
IRWD	Irvine Ranch Water District
IS/NOP	Initial Study/Notice of Preparation
IUSD	Irvine Unified School District
LAWRP	Los Alisos Water Recycling Plant
LED	light-emitting diode
LOS	level of service
LUST	Leaking Underground Storage Tank
Ma	million years ago
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MHDR	Medium High Density Residential
MLD	Most Likely Descendant
MM	Mitigation Measure
MRZs	Mineral Resource Zones
MTCO ₂ e	metric tons of carbon dioxide equivalent
MWD	Metropolitan Water District of Southern California

MWRP	Michelson Water Recycling Plant
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NCCP	Natural Community Conservation Plan
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
NHMLA	Natural History Museum of Los Angeles County
Northwood Planning Area	Planning Area 8
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O ₃	ozone
OC San	Orange County Sanitation District
OC Waste and Recycling	Orange County Waste and Recycling
OCFA	Orange County Fire Authority
OCPW	Orange County Public Works
OCTA	Orange County Transportation Authority
OCWR	Orange County Waste and Recycling
OPR	Governor's Office of Planning and Research
OS&Y	outside screw & yoke
Pb	lead
PCBs	polychlorinated biphenyls
PM _{2.5}	particulate matter less than 2.5 microns in size
PM ₁₀	particulate matter less than 10 microns in size

PRC	Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Program
Project Applicant	Roman Catholic Diocese of Orange
project site	14010 Remington
proposed project	Our Lady of Peace Project
Qyf	Young Alluvial Fan Deposits
RCM	Regulatory Compliance Measure
RIRO	right-in/right out
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCCIC	South Central Coastal Information Center
SGMA	Sustainable Groundwater Management Act
SMWD	Santa Margarita Water District
SO ₂	sulfur dioxide
SoCalGas	Southern California Gas Company
sq ft	square foot/feet
SR-1	State Route 1, Pacific Coast Highway
SR-261	State Route 261
SRA	State Responsibility Area
SVP	Society of Vertebrate Paleontology
SWRCB	State Water Resources Control Board

TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOCs	volatile organic compounds
Zone 2.2	Low Density Residential
Zone 2.3	Medium Density Residential
Zone 2.4C	Medium-High Density Residential Zoning District

1.0 PROJECT INFORMATION

1. Project Title:

Our Lady of Peace Project

2. Lead Agency Name and Address:

City of Irvine
Community Development Department
1 Civic Center Plaza
Irvine, California 92606

3. Contact Person and Phone Number:

Brett Cannon, AICP
Senior Planner
(949) 724-6687

4. Project Location:

Our Lady of Peace Korean Catholic Center
14010 Remington
Irvine, California 92620
(Planning Area 8-Northwood)
(Assessor's Parcel No. 529-401-01)

5. Project Sponsor's Name and Address:

Diocese of Orange – Pastoral Center
13280 Chapman Avenue
Garden Grove, California 92840

6. General Plan Designation:

Medium High Density Residential (MHDR)

7. Zoning:

Medium-High Density Residential Zoning District (Zone 2.4C)

8. Description of Project:

The Roman Catholic Diocese of Orange is proposing the Our Lady of Peace Project on an approximately six-acre site at 14010 Remington in the City of Irvine. The proposed project would construct 68 new multi-family residential units and replace a temporary church building occupied by the Our Lady of Peace Korean Catholic Church with a new permanent church building with a columbarium and chapel located within the basement. In addition, the proposed project would construct a new parish hall building, a new rectory building, and a new two-story underground parking garage.

9. Surrounding Land Uses and Setting:

The project site is surrounded primarily by single-family residential land uses to the northwest and northeast and multi-family residential uses to the southwest and southeast.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

Not Applicable.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Consultation under AB 52 will be completed during preparation of the EIR and discussed in further detail in that document.

2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

The Roman Catholic Diocese of Orange (Project Applicant) is proposing the Our Lady of Peace Project (proposed project) on an approximately six-acre site at 14010 Remington (project site) in the City of Irvine (City). The proposed project would construct 68 new multi-family residential units, nine of which would be affordable (approximately 13.2 percent of the total), and replace a temporary church building occupied by the Our Lady of Peace Korean Catholic Church with a new permanent church building, including a columbarium and chapel within the basement. In addition, the proposed project would construct a new parish hall building, a new rectory building, and a two-story underground parking garage. Approximately 2.5 acres of the project site are currently developed with the temporary church building and associated landscaped areas and parking. The remainder of the approximately six-acre project site is undeveloped.

2.2 ENVIRONMENTAL SETTING

The project site consists of one parcel, Assessor's Parcel Number (APN) 529-401-01. **Figure 2.1: Project Location** depicts the project site in both a regional and local context. The project site is located at the southeast corner of Trabuco Road and Remington in the city of Irvine in Orange County, California. The city of Irvine is located in southcentral Orange County and is bound by areas of unincorporated Orange County to the northeast; the cities of Tustin, Santa Ana, and Costa Mesa, and a portion of unincorporated Orange County to the northwest; the city of Newport Beach and a portion of unincorporated Orange County to the southwest, and the cities of Lake Forest, Laguna Hills, and Laguna Woods to the southeast.

Regional access to the project site is provided by Interstate 5 (I-5), located approximately 0.75 mile to the west, and State Route 261 (SR-261), located approximately 3.5 miles to the north. Local access to the project site is provided via Trabuco Road. The project site is accessed via a driveway from Remington, which connects to Trabuco Road north of the project site and Roosevelt south of the project site. The project site is surrounded by primarily single-family residential land uses to the northwest and northeast and multi-family residential uses to the southwest and southeast.

2.3 CURRENT GENERAL PLAN LAND USE AND ZONING

Figure 2.2: General Plan Land Use shows the General Plan land use for the project site and surrounding area. The project site is located in an area designated for Medium-High Density Residential use in the City's General Plan. Per the Land Use Element of the General Plan, Medium-High Density allows for development of up to 25 dwelling units per acre. Areas to the northwest, southwest, and southeast are also designated for Medium-High Density Residential and are characterized by multi-family residential uses. Areas to the northeast, across Trabuco Road from the project site are designated for Medium Density Residential and are characterized by single-family residential uses.

Figure 2.3: Zoning shows zoning for the project site and surrounding areas. The project site is located in Planning Area 8 (Northwood Planning Area) as provided for in the City's zoning ordinance.

The project site and areas to the southwest and southeast are within the Medium-High Density Residential zoning district (Zone 2.4C). Zone 2.4C (Medium-High Density Residential) allows for a maximum of 1,849 dwelling units. The area directly opposite the project site to the northwest is zoned for Medium Density Residential (Zone 2.3). The area to the northeast, across Trabuco Road, is zoned for Low Density Residential (Zone 2.2). The Northwood Planning Area allows for a maximum of 8,301 dwelling units. In Planning Area 8, 68 dwelling units remain as unallocated dwelling units. Pursuant to Section 9-8-3 of the Irvine Zoning Ordinance, unallocated dwelling units may be developed anywhere within the same planning area, provided the units remain within the maximum development intensity established for the planning area, comply with applicable site-specific zoning regulations, and any potential environmental impacts are adequately addressed pursuant to CEQA. The proposed project would utilize the 68 unallocated dwelling units and remain within the maximum residential development intensity permitted for Planning Area 8.

The proposed project would be consistent with the City's General Plan and zoning; however, churches requiring new buildings are a conditionally permitted use in the Medium-High Density Residential zoning district. The existing church is currently subject to a Conditional Use Permit (CUP) that will require major modification. The CUP, CUP 30614-CPU, approved in May 1998, allows for the development of a church, including a multi-purpose building, worship hall with 70 foot steeple topped by a cross, a parish hall, a rectory, and administrative offices. The CUP is discussed further in Section 2.5, Anticipated Discretionary Actions. The church component of the proposed project constitutes an institutional land use and would be evaluated under the City's General Plan additive institutional framework. As discussed in Section 9-0-3, Building intensity standards, of the City's municipal code, General Plan Land Use Element Objective 4-A permits approval of institutional land uses that may exceed General Plan land use category development intensity maximums. Once approved, these uses are considered additive. Accordingly, the church/institutional use would be considered additive to and compatible with the underlying residential land use designation and would not reduce or displace the residential density allocated to the site under the Medium-High Density Residential land use designation. Residential density compliance would be evaluated based on the proposed residential units independent of the church/institutional use.

2.4 PROJECT CHARACTERISTICS

The project site plan is depicted on **Figure 2.4: Project Site Plan**. As described in Section 2.1, the proposed project would construct 68 new multi-family residential units and replace the temporary church building occupied by the Our Lady of Peace Korean Catholic Church with a new permanent church building, including a columbarium and chapel within the basement. In addition, the proposed project would construct a new parish hall building, a new rectory building, and a two-story underground parking garage. The following sections provide greater detail on the proposed project components.

2.4.1 Residential Development

The residential portion of the proposed project would occupy approximately 2.94 acres on the southern half of the project site. The residential development would include 68 residential units in 11 three-story multi-family residential buildings in 3, 4, 6, and 8-plex configurations. **Table 2.A: Proposed Project Building Types** provides a summary of the proposed residential building types.

Table 2.A: Proposed Project Building Types

Building	Number of Proposed Buildings	Dwelling Units per Building	Unit Types	Residential Area (sq ft)	Garage/ Porch (sq ft)	Total Dwelling Units
Type 1A	2	3	3 Bedroom, 3 Bathroom, Flex Space, 2 Car Garage	1,910	525/4	2
			Accessible - 3 bedroom, 2.5 Bathroom, Flex Space, 2 Car Garage	1,878	489/4	4
Type 2B	2	4	3 Bedroom, 3 Bathroom, Flex Space, 2 Car Garage	1,910	525/4	4
			Accessible - 3 bedroom, 2.5 Bathroom, Flex Space, 2 Car Garage	1,878	489/4	4
Type 3B	1	6	2 Bedroom, 2.5 Bathroom, 2 Car Garage	1,344	550/14	4
			Accessible - 2 Bedroom, 2.5 Bathroom, 2 Car Garage	1,466	504/8	2
Type 4A	3	8	2 Bedroom, 2.5 Bathroom, 2 Car Garage	1,344	550/14	12
			3 Bedroom, 2.5 Bathroom, 2 Car Garage	1,466	504/8	12
Type 4B	3	8	2 Bedroom, 2.5 Bathroom, 2 Car Garage	1,344	550/14	12
			3 Bedroom, 2.5 Bathroom, 2 Car Garage	1,466	504/8	12
Total						68

Sources: Shea Homes; Bassenian Lagoni Architecture (September 2024).
sq ft = square feet

The proposed project would include two Type 1A buildings, providing three residential units per building, two Type 2B buildings, providing four residential units per building, one Type 3B building, providing six residential units, three Type 4A buildings, providing eight residential units, and three Type 4B buildings, providing eight residential units. Residential units would include a mix of two- and three-bedroom units.

Pursuant to Chapter 2-3 (Affordable Housing Implementation Procedure) of the Irvine Zoning Ordinance, the proposed project is required to comply with the City's affordable housing requirements. To satisfy this obligation, the proposed project would provide nine affordable units, representing 13.2 percent of the total residential units.

Each residential unit would include a two-car garage on the ground floor, providing a total of 136 garage parking stalls. Each garage would be equipped with electric vehicle charging stations. Type 1A and 2B units would include additional flexible space on the ground floor of each unit. The residential development would include nine guest parking stalls. Parking is further discussed in Section 2.4.3, Project Site Access Circulation and Parking.

Architectural Design

Figure 2.5: Residential Building Designs - Building Types provides renderings of the architectural styles proposed for the residential development. The proposed residential buildings would be developed in one of two different architectural styles. These architectural styles include the "Santa Barbara" and "Formal Spanish" styles, reflecting aspects of Mission Revival and Spanish Colonial Revival architecture. Features include flat stucco surfaces; low pitched, gabled, red tile roofs; overhanging eaves with underlying exposed wood beams; terra cotta decorative elements; wrought-

iron lighting fixtures; and deep set, arched doorways. **Figure 2.6: Residential Building Designs - Building 1A (3-Plex)** depicts Building Type 1A in the “Santa Barbara” style, including floor plans and a breakdown of square footage for each floor. Building Type 1A would have a maximum elevation of 36 feet, 8 inches from grade to the ridge of the roof. **Figure 2.7: Residential Building Designs - Building 2A (4-Plex)** depicts Building Type 2A in the “Santa Barbara” style, including floor plans and a breakdown of square footage for each floor. **Figure 2.8: Residential Building Designs - Building 2B (4-Plex)** depicts Building Type 2B in the “Formal Spanish” style, including floor plans and a breakdown of square footage for each floor. Building Type 2B would have a maximum elevation of 36 feet, 2 inches from grade to the ridge of the roof. **Figure 2.9: Residential Building Designs - Building 3B (6-Plex)** depicts Building Type 3B in the “Formal Spanish” style, including floor plans and a breakdown of square footage for each floor. Building Type 3B would have a maximum elevation of 38 feet, 8 inches from grade to the ridge of the roof. **Figure 2.10: Residential Building Designs - Building 4A (8-Plex)** depicts Building Type 4A in the “Santa Barbara” style, including floor plans and a breakdown of square footage for each floor. Building Type 4A would have a maximum elevation of 39 feet, 4 inches from grade to the ridge of the roof. Finally, **Figure 2.11: Residential Building Designs - Building 4B (8-Plex)** depicts Building Type 4B in the “Spanish” style, including floor plans and a breakdown of square footage for each floor. Building Type 4B would have a maximum elevation of 38 feet, 8 inches from grade to the ridge of the roof.

Neighborhood Park

In order to satisfy the City’s Park Plan requirements in compliance with the City’s Zoning Ordinance Chapter 2-22-2 (Park Plan) for the residential development, the residential development would also include the creation of a neighborhood park. The neighborhood park would be approximately 0.05-acre (2,372 square feet [sq ft]) and would be located on the southeastern portion of the project site, in between residential buildings 7 and 8. The neighborhood park would include elements such as a synthetic turf area for play, paved sidewalks, a 12 x 12-foot pavilion with seating and a table, a grill, a bench, two cornhole sets, a giant chess board, a funball set, a dog bag dispenser, landscaping, and security lighting. The park would be built around an existing water well with an existing access easement to the well site (approximately 60 by 90 feet). The proposed project would include a new well access easement located near the southwestern edge of the project site.

2.4.2 Church Development

The proposed project would construct a new permanent church building to replace the existing temporary church building. The new church building would include a columbarium and chapel within the basement. In addition, the proposed project would construct a new parish hall building, a new rectory building, and a two-story underground parking garage. The church facilities would occupy approximately 3.06 acres on the northern half of the project site.

Church Building

The proposed church building would be developed in the Gothic Revival style with a Latin cross layout featuring a narthex, central nave, transept, and chancel. The main entrance would feature a brick façade with an arched, stepped entryway. A rose window would be installed in the facade above the entrance and would feature a gabled roofline. The façade would be flanked by two octagonal bell towers featuring brick facades, gothic windows, and railing matching the elevation of

the nave and gallery rooflines. The sides of the church building would feature stucco faces with decorative stone, tile, and plaster ornamentation. Gothic-style stained glass windows would be installed along the sides of the building above the gallery and opening onto the nave. The transepts would feature wrought-iron elements and copper gutters and downspouts. The main church building would have a maximum elevation of 50 feet from the surface to the ridge of the roof. The bell towers would have a maximum elevation of 64 feet from grade to the peak of the tower. Each tower would be capped with a 6-foot cross, bringing the maximum elevation to 70 feet. **Figure 2.12: Church Elevations and Floor Plans** provides the church building elevations and floor plans for each floor.

The proposed church building would have a footprint of 11,525 sq ft with a total gross floor area of 23,966 sq ft. The building would feature a 10,508 sq ft basement and 11,525 sq ft ground floor with a 1,933 sq ft mezzanine. The basement would include a columbarium, a 48-seat chapel, and an entrance hall and vestibule opening onto the underground parking garage. Mechanical rooms and storage areas would be located beneath the two towers and a janitors closet and additional storage would be located adjacent to the entrance hall. A columbarium is a structure with recessed vaults for storage of funerary urns. The columbarium would be approximately 834.35 sq ft and would not be open to the general public. The columbarium would be open during church hours only and attendance would be largely limited to church members and families. The columbarium would provide 2,353 glass openings in 53 sections and 320 stone openings in four sections. The basement would be connected to the main level by an elevator and two staircases. One staircase would be located towards the rear of the building, behind the chapel; and one staircase and the elevator would be situated in the front behind the west tower.

The main level would feature a narthex, nave, and chancel. The narthex is a vestibule that connects the main entrance of the church to the nave. The elevator and staircases would open onto the narthex, as well as a baptistry in the west tower and a chapel located in the east tower. A baptistry is a room in a church with a baptismal font where baptisms are performed. The nave is the main hall of the church where congregants gather and sit during ceremonies. Galleries would run along each side of the nave. Each gallery would feature a confessional, a restroom, and shrines. The transepts, or wings of the church, would provide seating for congregants on either side of the altar and shrine. The chancel, or rear of the church, would feature the altar, sacristies, vestry, and restroom for use by the clergy. A sacristy is a room used by a priest to prepare for a service and where vestments, or robes worn by priests, are stored. A vestry is a room where a priest changes into vestments prior to a service. External entrances would be provided on each side of the building. A choir loft and organ would be provided on the mezzanine above the narthex. The choir loft would be connected to the main floor by elevator and staircase. A storage room would also be provided on the mezzanine. The church would feature 498 total fixed seats, including 444 fixed seats in the nave and transepts and 54 fixed seats in the choir loft.

The existing church's operational hours are Mondays, Wednesdays, and Fridays from 9:00 a.m. to 5:00 p.m., and also Sunday from 9:00 a.m. and 1:00 p.m. The proposed church building's operational hours would be from 8:00 a.m. to 9:00 p.m. every day, with the church office open daily except Tuesdays from 9:00 a.m. to 5:00 p.m. The proposed church building would assume existing church operations. The church currently provides both weekend and weekday mass services and, despite

providing only 187 fixed seats, typically operates at maximum capacity (approximately 370 congregants per mass) during weekend mass services. On special days of holy obligation, mass attendance may include attendance by up to 300 additional congregants. The proposed new church would provide greater capacity to accommodate congregants, providing 456 fixed seats with a maximum allowable occupant load of 611 people. As described above, the proposed church would also include two approximately 64-foot-tall bell towers. The Angelus peal is rung at 6:00 a.m., noon, and 6:00 p.m. which consists of three strikes of the lowest bell, three times followed by a short peal of the lowest three bells. During the weekdays, the church bells would toll for three minutes before the 9:00 a.m. mass service. On Saturdays, the bells would toll for three minutes before the 5:30 p.m. mass service and on Sundays, the bells would toll for three minutes before the 8:00 a.m., 10:00 a.m., 12:00 p.m., and 5:00 p.m. mass services.

The basement, first floor, and choir loft would each have clearly marked exits located in either the front or the back of the building in the case of an evacuation. There would also be emergency infrastructure such as carbon monoxide or smoke alarms, fire alarm pulls, and fire extinguishers near these exits in case of emergency.

Parish Hall

The proposed project would include development of a new two-story parish hall with a footprint of 8,725 gross sq ft and an overall total area of 17,450 gross sq ft. The first floor of the parish hall would be primarily devoted to a large gathering hall featuring a stage and storage rooms at the rear of the building along with a rear staircase to the second floor. French doors would run the length of the gathering hall, opening onto a loggia and the courtyard that would connect with the church. The front of the parish hall building would include a lobby with a main staircase leading to the second floor. In addition to opening onto the gathering hall, the lobby would connect to restrooms, a kitchen with serving room, gift shop, and library/lounge. The first floor would also have an elevator to the second floor and a vestibule opening onto the courtyard on the eastern side of the building. The parish hall building would have a maximum elevation of 46 feet, three inches from grade to the ridge of the roof. **Figure 2.13: Parish Hall Elevations and Floor Plans** provides details on the parish hall building and floor plans.

The second floor of the parish hall would feature a large conference room, meeting rooms, offices, and restrooms. Classrooms and offices on the eastern side of the building would feature French doors that would open onto a balcony overlooking the courtyard. In addition to hosting church gatherings, the parish hall would be used to host ministry groups, religious education classes, and confirmation classes.

Both floors of the parish hall would include clearly marked signs located towards the front and the back of the building. There would also be emergency infrastructure such as carbon monoxide or smoke alarms, fire alarm pulls, and fire extinguishers near these exits in case of emergency.

Rectory

A new two-story rectory would be constructed on the western side of the church as part of the proposed project. The new rectory would have a footprint of 1,546 gross sq ft, with a total area of 4,105 gross sq ft. The first floor would include a kitchen, dining room, and living room. The main

entrance would open up to a staircase to the second floor. The first floor would also have a two-car garage with an attached laundry room and storage room. The second floor of the rectory would include three ensuite bedrooms, a chapel with sacristy, and a sitting room with attached porch. The rectory building would have a maximum elevation of 31 feet, six inches from grade to the ridge of the roof. **Figure 2.14: Rectory Elevations and Floor Plans** provides details on the proposed rectory building.

Courtyard

The church building would be connected to the parish hall building by a large courtyard. The courtyard would be largely surfaced with a mix of brick and turf block pavers. A water feature would run through the courtyard on either side of the entrance steps to the church. The courtyard would connect to the main entrance to the church property and parking lots with covered thresholds supported by pilasters. The courtyard would feature an outdoor pavilion next to the parish hall, in front of the library entrance. A gravel sitting area with benches would be provided along the western side of the church building. A sitting garden with water feature would be provided between the rectory building and the gravel sitting area. There would also be an approximately 42-foot accent wall located towards the northeast side of the church, near the proposed sitting garden. Six-foot iron security fencing would be installed on the outer edges of the church development.

The existing courtyard is typically used after masses and is heavily relied on to accommodate overflow in the event attendance at church services exceed maximum capacity. In addition, large group events are held on holidays several times a year, drawing approximately 100 to 400 attendees for each event. For large group events and gatherings after high holiday masses, the church currently erects canopies in the outdoor courtyard. The proposed new church building is anticipated to provide enough capacity to accommodate large events; however, the courtyard would be able to continue accommodating large groups, if necessary.

2.4.3 Project Site Access Circulation and Parking

Both the residential area and church facilities would be accessed via two shared driveways (refer to Figure 2.4). The main driveway off of Remington, directly opposite Danville Street, would be approximately 30 feet in width with two 15-foot drive lanes. The main driveway would run roughly halfway down the project site before terminating at the main entrances to the church parking lot to the east and the residential development to the west. A secondary driveway would open onto the project site from Trabuco Road and would be approximately 26 feet in width (with two 13-foot lanes) at the entrance. Once past the gated entrance to the church parking lot, the secondary driveway would be reduced in width from 26 feet to 23.5 feet (with two 11.75-foot lanes). The reduction in width would accommodate a four-foot sidewalk along the fence abutting the church parking lot and then connect to a sidewalk in front of Building 9 in the residential area. The reduced width driveway would not conform with the City's design standards for minimum driveway width and would require two variances .

In the vicinity of the proposed project, sidewalks are currently provided along Roosevelt, Remington, and Trabuco Road. The project would include sidewalks throughout the site to serve both the residential and church areas and provide connections to the existing sidewalks along Remington and Trabuco Road.

The three entrances to the church parking lot would be gated by 6-foot sliding gates, and the church facilities would be surrounded by surface parking lots providing 157 parking stalls. The gates for the church portion of the site would open daily from 6:00 a.m. to 10:00 p.m. Additionally, the proposed project would require two new public easements to the City for the proposed curb ramps. One easement would be provided for the two proposed curb ramps located near the main driveway off Remington, and another easement would be provided at the western corner of the project site at the intersection of Remington and Roosevelt. In addition, the proposed project would require a variance for a 23.5 feet substandard drive aisle in the parking lot on the eastern side of the proposed church.

An underground parking garage would be developed in the northern quarter of the project site, beneath the proposed parish hall and part of the plaza. The underground parking garage would have two levels and would provide approximately 142,400 square feet of parking space. The parking garage would provide 199 parking stalls. The first level would include 92 parking stalls, and the second level would include 107 parking stalls. Three separate 12-foot-wide one-way ramps would provide access to and from the church parking lot. The entry ramp into the underground parking garage would be located immediately adjacent to the southeastern corner of the Parish Hall, while the two exit ramps would be located adjacent to Remington on the north east side of the site and immediately north of the proposed church building. The first level of the underground parking garage would have an approximate height of 12 feet, and the second level would have an approximate height of 10 feet. The two levels of the underground parking garage would be connected by two 12-foot-wide one-way access ramps. In addition, the two levels would be connected by a staircase. Each level of the underground parking garage would include three 24-foot-wide drive aisles (12 feet for each direction of travel).

An underground walkway would connect the first level of the parking garage to the lower level of the proposed church building. In addition, the garage would connect to the ground-level parking lot by way of a staircase that would be located on the northeastern side of the project site adjacent to Trabuco Road. An exhaust vent from the garage would be installed near the main entrance to the church parking lot. In total, 356 parking stalls would be provided in the church parking lot and the underground parking garage.

The residential development would be divided by a 26-foot wide center private way with 24-foot wide private courts branching off the center private way between each residential building. As discussed in Section 2.4.1, Residential Development, each residential unit would have a two-car garage on the ground floor, totaling 136 garage parking stalls. In addition, nine uncovered parking stalls would be provided for visitors in the southwestern portion of the residential development, five of which would be ADA accessible parking stalls.

2.4.4 Landscaping Improvements

The proposed project would include landscaping improvements to both the church facilities and residential development. Approximately 43 existing trees on the project site would be removed and replaced with new landscaping. This includes trees located on the southeastern edge of the project site, adjacent to a brick wall that separates the project site from adjacent residential development. The project site is bordered to the northeast by street trees along Trabuco Road. All but twelve of

these trees would remain unaffected by the proposed project. Two street trees would need to be removed to accommodate the installation of the driveway from Trabuco Road along the southeastern edge of the project site. Per Section 5-7-404 of the City's Municipal Code, these trees appear to meet the requirements to qualify as part of the City's protected eucalyptus windrows. Tree removal activity due to the proposed project would be completed in compliance with the City of Irvine's Municipal Code Chapter 3-15, Landscaping Standards. Removal of the street trees to accommodate the southern driveway would require a tree removal permit as the trees are in the public right-of-way.

Church Landscaping

Trees and hedges would be planted, and fencing would be installed along the edges of the church facilities parking lot to provide screening. Trees would be installed along the periphery of the church parking lot and adjacent to the courtyard. The entrances to the parking lot would be surfaced with vehicular cobble and secured with ornamental gates.

Ornamental trees would be planted in areas around the church building and courtyard. As discussed in Section 2.4.2, a sitting garden would be installed adjacent to the church and rectory. The garden would include small trees, gravel paving, and a water feature with focal statue. A low accent wall would be installed between the parking lot and open areas around the church facilities. More details on the courtyard can be found in Section 2.4.2. **Figure 2.15: Landscape Plan - Church** provides details on the proposed landscaping for the church portion of the project site.

Residential Landscaping

The residential development would be edged by medium to large trees (approximately 25 to 50 feet) along Remington, the southwestern edge of the site adjacent to the green space area along Roosevelt, and the southeastern corner along the northern half of the secondary driveway. Medium to small trees (approximately 15 to 30 feet) and shrubs would be interspersed along larger trees planted along the southwestern edge of the residential development and planted along the sides of the residential buildings along the main entrance and central private way and near the proposed transformers. Accent trees would be planted at the corners of the residential development and at points along the end of the center private way. Small, medium, and large shrubs would be planted in various locations in the residential development, including along driveway edges. Groundcover would be incorporated throughout the residential development.

The residential development would include development of a neighborhood park (discussed in detail in Section 2.4.1) that would be built around an existing water well and landscaped with artificial turf and small and medium shrubs and succulents. **Figure 2.16: Landscape Plan - Residential** provides details on the proposed landscaping for the residential portion of the project site.

2.4.5 Utilities and Infrastructure Improvements

The project site is in a highly developed area that is currently served by existing utilities, including water, sewer, storm drainage, and electrical. **Figure 2.17: Existing and Proposed Utilities** depict the existing and planned utility connections for the proposed project.

An access easement to an existing well site (approximately 60 by 90 feet) is located near the southwestern edge of the project site. The proposed project would include a new well access easement in the same location. However, beyond reconfiguration of the existing access easement, the proposed project includes no plans to encroach on any other existing or known future utility easements.

Water

An existing 8-inch domestic water main runs beneath Roosevelt and Remington along the northwestern edge of the project site. The domestic water main runs approximately 775 feet beneath Remington before connecting to two water meters and a Fire Department Connection (FDC) with an outside screw & yoke (OS & Y) valve, located on the edge of the project site approximately 100 feet beyond the existing driveway. An existing 3-inch domestic water supply line extends approximately 65 feet from the meters to the temporary church building. The 3-inch domestic water supply line also extends approximately 90 feet southwest from the junction with the church building and then approximately 150 feet southeast, down the main driveway. An existing 8-inch fire water line follows the same alignment as the domestic water line but extends 50 feet further southwest to an existing fire hydrant located at the end of the main driveway.

The proposed project would create two new domestic water point of connections. The first connection would be along the existing domestic water supply line beneath Roosevelt, approximately 275 feet south of the northwest corner of the project site. The first connection would extend new 8-inch lines for approximately 150 feet through the middle of the residential development to eventually connect to the main driveway. The second connection would be along the existing water supply line beneath Remington, at the project site's existing main driveway. The proposed project would extend domestic water lines and fire water service. The proposed project would relocate the existing two water meters and FDC OS&Y located at the edge of the project site.

For the church development, new 8-inch lines would extend private water from Remington through the western portion of the church parking lot to connect to the proposed church, parish hall, and rectory from the existing domestic water line terminus. A new fire water line would be extended from the terminus of the existing line from Remington, specifically at the northwestern corner of the church development site to loop around the proposed church parking lot.

For the residential development, a new domestic water meter would be installed near the main driveway off Remington. The new meter would connect to the existing water main from Remington by way of a new 8-inch domestic water line that is proposed along the existing main driveway. The domestic water line would run the length of the center private way through the residential development with connections to each residential unit. Additionally, a new 8-inch domestic water line connection would be created from the existing water line on Roosevelt and run underneath the central area of the residential development to connect to the center private way connection. A new FDC would be installed adjacent to the water meter and share the domestic water connection to the existing main in Remington. The new fire water line would follow the same alignment as the domestic water line before turning to the northeast and connecting to the fire water loop beneath the church parking lot.

There is an existing recycled water line and meter at the southern corner of the project site. The proposed project would install two recycled water meters at this location. One meter would connect to a recycled water line that would support the residential development with a recycled water line that would run northeast approximately 150 feet, then extend northwest approximately 450 feet terminating near the northwest portion of the residential site. The second meter would connect to a new recycled water line that would run northeast approximately 450 feet, then extend approximately 225 feet up the northern parking lot to support the church facilities.

Potable and non-potable water to the project site would be directly supplied by the Irvine Ranch Water District.

Sanitary Sewer

An existing sanitary sewer line runs beneath Remington and extends towards the center of the project site and terminates near the temporary church facility. An existing sewer lateral extends from the sanitary sewer terminus onto the project site and connects to the temporary church building. The proposed project would extend the existing sewer lateral beneath Remington approximately 275 feet southwest underneath the main driveway and curve northwest to provide new connection to the proposed church, parish hall, and rectory.

For the residential development, a new sewer line connection would be extended from the existing sanitary sewer line in Remington. The new sewer line would extend approximately 125 feet off the proposed driveway from Remington and extend southeast towards the private way aisle of the residential development and provide connections to each residential unit.

Wastewater treatment and sanitary sewer service for the project site would be provided by the Irvine Ranch Water District, with wastewater treatment provided at the Michelson Water Reclamation Plant in the city of Irvine and Los Alisos Water Recycling Plant in the city of Lake Forest.

Stormwater

An existing storm drain runs the length of Roosevelt and connects to a storm drain in Remington with two inlets near the corner of Roosevelt and Remington. One inlet is at the southwest corner of the project site. As part of the proposed project, a new storm drain point of connection would be created at the northwestern corner of the project site. The storm drain in Remington would be extended approximately 90 feet down Remington before turning northeast to run the length of the main driveway around the proposed residential buildings and also interspersed between the center private way to provide drainage connections to each of these buildings. Additionally, this storm drain connection would extend under the proposed driveway from Remington and throughout the proposed church parking lot near the proposed church, parish hall, and rectory.

The project site drains from east to west with an average gradient of 2 percent. Flows are received through a series of on-site inlets and piped to an existing basin located at the southeast corner of the Remington and Roosevelt intersection. The catch basin and the receiving storm drain were designed for multi-family residential development of the project site and a 25-year storm event. The proposed project would generally maintain the existing drainage patterns. The proposed church and residential sites would install onsite inlets and a storm drain collection system to collect surface

flows to be redirected to the existing catch basin. Additionally, the proposed storm drain pipes at the project site would be oversized to provide on-site storage of the peak flows, allowing discharges to be equal or less than the prior water drainage patterns.

Electricity

Electrical service to the existing temporary church facility is provided by the Orange County Power Authority and is accessed via Southern California Edison (SCE) infrastructure. The proposed project would provide connections to existing electrical lines adjacent to the project site. Five new transformers would be installed on the project site. Two new transformers would be installed at the top of the center private way in the residential development and would provide electrical connections to the residential units. These two transformers would be installed in the southeastern portion of the project site, between the residential development and the church parking lot and would provide electricity to the residential development and church facilities.

Natural Gas

The temporary church building includes a natural gas line used for purposes of cooking and heating. The natural gas line would be maintained and extended to the parish hall and rectory. The residential development would be fully electric and would have no natural gas connections.

Lighting

The residential development would include wall mounted light-emitting diode (LED) lighting on each residential building. Each residential unit would include installation of one wall mounted LED light fixture at an approximate height of seven feet. Single headed, and double headed 15-foot LED light poles would be installed along the residential side of the main driveway from Remington and adjacent to the residential building ends along both sides of the center private way. A double headed LED light pole would be installed in the guest parking area, adjacent to the neighborhood park. A series of light bollards that would be approximately 3-foot, 6-inches in height would be installed along the periphery of the residential development. Light bollards would be installed next to walkways to the residential units from Remington. Additional light bollards would be installed along walkways connecting residential units adjacent to the green space next to Roosevelt.

Single head LED pole lights would be installed along the periphery of the proposed church parking lot and also near the northernmost entry ramp into the underground parking garage. Light bollards would be installed in the courtyard and along the pathway to the rectory.

Lighting would be sufficient to illuminate the project site. However, light fixtures would include appropriate shielding and/or be oriented to prevent excessive light from spilling on to adjacent properties.

Solid Waste

The project site would include three new trash enclosures for solid waste generated by the proposed project. The first trash enclosure would be for the church site and would be located towards the northern corner, adjacent to Trabuco Road. The first trash enclosure would be shielded by the 6-foot freestanding wall and trees and hedging. For the residential site, two new trash

enclosures are proposed. The first trash enclosure would be located near the northwest corner of the site, adjacent to Remington and would be shielded by trees and vegetation. The second trash enclosure would be located along the secondary driveway, towards the center of the site between the residential and church development.

The trash truck route for the project site would begin along the main driveway and extend along the periphery of the residential development, through the center private way. The trash truck route then continues at the secondary driveway to enter into the church site and loop around the entirety of the church parking lot and exit through the secondary driveway.

2.4.6 Construction Phasing

Development of the proposed project will be undertaken in one phase beginning in the first quarter of 2027 and completed in the fourth quarter of 2030. The project's anticipated construction period is projected to be approximately 15 quarters (approximately 45 months). Project construction would first include development of the underground parking garage, as well as the proposed church and rectory as well as temporary site access and parking, second, development of the northside of the residential development as well as continued construction of the church and rectory, third, development of the southside of the residential development, followed finally by demolition of the temporary church building, and construction of the parish hall. See **Figure 2.18: Construction Timeline** below for more detail related to development of the proposed project.

Figure 2.18: Construction Timeline

	2027				2028				2029				2030			
	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2	Q.3	Q.4
Parking Garage																
Church and Rectory																
Residential Development																
Parish Hall																

Parking Garage, Church, and Rectory

Construction of the proposed parking garage, church, and rectory would begin in the first quarter of 2027. Site preparation is anticipated to be completed in the first quarter of 2027 and would include clearing and grubbing existing vegetation and relocating existing utilities to the vacant portion of the project site. In the second quarter of 2027, excavation for the parking garage would begin and two unpaved temporary parking lots and a drive lane off Trabuco Road would be installed. These facilities would serve existing temporary church operations. The drive lane off Trabuco Road would

provide access to the two unpaved parking lots located on the north and south side of the of the project site and provide approximately 160 to 190 unpaved parking stalls. Completion of the proposed parking garage, church, and rectory would be anticipated to be completed in the first quarter of 2029.

Residential Development

Construction of the residential development would begin the second quarter of 2027 and would be completed in two segments (north and south). Construction of the north side segment would commence during the second quarter of 2027 and be completed during the second quarter of 2029. Work to be completed would include excavation and installation of deep utilities. Work would be anticipated to commence on the southern half of the residential development in the first quarter of 2028 (concurrently constructed with the north segment) and completed in the third quarter of 2029.

Parish Hall

Construction of the proposed parish hall would begin in the third quarter of 2029 with demolition of the existing church facility. The proposed parish hall and the permanent parking stalls would be anticipated to be completed in the third quarter of 2030. The proposed project, as a whole, would be completed by the fourth quarter of 2030.

Construction equipment anticipated for the proposed project would include wheel loaders, skid steers, boring equipment, excavators, and trucks. Construction staging would be placed at different locations on the project site, depending on the construction phasing. Construction activities associated with the proposed project would require approximately 85,000 cubic yards of corrective grading and 15,000 cubic yards of precise grading for a total of 100,000 cubic yards of grading. Additionally, the parking garage would require approximately 45,000 cubic yards to be exported for fill and also require a maximum construction excavation depth of 25 feet. It is anticipated that any fill needed would be accommodated by materials cut and graded on site.

2.5 ANTICIPATED DISCRETIONARY ACTIONS

In accordance with Sections 15050 and 15367 of the *State CEQA Guidelines*, the City is the designated Lead Agency for the proposed project and has principal authority and jurisdiction for CEQA actions and project approval. Responsible Agencies are those agencies that have jurisdiction or authority over one or more aspects associated with the development of a proposed project and/or mitigation. Trustee Agencies are State agencies that have jurisdiction by law over natural resources affected by a proposed project. Please note, no responsible agencies or trustee agencies have jurisdiction over the proposed project.

The discretionary actions to be considered by the City of Irvine as part of the proposed project include the following:

- Approval of a Major Modification of the Conditional Use Permit for the Church (00955110-PCPU) and associated Affordable Housing Plan
- Approval of Vesting Tentative Parcel Map No. PM 2024-14 (00954715-PTT)
- Approval of Park Plan (00973403-PPP)

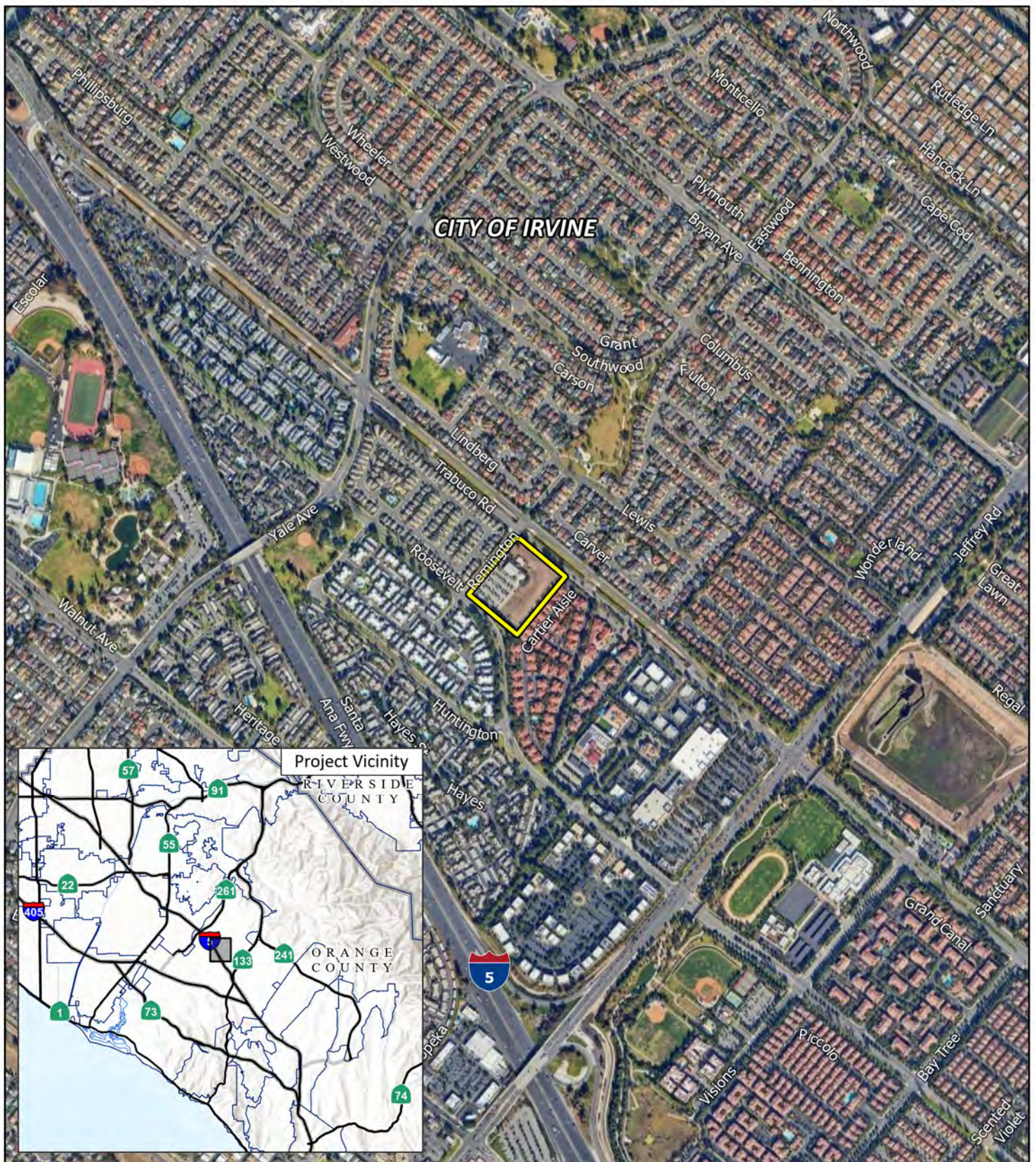
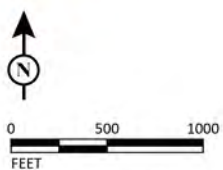


FIGURE 2.1

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 Project Site

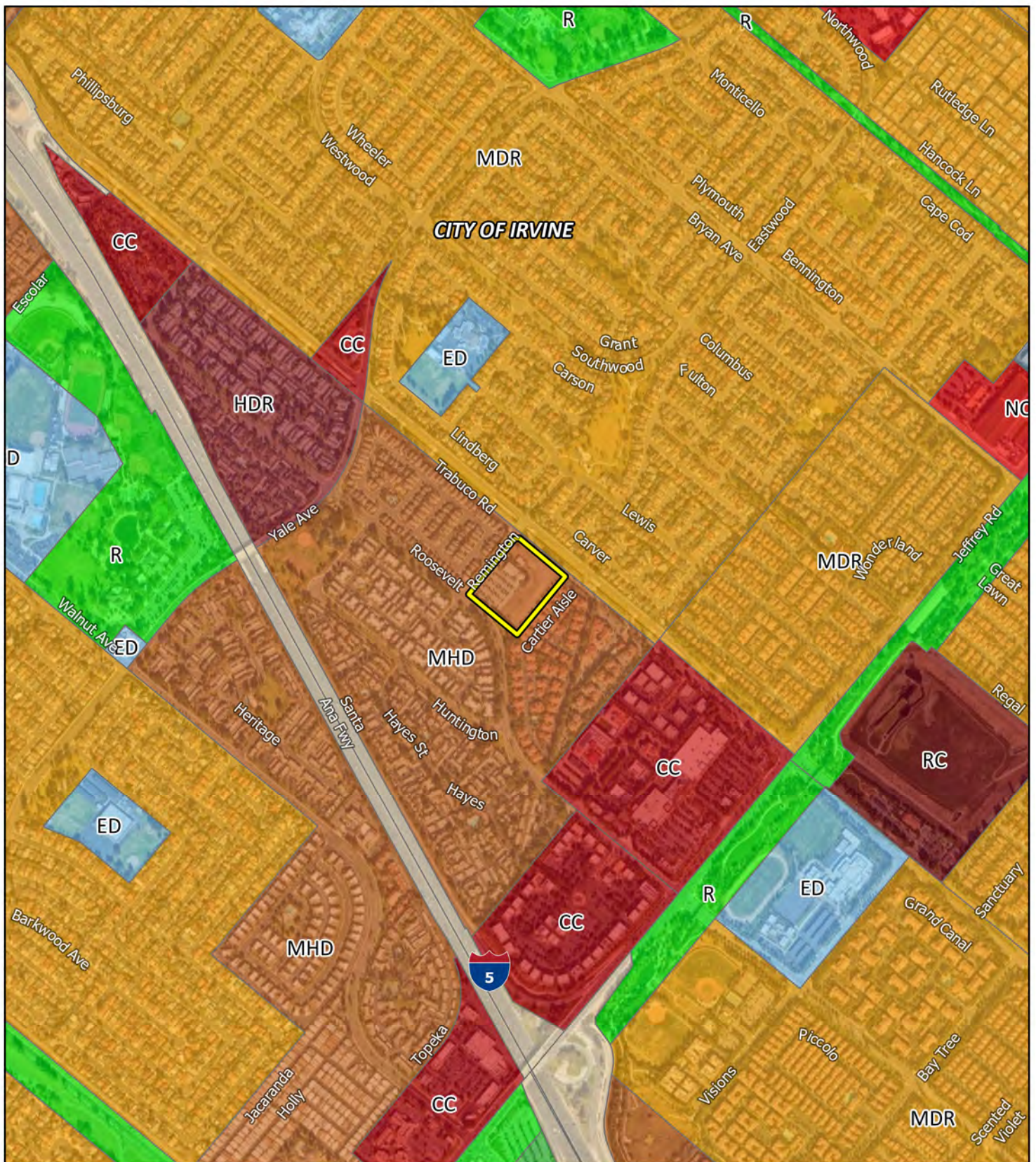


SOURCE: Google Imagery (2023), SCAG (2023)

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Our Lady of Peace Project
Project Site

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SOURCE: Google Imagery (2023), Irvine (2024)

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 Project Site

Irvine General Plan Land Use

 Multi Use

 Freeway/Toll ROW

 Institutional

 Educational Facilities

Conservation Open Space

 P Preservation

 R Recreation

Residential

 MDR Medium Density Residential

 MHD Medium High Density Residential

 HDR High Density Residential

Commercial

 NC Neighborhood Commercial

 CC Community Commercial

 RC Regional Commercial

FIGURE 2.2

Our Lady of Peace Project
General Plan Land Use

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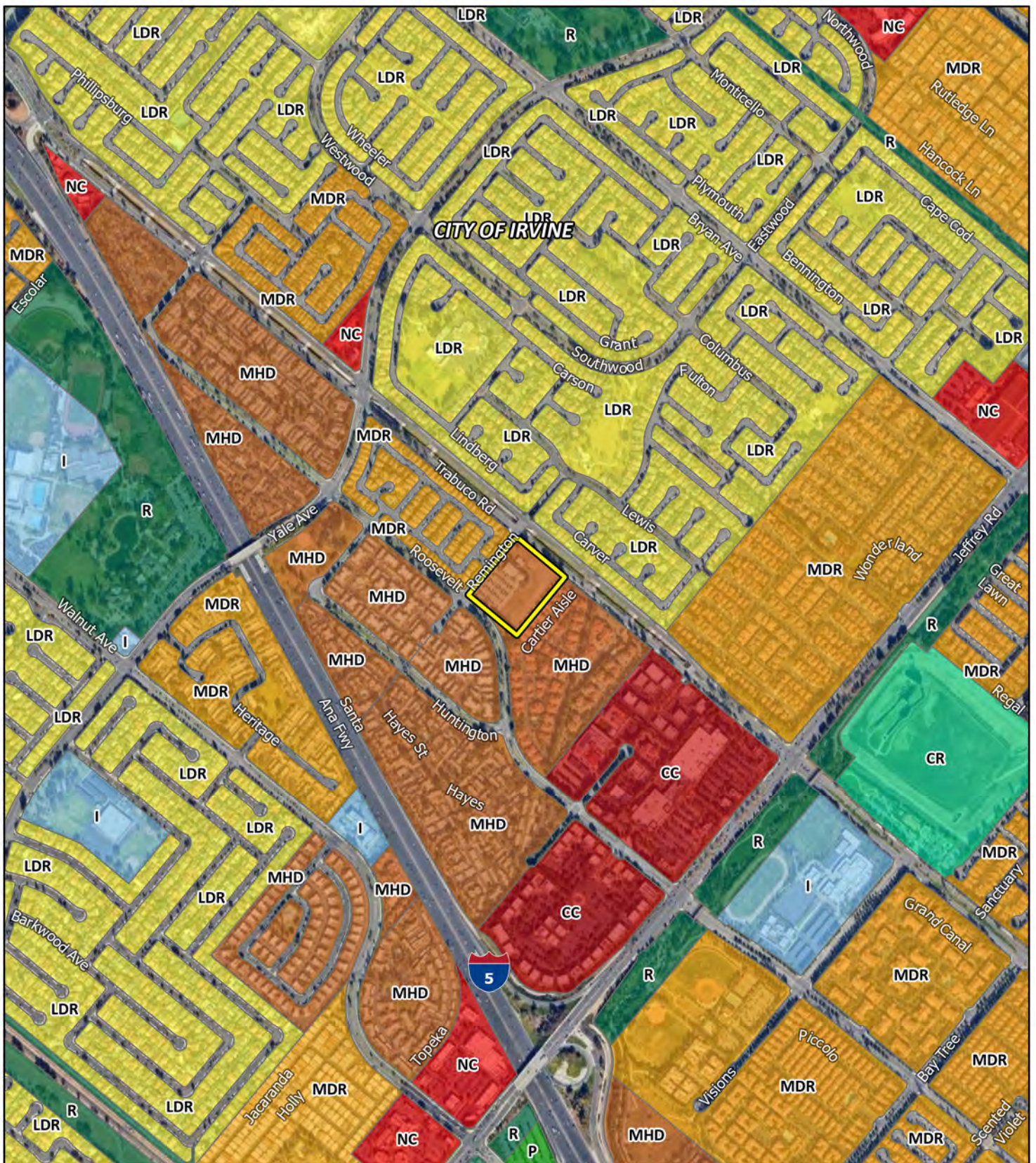
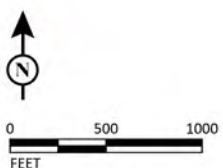


FIGURE 2.3

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Project Site

Zoning

Multi-Use

Institutional

Preservation

Recreation

Commercial Recreation

Commercial

NC Neighborhood Commercial

CC Community Commercial

Residential

LDR Low Density Residential

MDR Medium Density Residential

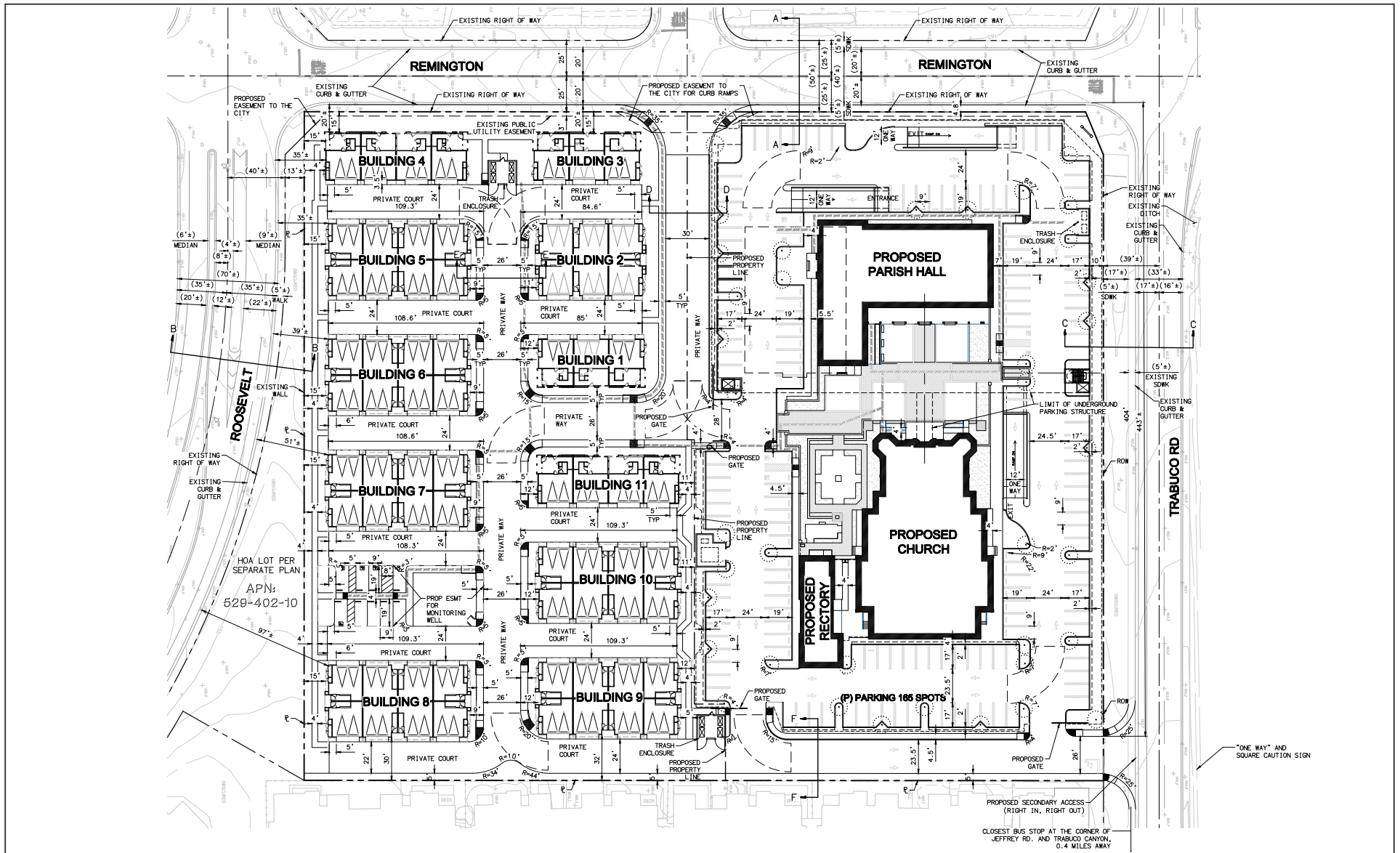
MHD Medium-High Density Residential

Our Lady of Peace Project
Zoning

SOURCE: Google Imagery (2023), Irvine (2024)

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FIGURE 2.4
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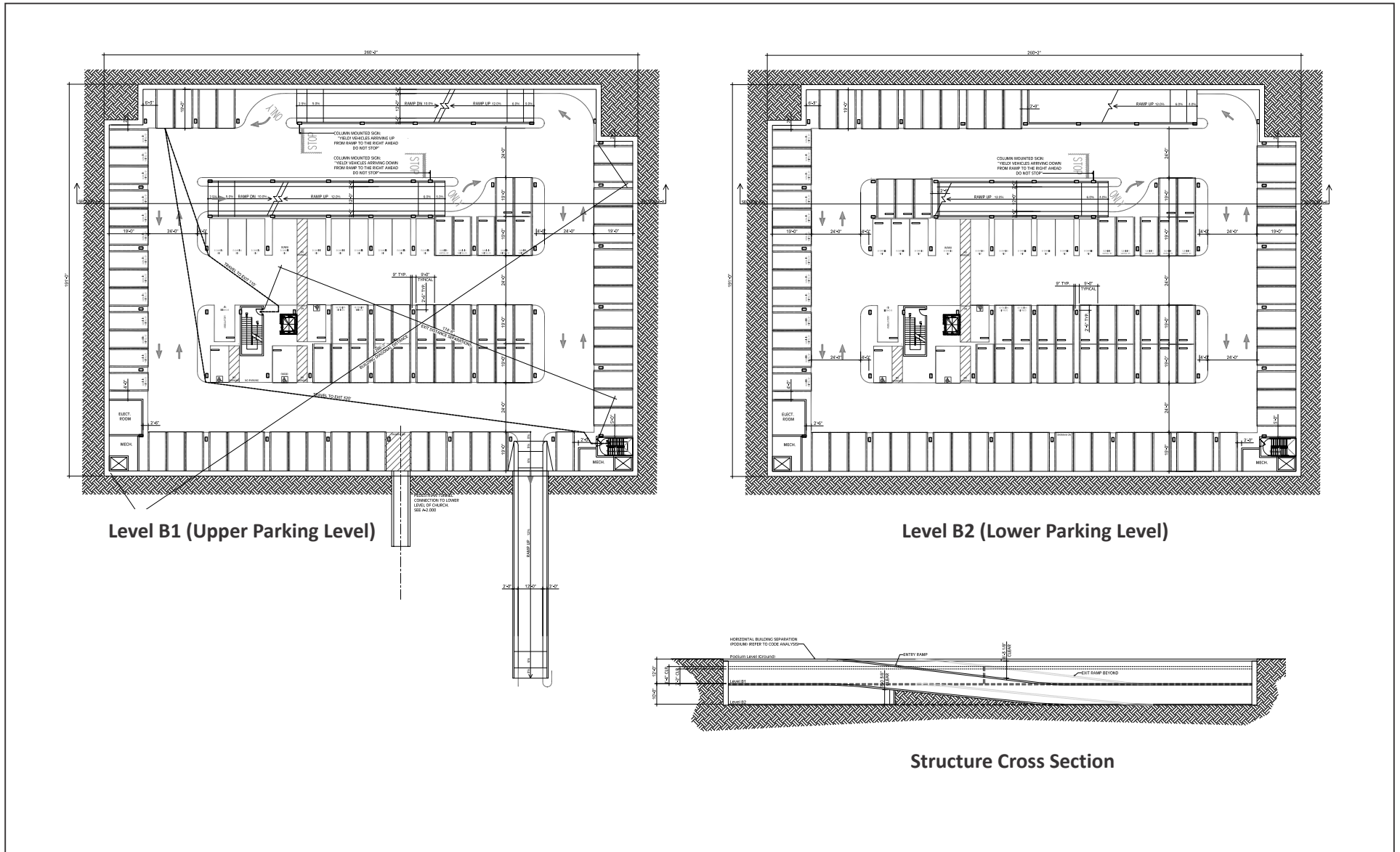


SOURCE: Proactive Engineering Consultants

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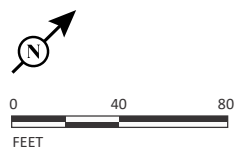
Our Lady of Peace Project
Project Site Plan

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FIGURE 2.4
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BUILDING 1A
SANTA BARBARA
View from Remington

LSA

FIGURE 2.5
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BUILDING 2B

FORMAL SPANISH

View from Remington

LSA

FIGURE 2.5
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BUILDING 2B
FORMAL SPANISH
View from Roosevelt

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BUILDING 4A
SANTA BARBARA
View from Roosevelt

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BUILDING 4B
SANTA BARBARA
View from Roosevelt

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BUILDING 4A
SANTA BARBARA
View from Roosevelt

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FIGURE 2.6
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FIGURE 2.6
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FIGURE 2.6
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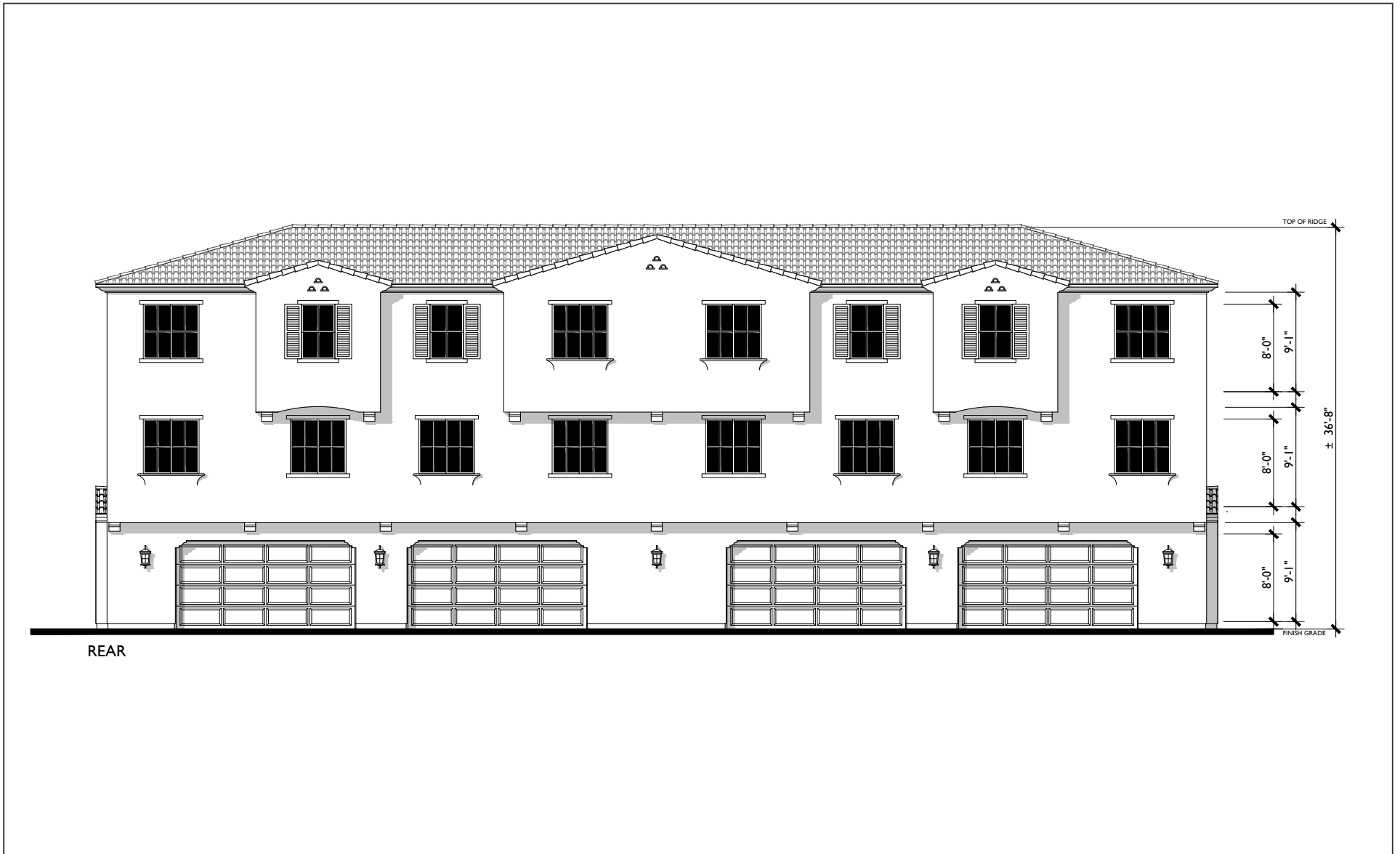


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FIGURE 2.7

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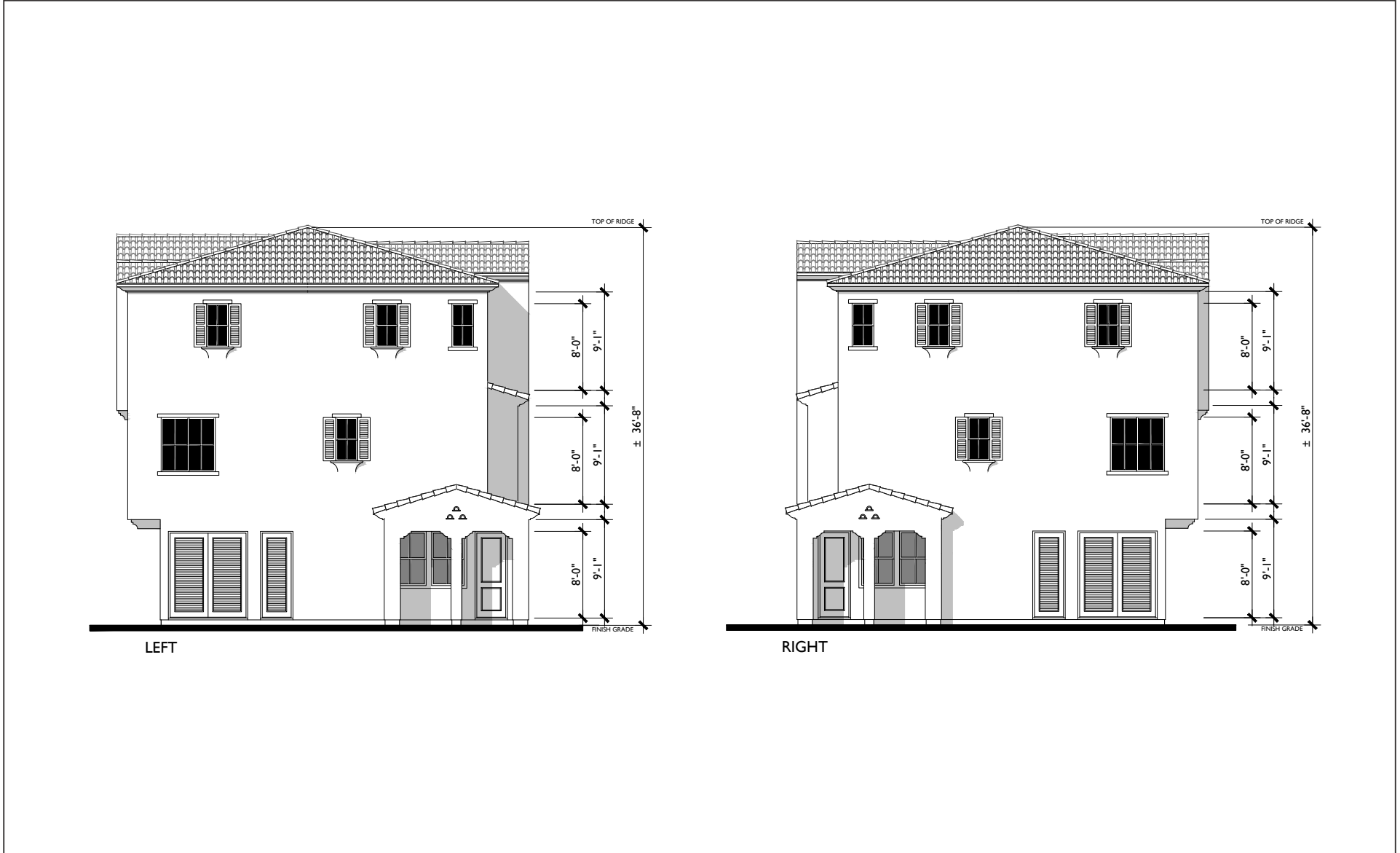
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FIGURE 2.7
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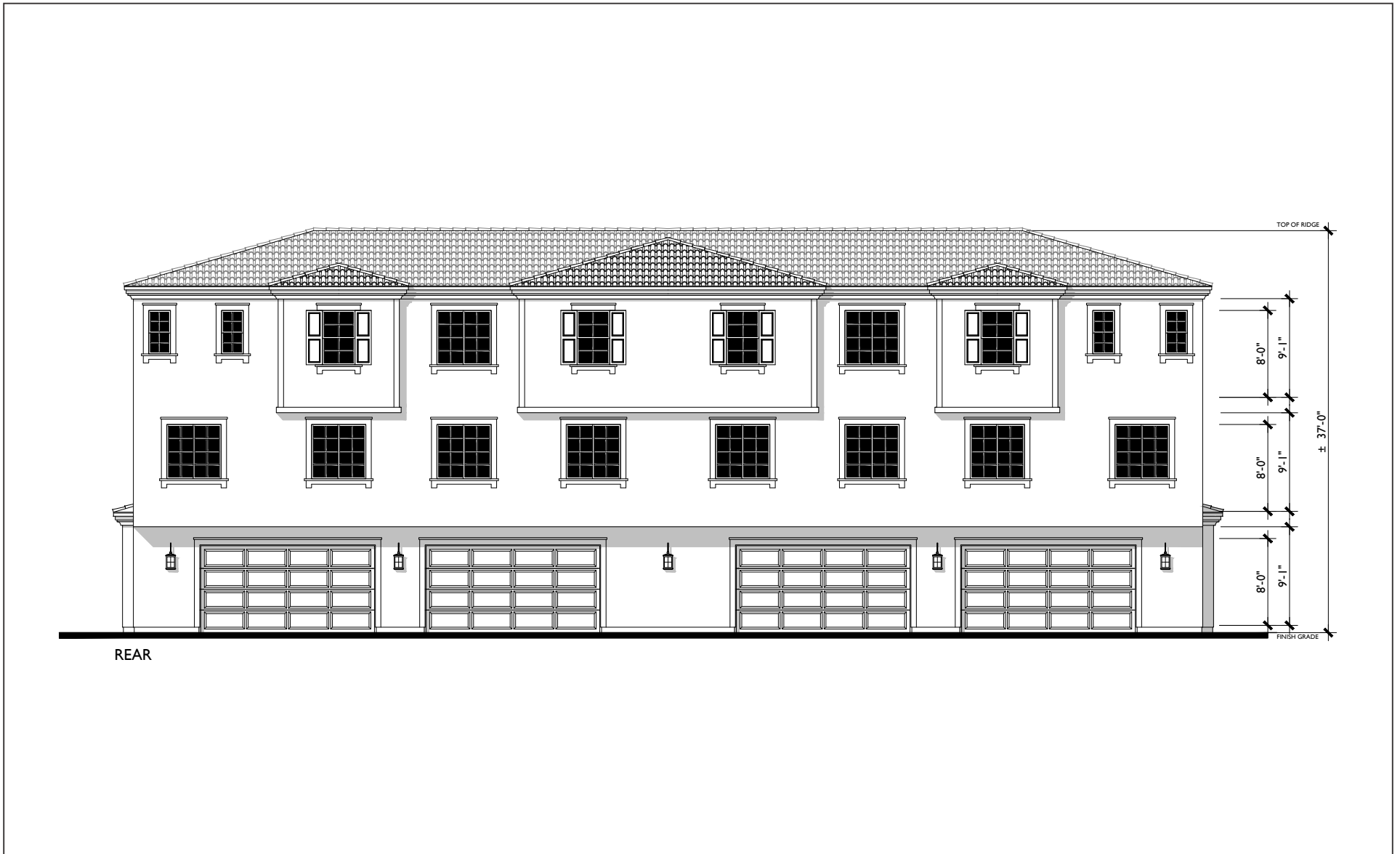
FIGURE 2.7
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LSA FIGURE 2.8
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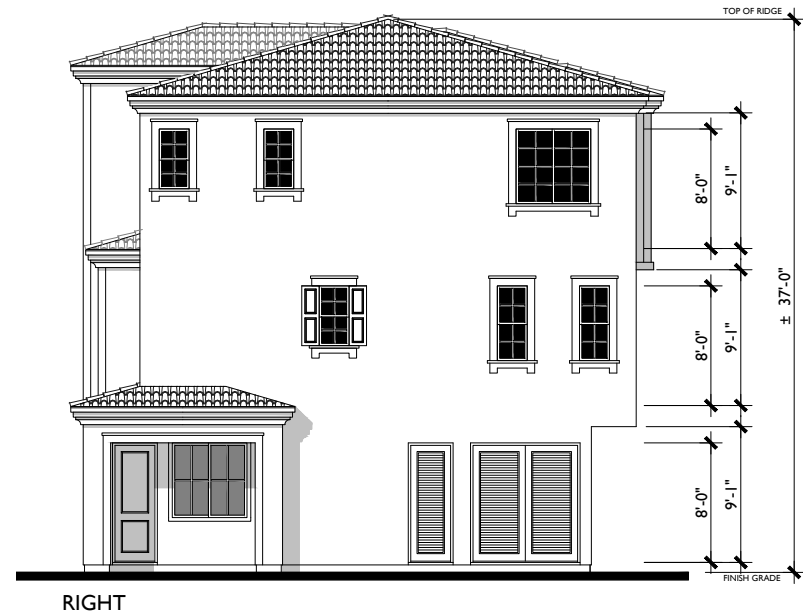
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FIGURE 2.8
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FIGURE 2.8
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FIGURE 2.9
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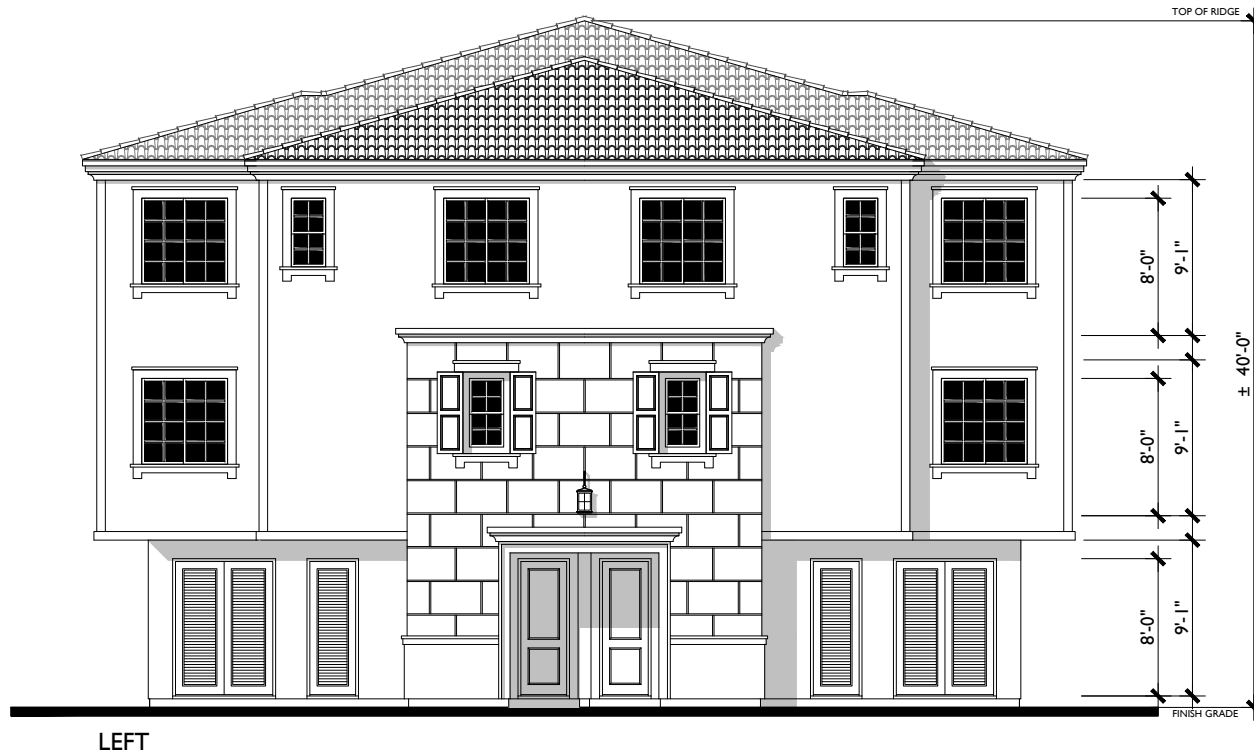
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FIGURE 2.9
Page 2 of 4

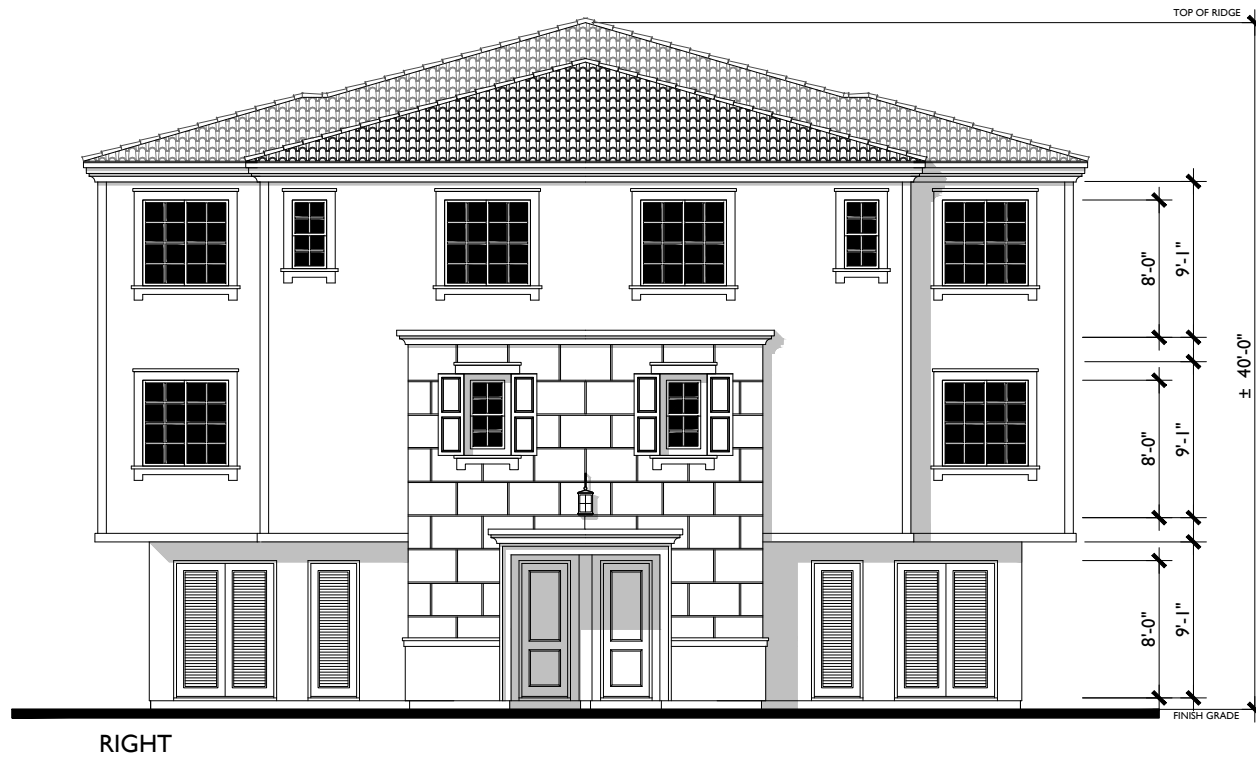
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FIGURE 2.9
Page 3 of 4

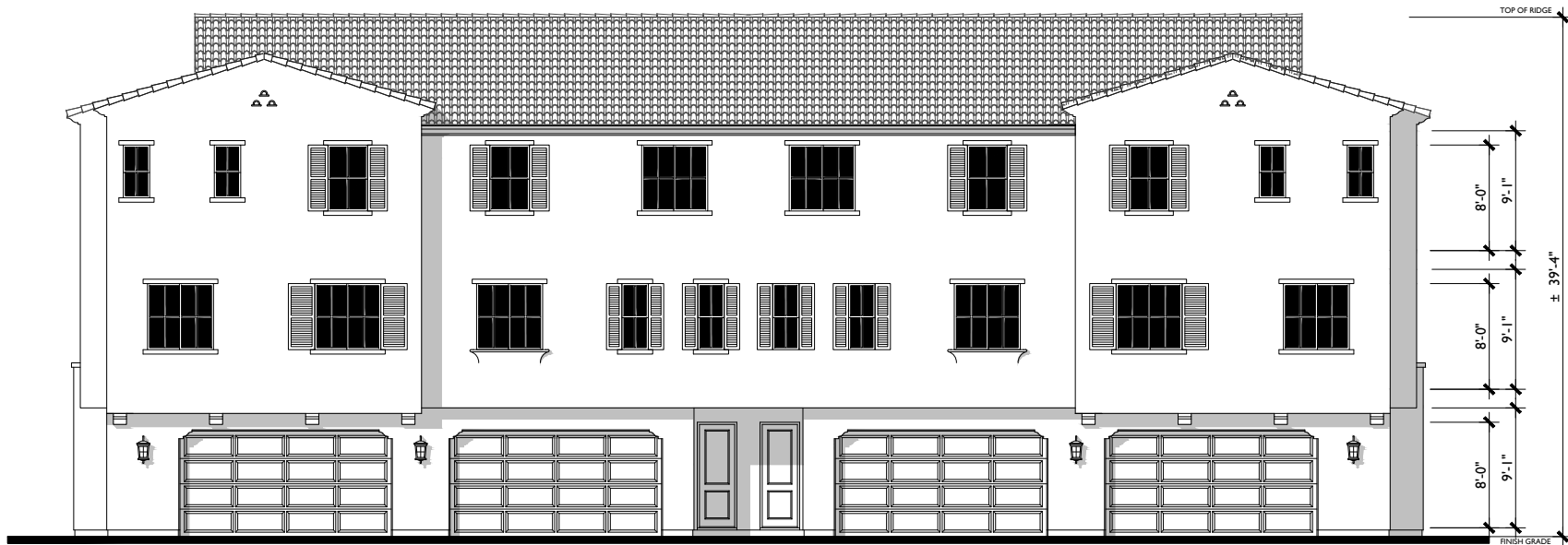
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FIGURE 2.9
Page 4 of 4

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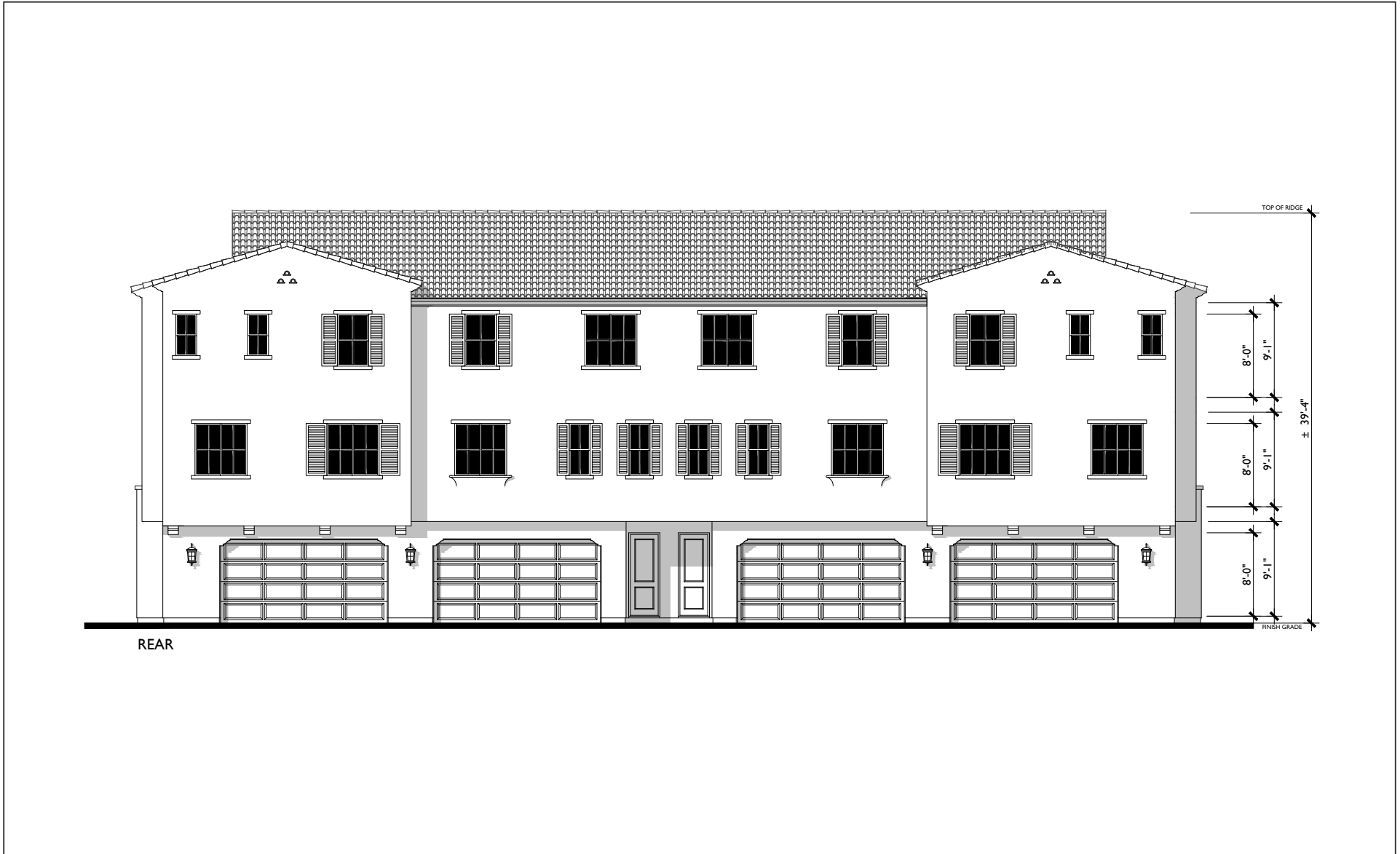
FRONT

SANTA BARBARA
1/4"=1'-0"

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FIGURE 2.10
Page 1 of 3

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FIGURE 2.10
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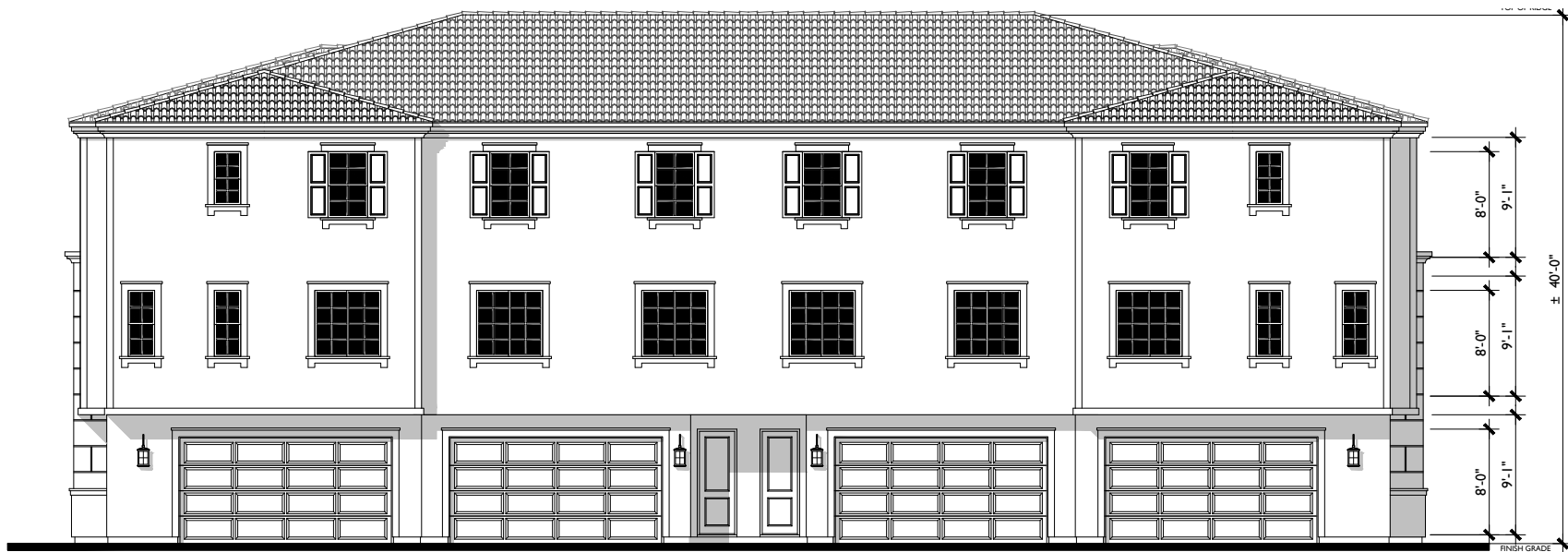


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FIGURE 2.10

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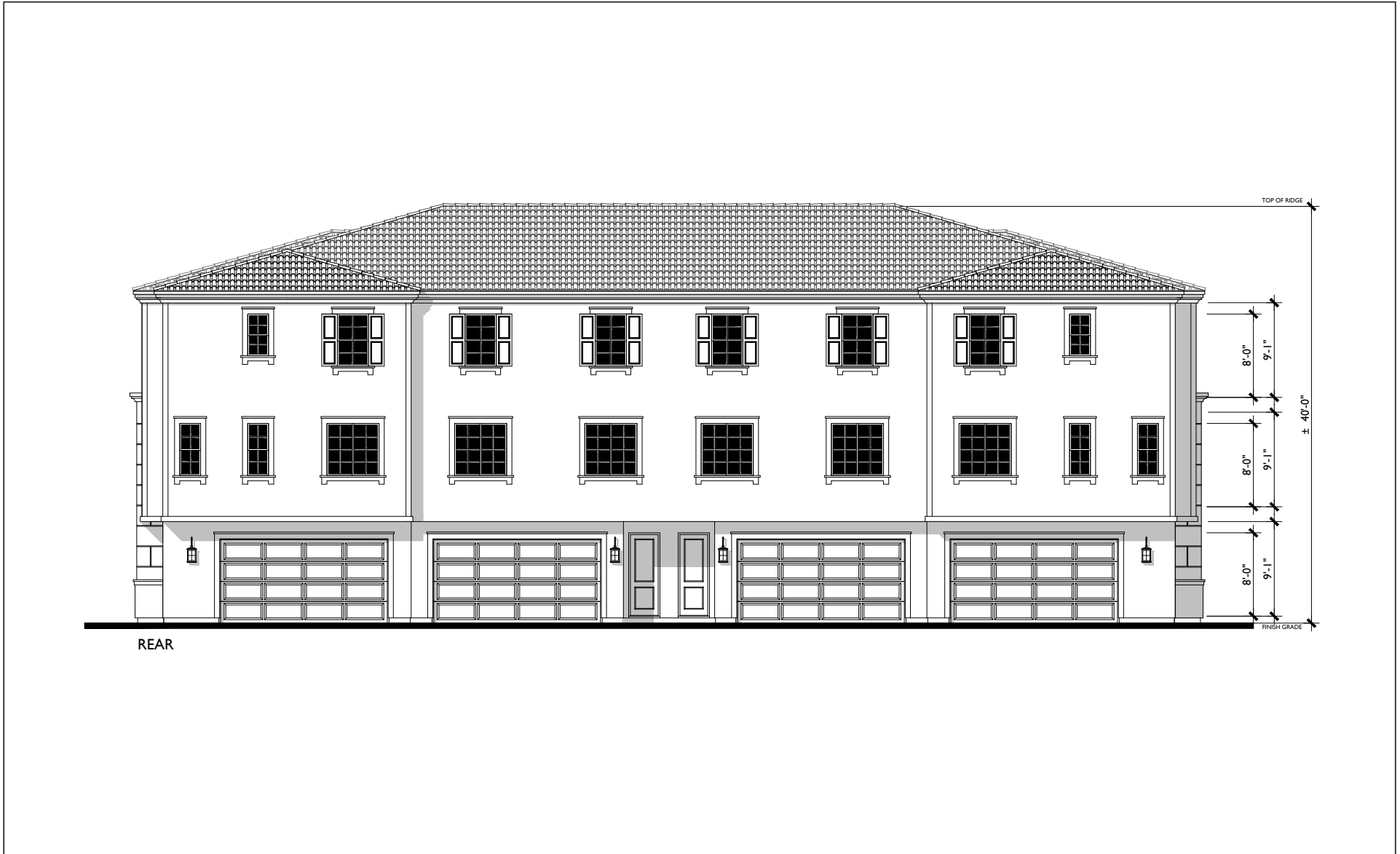
FRONT

FORMAL SPANISH
1/4"=1'-0"

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FIGURE 2.11
Page 1 of 3

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FIGURE 2.11
Page 2 of 3

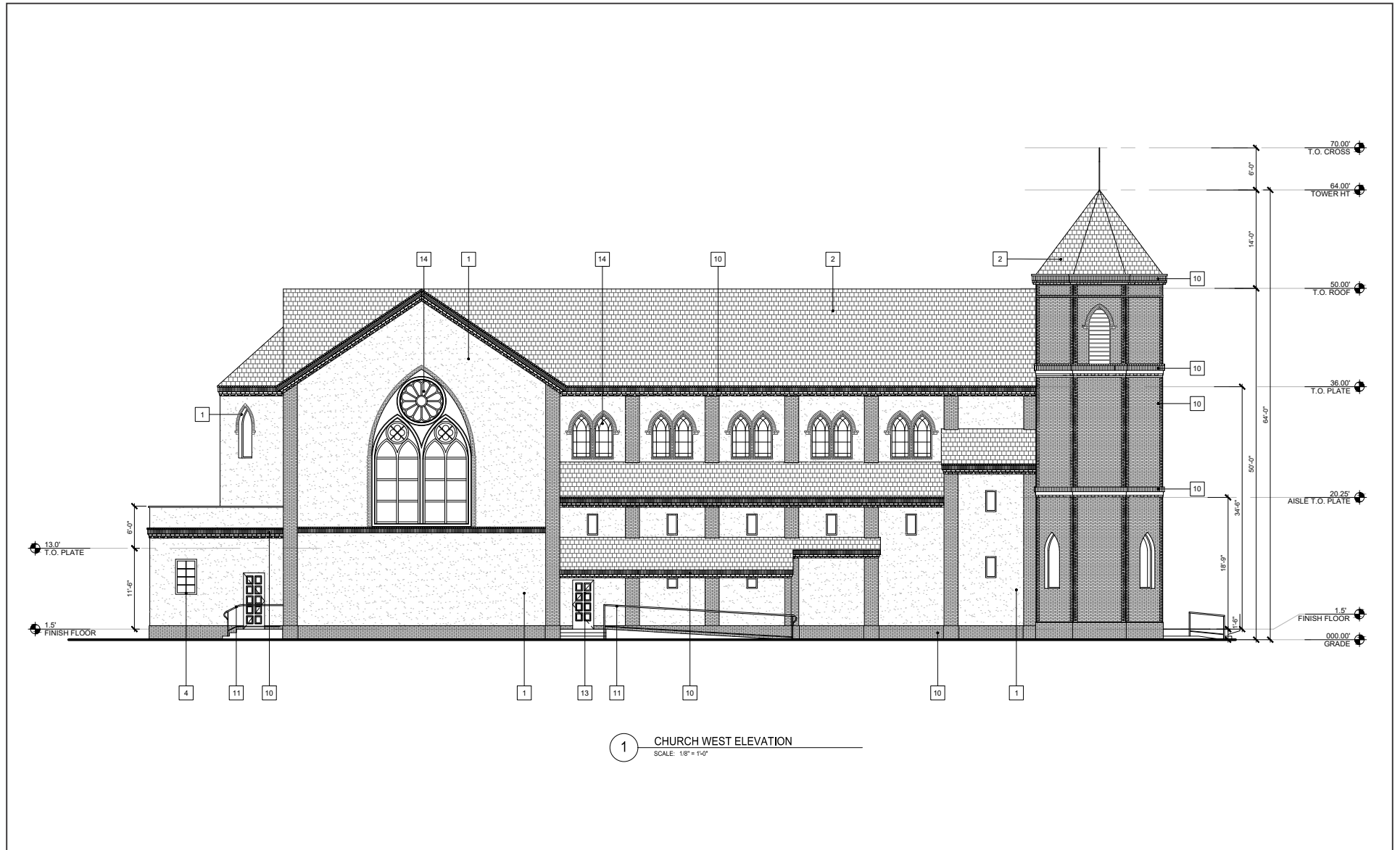
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FIGURE 2.11
Page 3 of 3

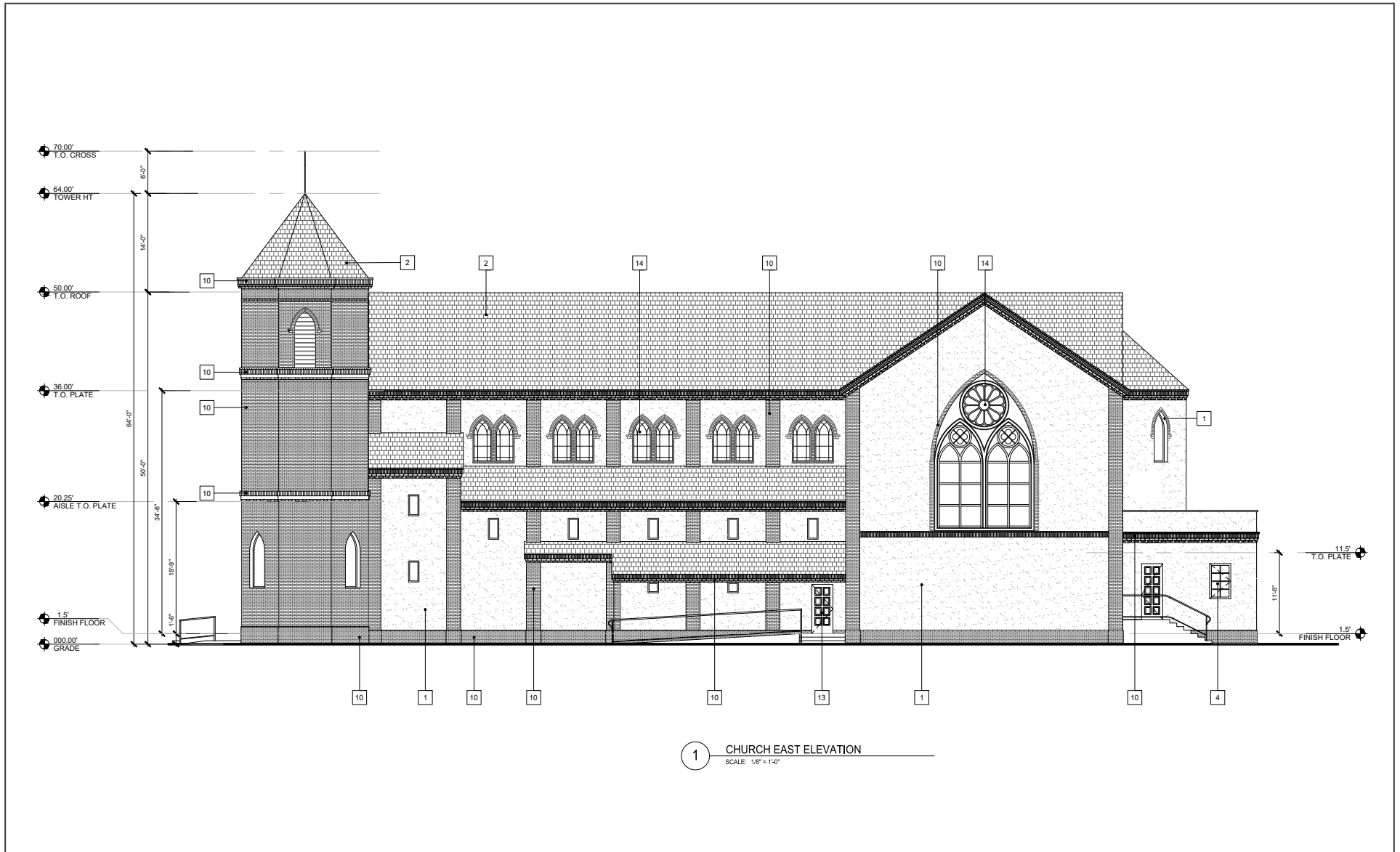
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FIGURE 2.12
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FIGURE 2.12
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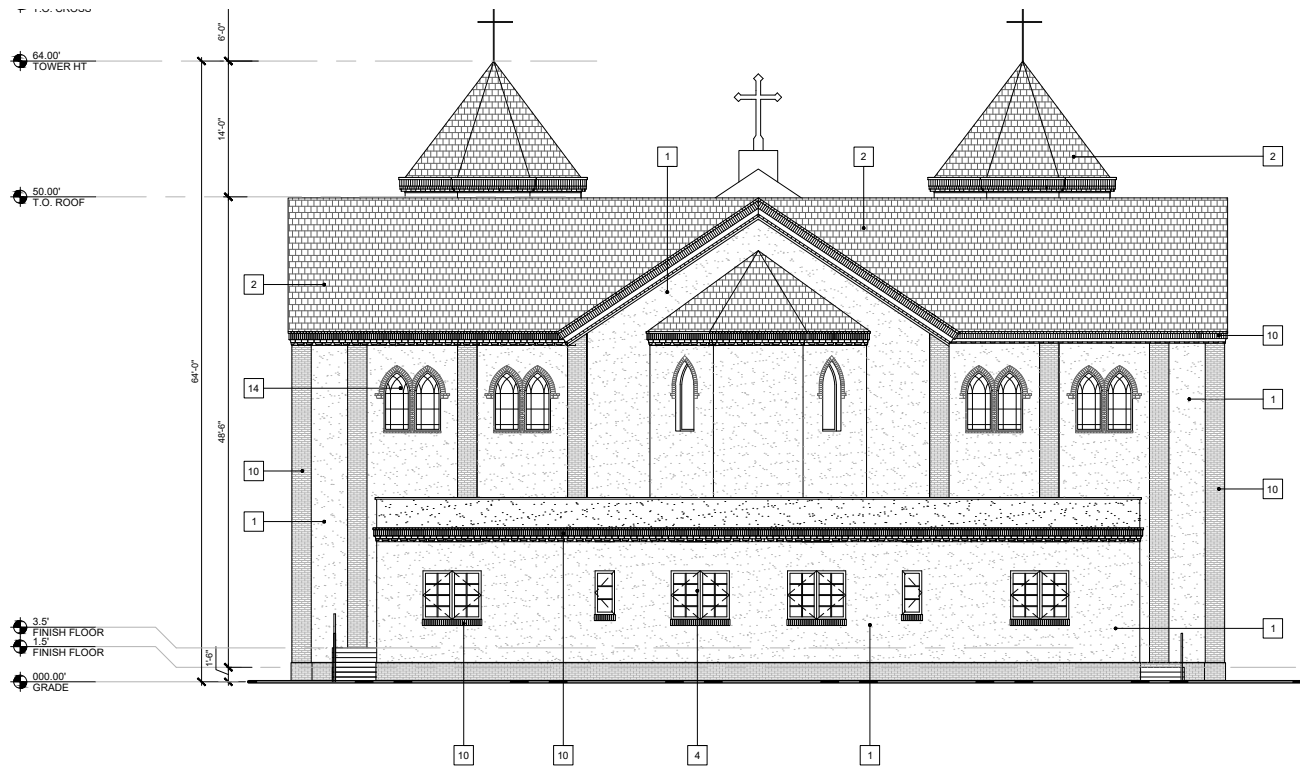
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FIGURE 2.12
Page 3 of 7

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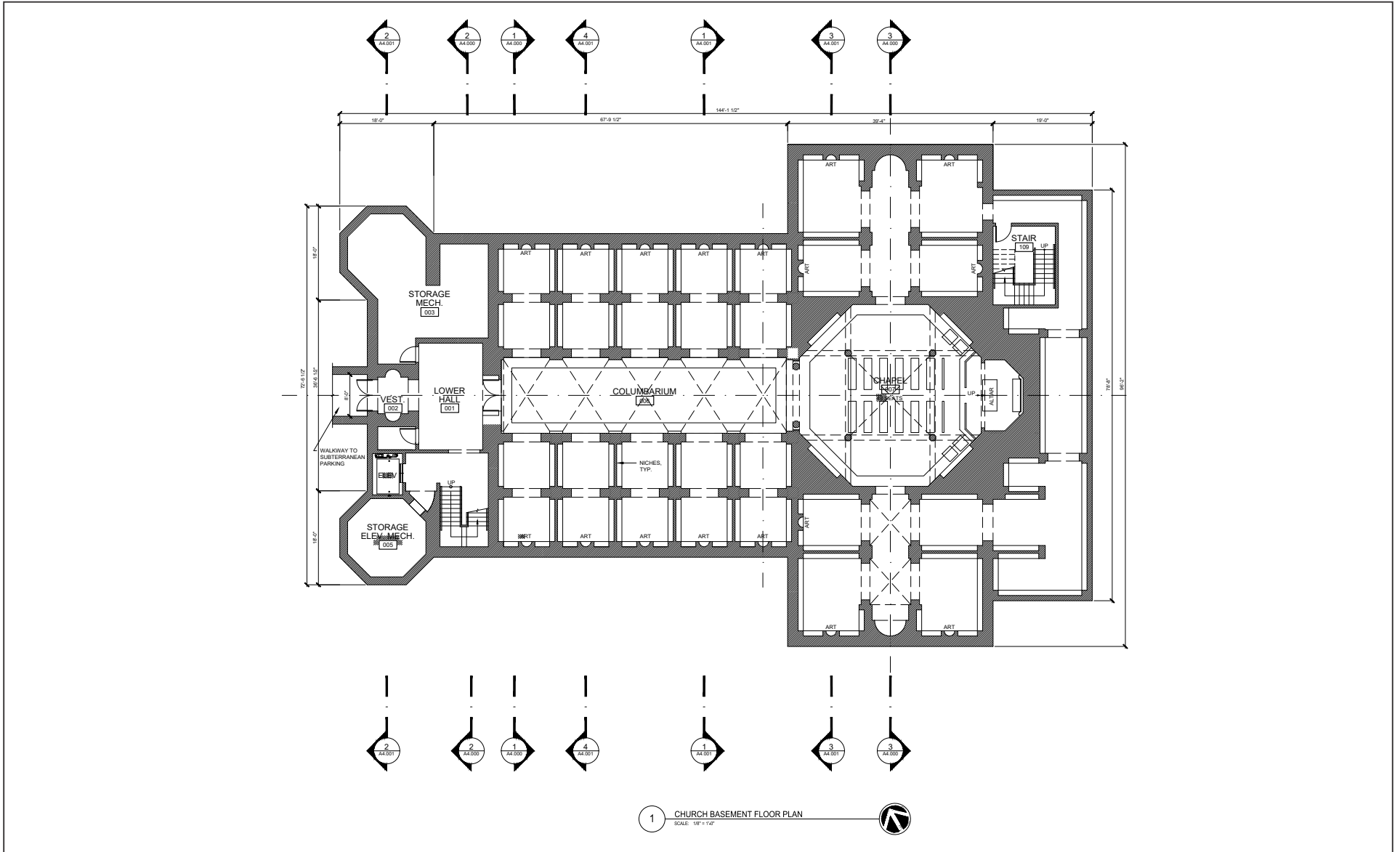


2 CHURCH SOUTH (REAR) ELEVATION
SCALE: 1/8" = 1'-0"

LSA

FIGURE 2.12
Page 4 of 7

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LSA

FIGURE 2.12
Page 5 of 7



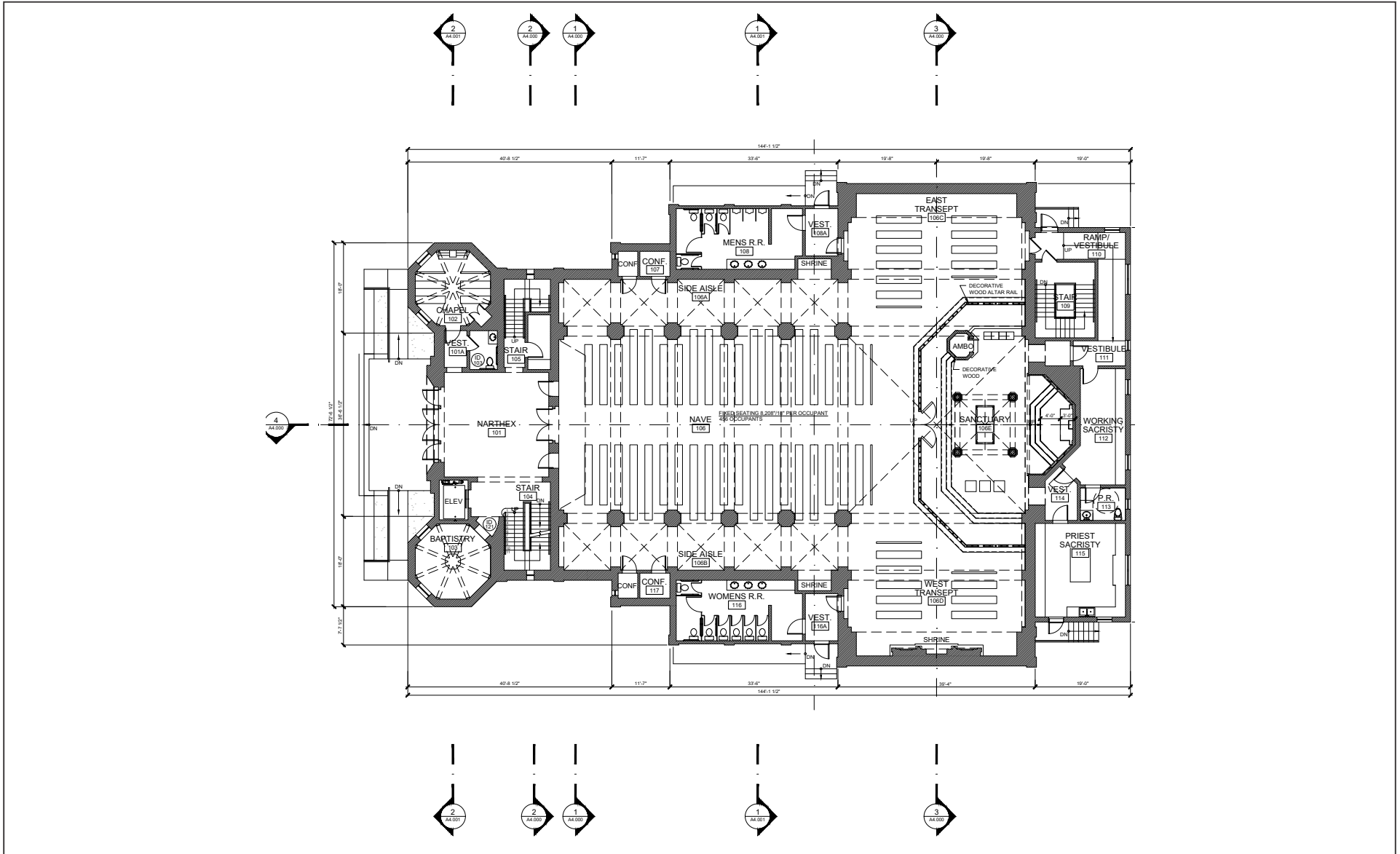
NO SCALE

SOURCE: Harrison Design

I:\2024\20241645\G\Church_Elevations.ai (3/3/2026)

Our Lady of Peace Project
Church Elevations and Floor Plans - Basement Floor Plan

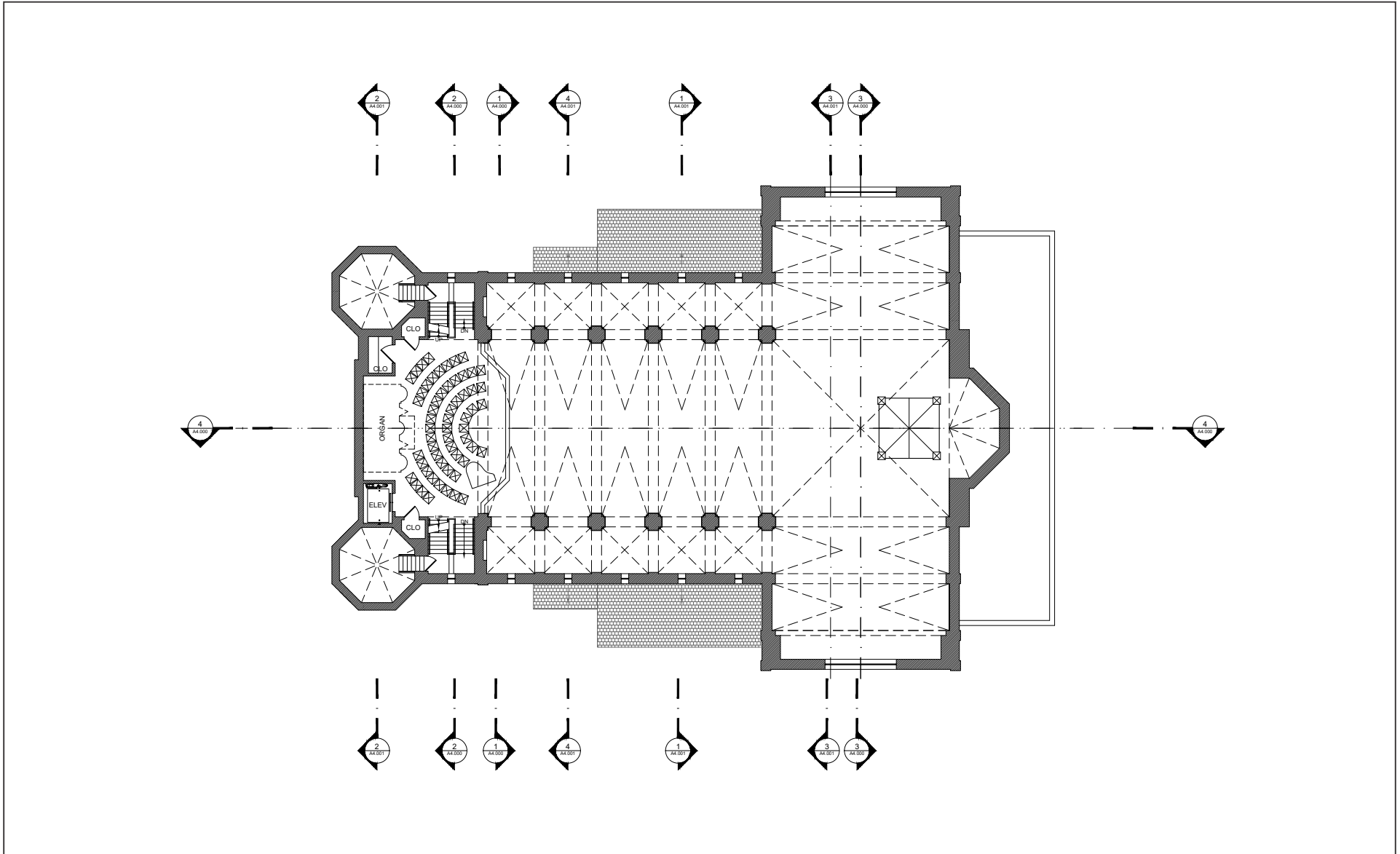
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FIGURE 2.12
Page 6 of 7

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FIGURE 2.12

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LSA

FIGURE 2.13
Page 1 of 6

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LSA

FIGURE 2.13
Page 2 of 6

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1 PARISH HALL EAST ELEVATION
SCALE: 1/8" = 1'-0"

LSA

FIGURE 2.13
Page 3 of 6

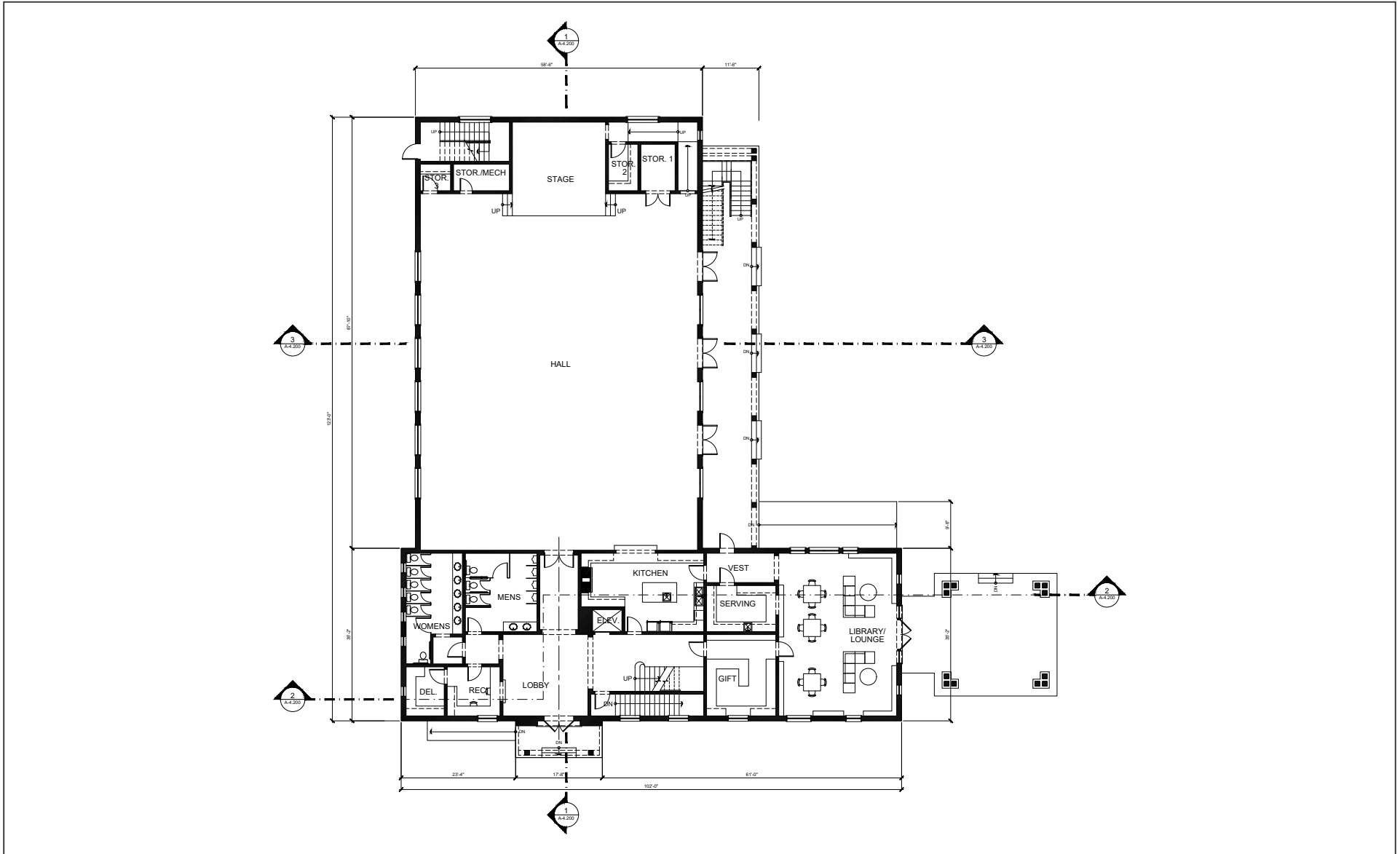
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FIGURE 2.13
Page 4 of 6

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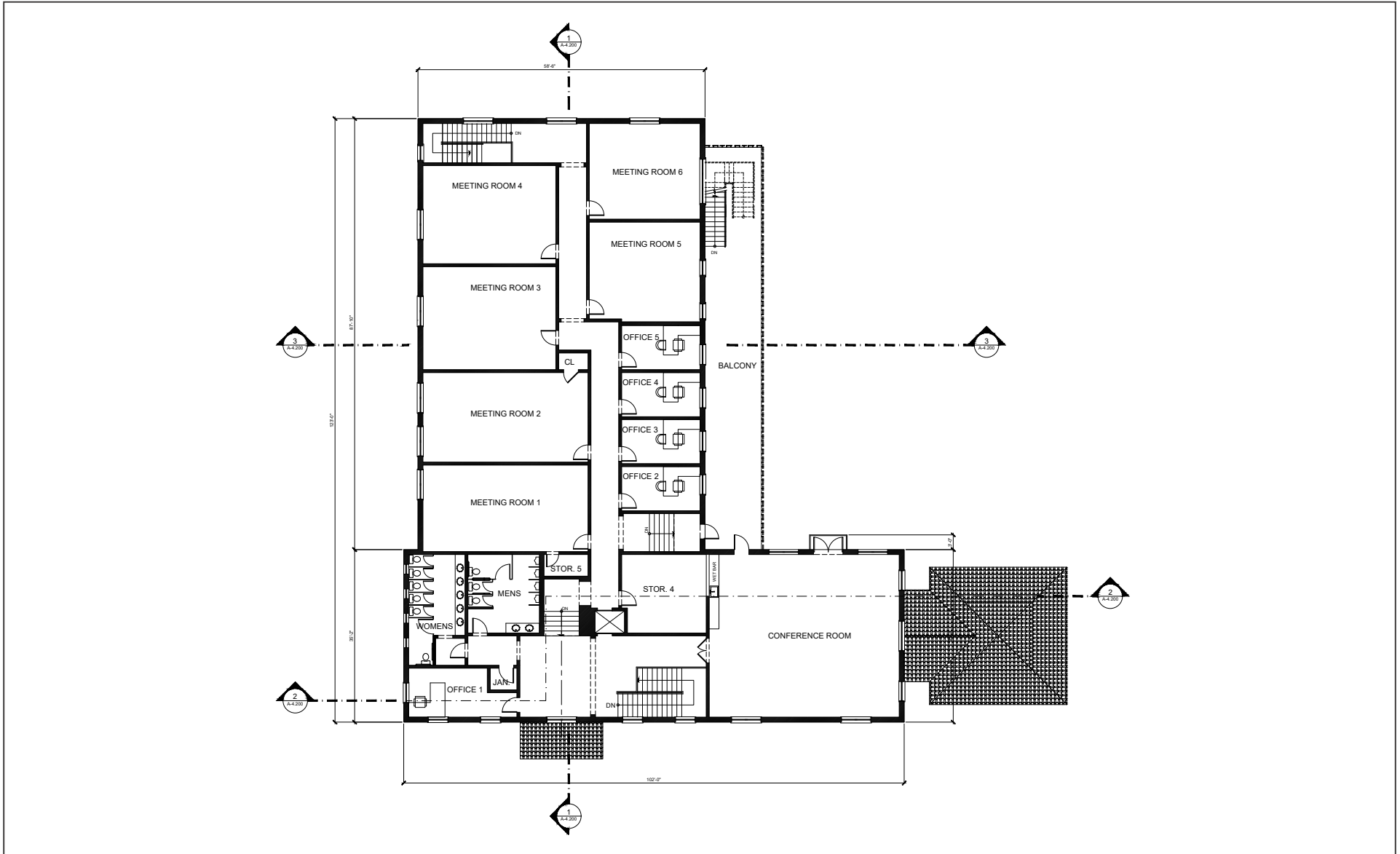


LSA

FIGURE 2.13

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LSA

FIGURE 2.13

Page 6 of 6

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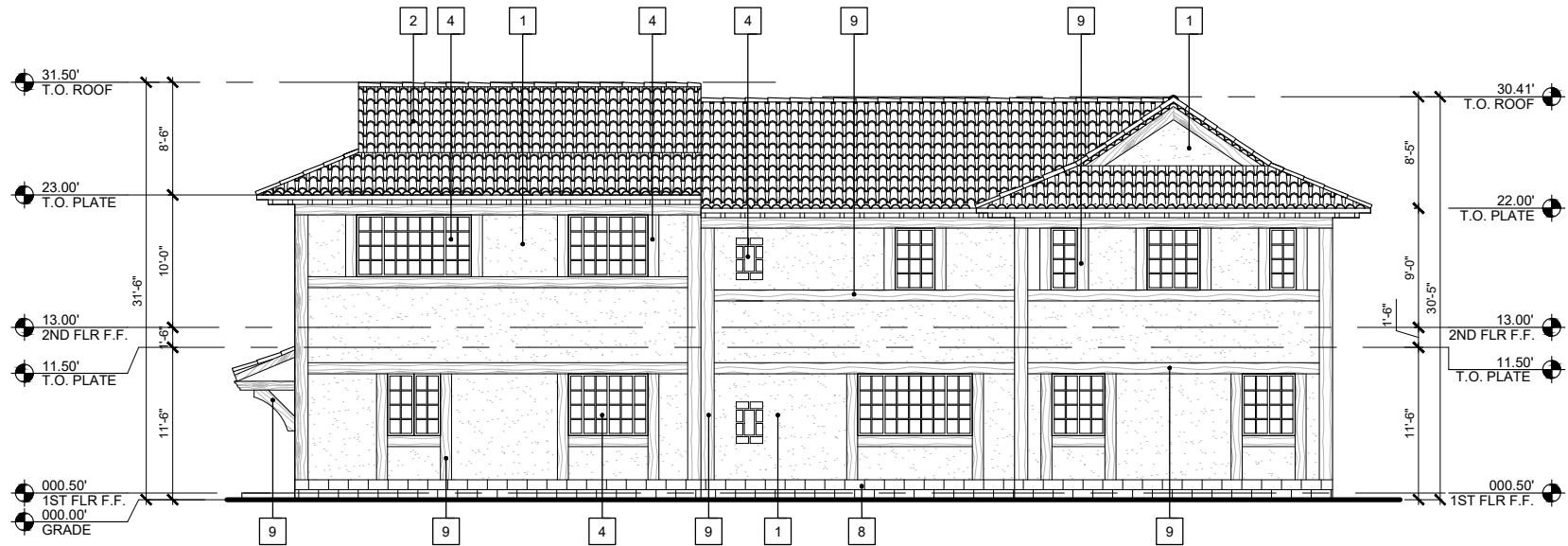


2 RECTORY WEST ELEVATION
SCALE: 1/8" = 1'-0"

LSA

FIGURE 2.14
Page 1 of 5

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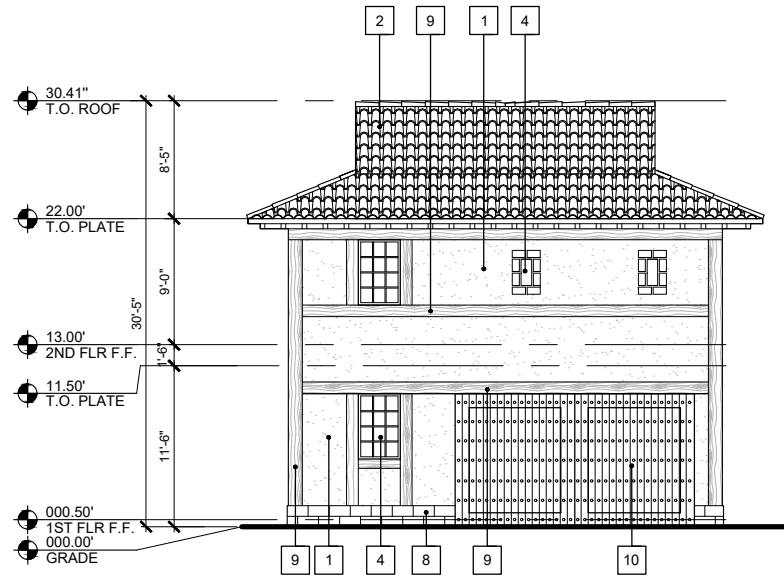


4 RECTORY EAST ELEVATION
SCALE: 1/8" = 1'-0"

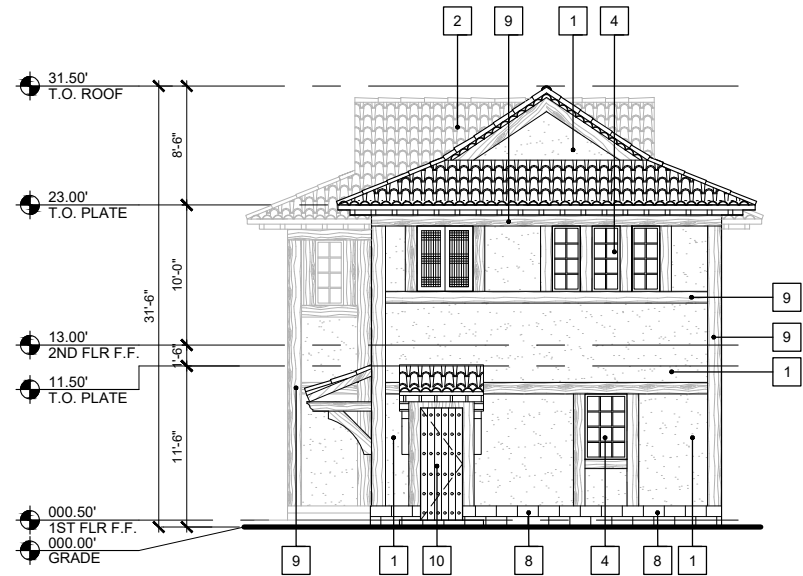
LSA

FIGURE 2.14
Page 2 of 5

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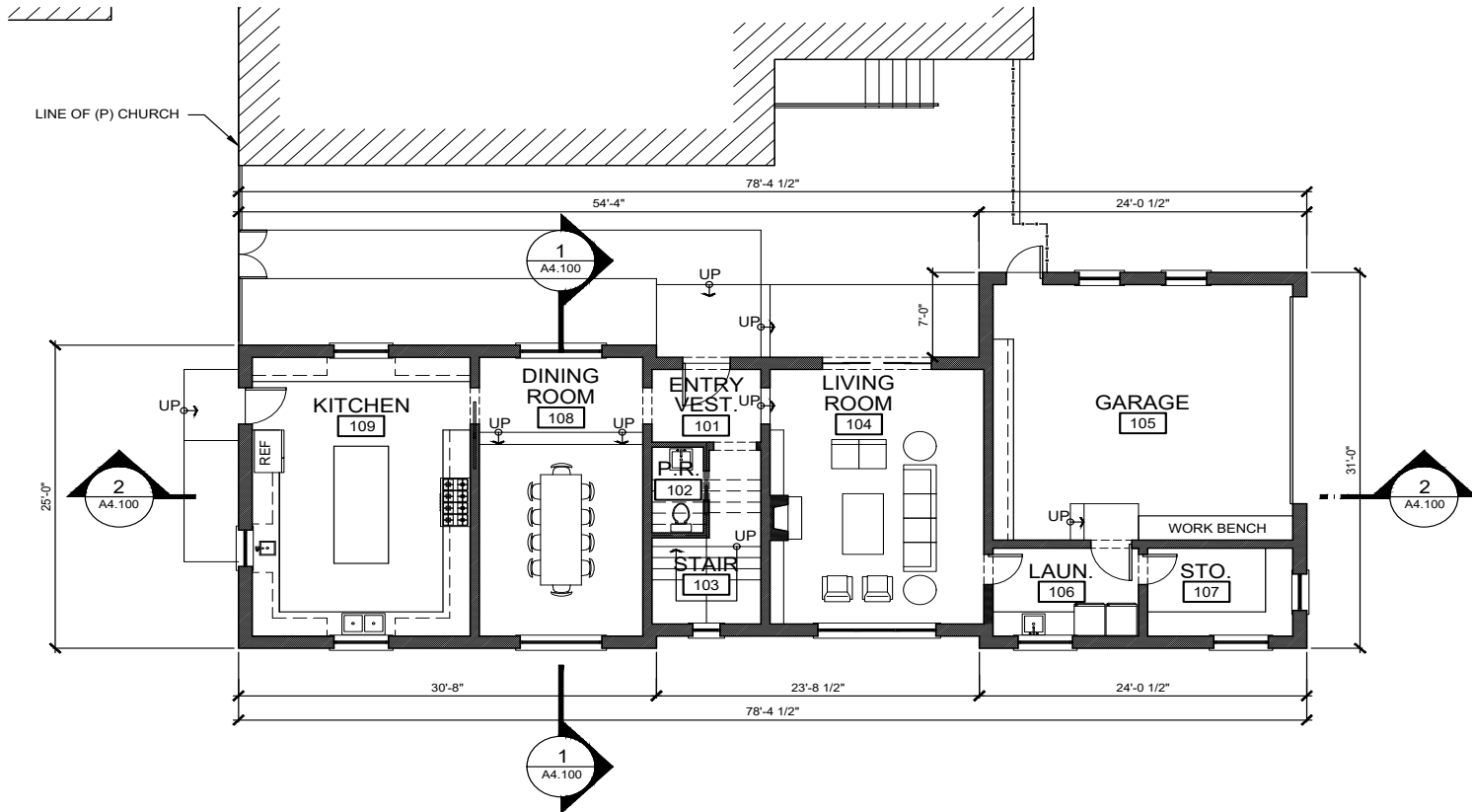


3 RECTORY SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



1 RECTORY NORTH ELEVATION
SCALE: 1/8" = 1'-0"

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LSA

FIGURE 2.14
Page 4 of 5



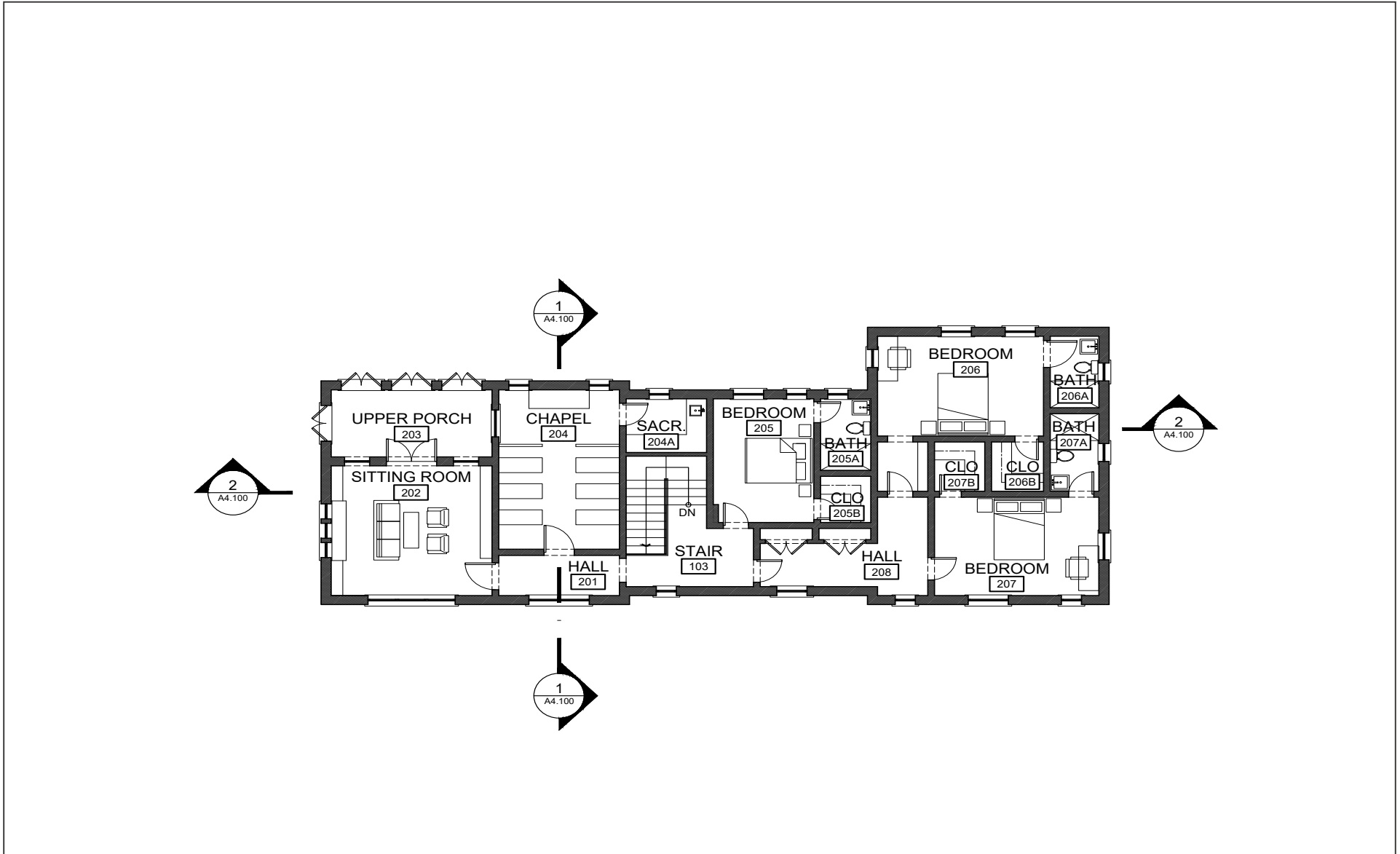
NO SCALE

SOURCE: Harrison Design

I:\2024\20241645\G\Rectory_Elevations.ai (3/25/2026)

Our Lady of Peace Project
Rectory Elevations and Floor Plans - First Floor Plan

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LSA FIGURE 2.14
Page 5 of 5

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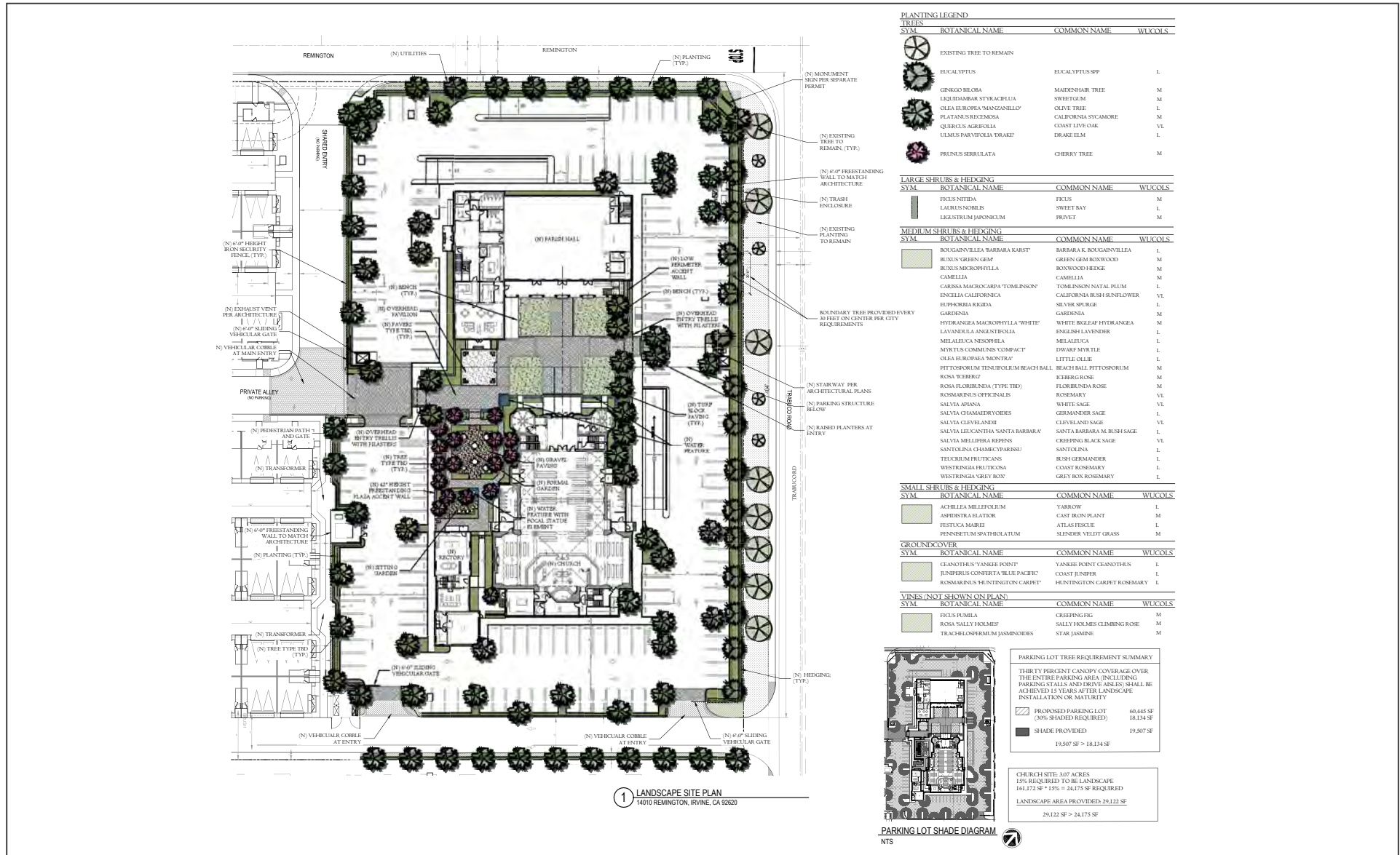


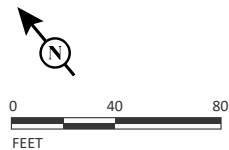
FIGURE 2.15

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FIGURE 2.16



SOURCE: Professional Design Associates

I:\2024\20241645\G\Landscape_Plan_Residential.ai (6/1/2026)

Our Lady of Peace Project
Landscape Plan - Residential

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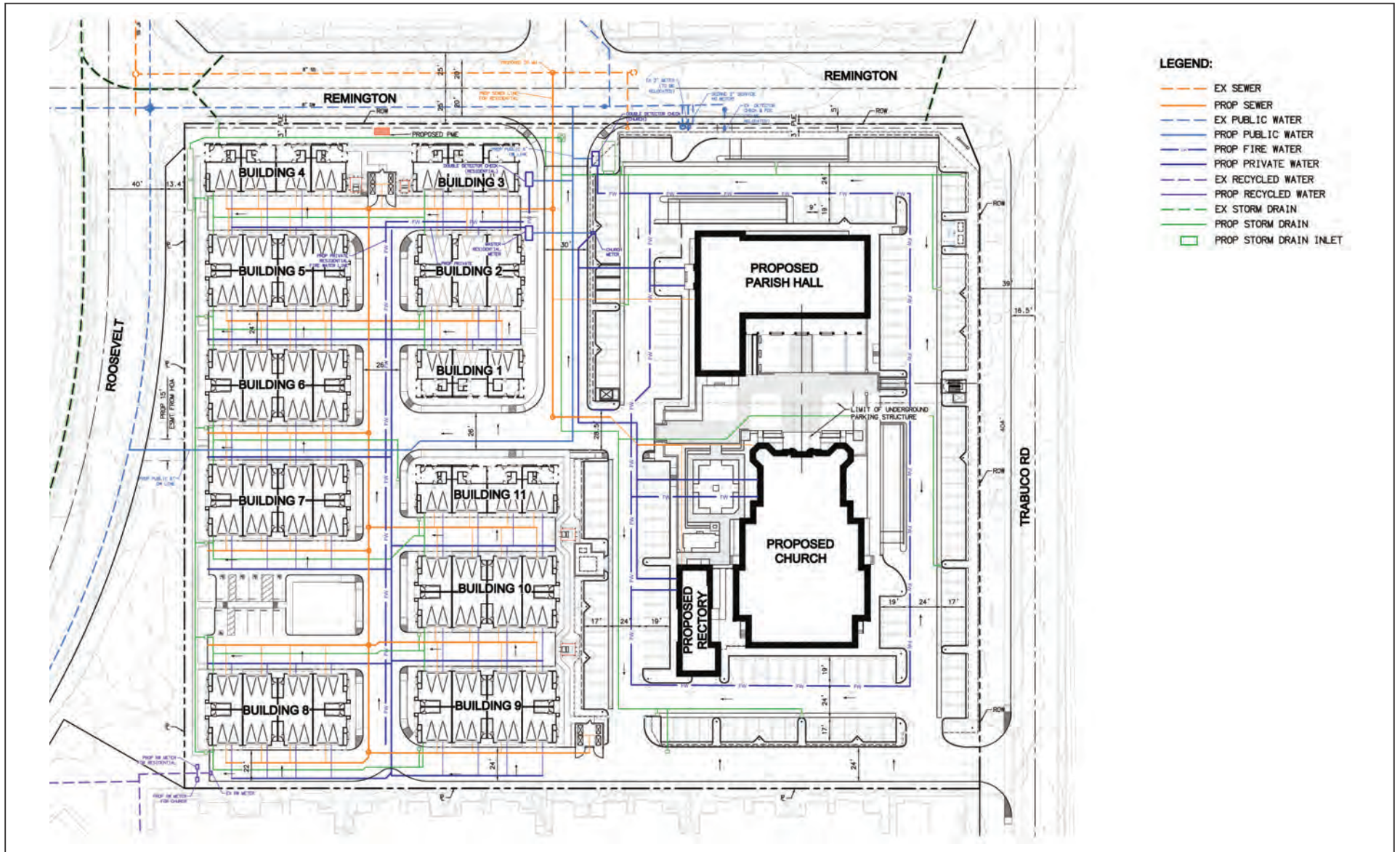


FIGURE 2.17

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0 40 100
FEET

SOURCE: Proactive Engineering Consultants

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Our Lady of Peace Project
Existing and Proposed Utilities

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3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist in Chapter 3.0.

- | | | |
|---|--|--|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☒ Air Quality |
| ☐ Biological Resources | ☒ Cultural Resources | ☒ Energy |
| ☒ Geology/Soils | ☒ Greenhouse Gas Emissions | ☐ Hazards & Hazardous Materials |
| ☒ Hydrology/Water Quality | ☐ Land Use/Planning | ☐ Mineral Resources |
| ☒ Noise | ☐ Population/Housing | ☐ Public Services |
| ☐ Recreation | ☒ Transportation | ☒ Tribal Cultural Resources |
| ☒ Utilities/Service Systems | ☐ Wildfire | ☒ Mandatory Findings of Significance |

3.1 DETERMINATION

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “Potentially Significant Impact” or “Potentially Significant Unless Mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

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4.0 CEQA ENVIRONMENTAL CHECKLIST

4.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

4.1.1 Impact Analysis

a. *Would the project have a substantial effect on a scenic vista?*

No Impact. A scenic vista is a view of an area that is visually or aesthetically pleasing. Scenic vistas can include views of natural lands and compositions of natural and developed areas. Scenic vistas can include vistas of undisturbed natural areas, unique or unusual features forming an important or dominant portion of a viewshed, and distant vistas offering relief from less attractive nearby features. The project site is surrounded primarily by single-family residential land uses to the northwest and northeast and multi-family residential uses to the southwest and southeast. There are no designated scenic roadways adjacent to or near the project site. The City's General Plan identifies the Santiago Hills, San Joaquin Hills, natural watercourses, and the artificial lakes (Woodbridge Lakes and the William R Mason Regional Park lakes) as notable visual resources within the City. None of these notable resources are visible from the project site due to intervening structures, trees, fencing, and their distance from the project site. The nearest resource would be North Woodbridge Lake, which is approximately 1.6 mile southwest of the project site. The project would not have a substantial effect on a scenic vista. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

b. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. The California Department of Transportation (Caltrans) Scenic Highway Mapping System identifies State Route 1 (SR-1, Pacific Coast Highway) as the nearest State-designated scenic highway to the project site. The State-designated scenic portion of SR-1 runs north/south along the Pacific

coastline. SR-1 starts near the community of Legett in Mendocino County and extends south for approximately 656 miles until it reaches its southern terminus in Dana Point, Orange County. For purposes of this analysis, only the portion of SR-1 in Orange County is of concern as relates to the proposed project. At its closest point, this portion of SR-1 is approximately 10 miles southwest of the project site and is not visible from the project site. Therefore, the project would not affect any scenic resources within a State scenic highway. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The project site is located in an urbanized portion of the City of Irvine and is currently partially developed with an existing parking lot, landscaping, and temporary church building. The remainder of the project site is undeveloped. The proposed project intends to demolish the existing building and replace it with the proposed church, rectory, and parish hall on the northeastern half of the project site. The parking lot on the other half of the project site would be demolished to construct the residential portion of the proposed project.

The proposed project intends to improve aesthetic and visual quality within the project site through the incorporation of landscaping in tandem with the architectural elements of the proposed church development. The project site is currently only partially developed with a parking lot and an existing temporary church building. The existing temporary church building would be replaced with a permanent church building and the parking lot would be redeveloped with a new configuration, lighting, and landscaping. Accordingly, the new proposed church and residential development would result in an overall new visual landscape. The project site and areas to the southwest and southeast are within the Medium-High Density Residential zoning district (Zone 2.4C) of Planning Area 8 (Northwood Planning Area).¹ Attached Residential uses are a permitted use within the Medium-High Density Residential zoning district, whereas Churches (and other places of religious worship) are conditionally permitted uses. The existing church was developed subject to a Conditional Use Permit (CUP) issued in May 1998, CUP 30614-CPU. The proposed project would require a major modification to the existing CUP to allow for development of the proposed church facilities and residential development.

Surrounding Character and Scenic Quality. The area surrounding the project site consists of single-family residential land uses to the northwest and northeast and multi-family residential uses to the southwest and southeast. In the neighboring areas there are several public parks, including Orchard Park to the west, and Sycamore Park and Coralwood Park to the north. In addition to the previously mentioned parks, the Northwood Planning Area contains several parks including the Racquet Club Park, Brywood Park, Blue Gum Park, Pepperwood Park, Pinewood Park, Carrotwood Park and Northwood Community Park (Castle Park).

¹ City of Irvine. 2024. City of Irvine Zoning Map. <<https://cityofirvine.org/community-development/zoning>> (accessed September 16, 2025).

From the north, the project site's address signage, landscaping, and existing building is visible from Trabuco Road but is also obstructing the view of the site. From the southwest (Roosevelt Road), views of the proposed project consist of mature trees, the existing building and associated plaza, along with other landscaping elements and the parking lot. From the south, intervening structures such as the fence, landscaping, mature trees, obstruct visibility to the project site. From the west, views of the existing parking lot, shrubs, vegetation and the existing building are visible from Remington.

As stated above, the project site's temporary church building was completed under a CUP (CUP 30614-CPU), issued in May 1998. To accommodate the proposed project, the CUP would require a major modification request, which would include the design standards to which the project will be required to conform. The proposed project would replace the existing church building, parking lot, and landscaping, with a new church, rectory, and parish hall. The gothic revival architectural design of the church buildings and associated landscaping would differ from the existing views of the project site, but would be consistent with the requirements of the current and modified CUP.

The proposed multi-family dwelling units would be required to comply with the applicable development standards identified in Section 3-37-15 of the City's zoning ordinance. Per Section 3-37-15, the proposed residential buildings would be required to comply with a maximum building height of 50 feet, a front setback of 15 feet from the local roadways (Remington and Roosevelt), a side and rear setback of 10 feet plus two feet for every five feet in height over 30 feet. The residential units would be designed to blend with the visual character of the existing residential surroundings.

The proposed project includes church buildings that would be consistent with the overall size permitted under the CUP. Beyond the church, parish hall, and rectory, the CUP allows for development of a multi-purpose building and administrative building, neither of which are included in the proposed project. The church building development would be less intensive than what is currently allowed under the CUP. From the surrounding area, the most visually noticeable feature of the proposed church structures would be the two church bell towers. The current CUP allows for a 70 foot tall church steeple. The proposed project includes two 64 foot tall belltowers capped by two 6 foot crosses. The height of the belltowers would be consistent with the steeple provided for under the current CUP.

As the residential portion of the proposed project would be developed in compliance with existing zoning and applicable design standards, including any approved State Density Bonus Law waivers and concessions, it is anticipated that the residential buildings would be consistent with the architecture of the surrounding development. The church buildings would be consistent with what is already permitted under the current CUP. Accordingly, the project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant and no mitigation would be required. This topic will not be analyzed further in the EIR.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Under existing conditions, the project site is lighted by nine existing light poles located on the periphery and between the drive aisles of the parking lot, as well as exterior lighting mounted on the existing church building. The pole mounted lights are directed downward and do not produce glare that affects the surrounding area. The remainder of the project site is currently undeveloped and has no lighting. Existing sources of light in the vicinity of the project site are typical of residential areas of the City and include streetlights, exterior lights mounted on buildings, interior lighting, pole-mounted lighting in pedestrian areas, and the headlights of automobiles passing through on adjacent roadways. Lighting from the existing surrounding residential developments also contribute to the background lighting in the project vicinity.

The proposed project would include both indoor and outdoor lighting within the project site. Outdoor lighting proposed at the church development would include pole lights interspersed around the church parking lot, specifically towards the walking paths. Additionally, lighting would be installed on the church development including path lights, tree up lights, and wall lights. The proposed lighting for the church development would be limited to the church exterior and single- and double-headed 15-foot LED light poles would be installed along the residential side of the main driveway from Remington and adjacent to the residential building ends along both sides of the center private way aisle. A double headed LED light pole would be installed in the guest parking area, adjacent to the pocket park. The lighting for the proposed residential development would also incorporate pole lights interspersed within the parking lot and pedestrian paths. Lighting along the exterior of the residential units would be shielded in order to minimize potential glare. All light fixtures would be LED luminaires designed and oriented to minimize light pollution and glare adjacent properties while also meeting the light distribution requirements for the area. In addition, all exterior lighting would follow the latest edition of the IESNA Lighting Handbook, 10th Edition,¹ and the 2025 State Building Energy Efficiency Standards (Title 24), which governs structural safety and sustainability for California's public building. Furthermore, all exterior lighting installed within the project site would conform to the City's Municipal Code Chapter 3-16 (Outdoor Lighting), which requires all outdoor lighting to be designed and installed so that all direct rays are confined to the site and adjacent properties from glare.²

Lighting for the proposed project would differ from lighting under existing conditions because new lighting sources would be introduced to currently vacant areas of the project site. However, the surrounding area is highly developed and already produces a substantial amount of ambient light. New lighting sources introduced under the proposed project would not generate artificial light levels that are out of character with the surrounding area. Furthermore, lighting associated with the proposed project would also be designed and shielded to direct light downward and away from

¹ Illuminating Engineering Society of North America (IESNA). 2011. The Lighting Handbook: Reference and Application, 10th Edition. <https://ies.org/standards/lighting-library/> (accessed January 9, 2026).

² City of Irvine. Zoning Ordinance of the City of Irvine, California. Chapter 3-16. – Lighting. https://library.municode.com/ca/irvine/codes/zoning?nodeId=ZOOR_DIV3GEDESTLAUSRE_CH3-16LI_S3-16-1LI (accessed September 16, 2025).

adjacent properties and public rights-of-way, and landscaping would be incorporated, where appropriate, to provide additional screening of lighting and reflective surfaces. Accordingly, the design of the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

4.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 Impact Analysis

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The project site is located in an urbanized and developed portion of the City of Irvine. Pursuant to Government Code Section 65570, the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) compiles consistent, timely, and accurate data to decision makers for use in planning for the present and future of California's agricultural land resources. The FMMP provides maps and statistical data to the public, academia, and local, State, and federal governments on the nature, location, and extent of farmland, grazing land, and urban built-up areas in the State. According to the California Department of Conservation's California

Important Farmland Finder, the project site is designated as Urban and Built-Up Land.¹ The project site does not contain any agricultural soils and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the proposed project would not convert any existing Farmland to a non-agricultural use. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is a nonmandated State program, administered by counties and cities to preserve agricultural land and discourage the premature conversion of agricultural land to urban uses. According to the California Department of Conservation California Williamson Act Enrollment Finder, City of Irvine did not report any Williamson Act data in 2024.² Therefore, the project site would not conflict with any agricultural zoning or Williamson Act contract sites. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The project site is not located within an area zoned for forest land, timberland, or timberland zoned Timberland Production, nor would it result in rezoning of these resources. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use?

No Impact. As described above, the project site is urbanized and developed and does not contain forest land. Accordingly, the proposed project would not result in the loss or conversion of forest land to non-forest use. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Refer to the responses above. The proposed project would not affect any Farmland or forest land and would not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

¹ California Department of Conservation. n.d. California Important Farmland Finder. <<https://maps.conservation.ca.gov/dlrp/ciff/App/index.html>> (accessed September 16, 2025).

² California Department of Conservation. n.d. California Williamson Act Enrollment Finder. DLRP Important Farmland Finder. <<https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html>> (accessed October 31, 2025).

4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The project site is within the South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD) is the regional government agency that monitors and regulates air pollution within the Basin. The federal Clean Air Act mandates the control and reduction of specific air pollutants and charges the United States Environmental Protection Agency (USEPA) with establishing ambient air quality standards (National Ambient Air Quality Standards [NAAQS]) for specific "criteria" pollutants, designed to protect public health and welfare. Similarly, the California Clean Air Act charges the California Air Resources Board (CARB) with establishing the California Ambient Air Quality Standards (CAAQS) for the same criteria pollutants, as well as three additional pollutants. The primary criteria pollutants include carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides (NO_x), particulate matter less than 10 microns in size (PM₁₀), sulfur dioxide (SO₂), and lead (Pb). Secondary criteria pollutants include ozone (O₃), and particulate matter less than 2.5 microns in size (PM_{2.5}). The ambient air quality standard for each criteria pollutant represents the level that is considered safe to the public and avoids specific adverse health effects associated with each criteria pollutant.

Areas that meet the AAQS for a criteria pollutant are described being in "attainment" of the AAQS. If the area exceeds the AAQS for a criteria pollutant it is described as being in "nonattainment" of the AAQS. If an area is now in attainment of the AAQS after being in nonattainment, it is described as being in "maintenance" of the AAQS. The Basin is in nonattainment of the federal and State standards for O₃ and PM_{2.5}, and nonattainment for the State standard for PM₁₀. In addition, the Basin is in attainment/maintenance for the federal PM₁₀, CO, SO₂, and nitrogen dioxide (NO₂) standards.

4.3.1 Impact Analysis

- a. *Would the project conflict with or obstruct implementation of the applicable air quality plan?*
- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*
- c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Potentially Significant Impact. The proposed project is located in an area of residential development with existing housing and sensitive receptors located along all four sides of the project site. Proposed project construction would produce emissions from use of construction equipment, including equipment used to complete a substantial amount of excavation in order to construct the underground parking garage for the Church. Construction would also include export of excavated fill material via dump truck throughout construction. Project operations would result in increased emissions from passenger car use by new residents and potential new parishioners. Accordingly, both construction and operation would result in an increase in pollutant concentrations in the city and surrounding region. This increase could contribute to existing air pollution in the Basin and has the potential to exceed regional air emission thresholds established by the SCAQMD. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by site preparation, grading activities, and excavation. Emissions from construction equipment are also anticipated and would include CO, NO_x, VOCs, directly emitted PM_{2.5} or PM₁₀, and toxic air contaminants such as diesel exhaust particulate matter. Long-term air quality impacts would consist of mobile source emissions generated from project-related traffic, and emissions from stationary area and energy sources. Therefore, impacts related to conflict with or obstruction of implementation of an applicable air quality plan, resulting in a cumulatively considerable net increase of a criteria pollutant, and exposing sensitive receptors to substantial pollutant concentrations would be **potentially significant** and will be evaluated in the EIR. The EIR will recommend appropriate mitigation measures, if necessary.

- d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less Than Significant Impact. The 1993 SCAQMD *CEQA Air Quality Handbook*,¹ states that land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project includes development of a church and associated facilities and a residential development and would not include any of these uses. Potential odor sources during operation of the proposed project would include trash storage areas. As mentioned previously, the proposed project would provide a trash enclosure for the church near the northern corner of the project site adjacent to Trabuco Road. This trash enclosure would be shielded by a 6-foot freestanding wall, trees, and hedging. The residential portion of the proposed project would include two trash enclosures. The first trash enclosure, which would be located near the northwest corner

¹ South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*.

of the site adjacent to Remington, would be shielded by trees and vegetation. The second trash enclosure would be located along the secondary driveway near the center of the site between the residential and church development. Once operational, the proposed project would be required to comply with Section 4-11-610 of the Municipal Code, requiring that all trash bins and dumpsters be kept within a trash enclosure, maintained in a clean and sanitary condition, and screened from public view. Furthermore, the Church would ensure that regular garbage service is secured, ensuring that residential and church produced garbage is removed from the site at a regular interval. Accordingly, operation of the proposed project would not result in odors that would adversely affect a substantial number of people.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, the proposed project would be required to comply with State regulations (CCR, Title 13, § 2449(d)(3) and § 2485) requiring minimization of construction equipment idling time either by shutting off equipment when not in use or by reducing idling times to no more than five minutes. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

4.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The following analysis is based upon information presented in the *Biological Resources Assessment* (BRA) prepared by Carlson Strategic Land Solutions in April 2026, included as Appendix A to the IS/NOP.

4.4.1 Impact Analysis

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less Than Significant Impact. Preparation of the BRA involved a literature review, record search, and field surveys by qualified biologists in order to determine the existing and potential for

occurrence of sensitive or special-status plant and wildlife species¹ within the project site or its vicinity. Current electronic database reviews included the California Natural Diversity Database (CNDDDB), the Information for Planning and Consultation tool, and the United States Fish and Wildlife Service (USFWS) Critical Habitat database. In addition to these databases, the review included historic and current aerial imagery, existing environmental reports for developments in the project vicinity, and regional habitat conservation plans and local land use policies related to biological resources.

An initial field survey conducted on April 11, 2024, included a pedestrian review of general site conditions, vegetation, and suitability of habitat for various special-status species. The project site is developed and also consists of primarily disturbed habitat with some ornamental plant species in the parking lot and frontage of the existing building. The portion of the project site located to the northeast consists of disturbed habitat including mouse barley (*Hordeum murinum*), bristly ox-tongue (*Helminthotheca echinoides*), cheeseweed (*Malva parviflora*), summer mustard (*Hirschfeldia incana*), lemon scented eucalyptus (*Corymbia citriodora*), carrotwood (*Cupaniopsis anacardioides*), castor bean (*Ricinus communis*), date palm (*Phoenix dactylifera*), bougainvillea (*Bougainvillea spp.*), and vinegar trees (*Lophostemon confertus*). This area is mowed regularly and utilized as overflow parking for the church. The southwest portion of the project site contains ornamental species, specifically Monterey Pines (*Pinus Radiata*). Southwest of the existing building contains parking lot landscaping which includes typical ornamental trees and shrubs such as Indian hawthorne (*Raphiolepis indica*), African iris (*Dietes bicolor*), Japanese pittosporum (*Pittosporum tobira*), vinegar tree, Brazilian peppertree (*Schinus terebinthifolia*), London plane (*Platanus Æ x acerifolia*), bougainvillea, glossy privet (*Ligustrum lucidum*), and creeping juniper (*Juniperus horizontalis*).

According to the BRA, no candidate, special status or sensitive plant or wildlife species were identified as having potential to occur onsite, nor were these species detected onsite during the field survey. Furthermore, due to the disturbed vegetation communities and land covers within and surrounding the project site, suitable habitats for plant or wildlife species that would be considered special status are not present. In addition, the building perimeter was surveyed to evaluate bat presence, identify potential bat day-roosting habitat, and signs of other cavity nesting wildlife. The building was visually examined for evidence of cavity nesting wildlife and bat use (e.g., presence of guano, evidence of day roost use, culled insect parts, urine staining, odors associated with bats, bird droppings, etc.). No indicative signs were observed and it was determined additional surveys for bats were not warranted.

The project site does provide limited suitable habitat for various common avian species in the form of ornamental trees and shrubs and existing building eaves. While these common species are not

¹ For the purposes of this analysis, the term “special-status species” refers to those species that are listed or proposed for listing under the California and Federal Endangered Species Acts (CESA and/or FESA, respectively); California Fully Protected Species; plants with a California Rare Plant Rank of 1, 2, or 3; California Species of Special Concern; and California Special Animals. It should be noted that “Species of Special Concern” and “California Special Animal” are administrative designations made by the CDFW and carry no formal legal protection status. However, Section 15380 of the *State CEQA Guidelines* indicates that these species should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

federally or State listed as threatened or endangered, they are protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code (FGC) Section 3503 and therefore considered sensitive under CEQA. Since implementation of the project would require the removal of buildings, ornamental trees, and shrubs, all of which are potential nesting habitat, compliance with federal and state avian protections would be required. Implementation of Regulatory Compliance Measure (RCM) BIO-1 identified below would provide compliance with MBTA and FGC Section 3503 through implementation of pre-construction bird surveys during nesting periods to identify and avoid adverse effects to nesting birds.

Regulatory Compliance Measure:

RCM BIO-1 Nesting Bird Surveys. Prior to issuance of any grading permit that would impact potentially suitable nesting habitat for avian species, the project applicant shall adhere to the following:

1. Vegetation removal activities shall be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to the extent feasible to avoid potential impacts to nesting birds and/or ground nesters.
2. Any construction activities that occur during the typical nesting season (February 15 to August 15 for songbirds; January 15 to August 31 for raptors) will require that all suitable habitat, on-site and within 300 feet surrounding the site (as feasible), be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement ground disturbances. If active nests are identified, the biologist would establish buffers around the vegetation (500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers would be halted until the nesting effort is finished (i.e., the juveniles are surviving independently from the nest). The on-site biologist would review and verify compliance with these nesting boundaries and would verify the nesting effort has finished. Work can resume within these areas when no other active nests are found. Alternatively, a qualified biologist has the discretion to determine the size of an appropriate no-work buffer based on species/active nest observed. The reduced buffer determined by nesting species, would be monitored and a monitoring plan would be submitted to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to City for mitigation monitoring compliance record keeping.

The proposed project impacts would be less than significant since no substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status would occur through compliance with MBTA and FGC 3503 and this topic will not be analyzed further in the EIR.

- b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

No Impact. Under Section 1602 of the California Fish and Game Code, the CDFW has jurisdiction over rivers, streams, and lakes, as well as any riparian vegetation associated with those features. According to the BRA, no riparian habitat or special-status natural communities are present within the biological resources study area for the proposed project. Therefore, construction and operation of the proposed project would not have the potential to adversely impact any riparian habitat or other sensitive natural communities. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

- c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. As previously stated, part of the project site has been previously developed and is within a highly urbanized area. According to the BRA, no potential jurisdictional waters regulated pursuant to the Clean Water Act by the USACE or the Regional Water Quality Control Board, and no lake, rivers, or streambeds regulated by the CDFW pursuant to the California Fish and Game Code are present within the biological resource study area of the proposed project. However, according to the United States Fish and Wildlife National Wetlands Inventory Mapper,¹ there is an existing emergent wetland habitat, channelized in the Trabuco Road roadway within an existing canal, approximately 300 feet north of the project site. The project would be designed to avoid this existing emergent wetland habitat in order to ensure no impacts to the habitat would occur. Therefore, the proposed project would have no impact on State or federally protected wetlands. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

- d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. Wildlife movement and habitat fragmentation are important issues in assessing effects to wildlife. Habitat fragmentation occurs when a proposed action results in a single, unified habitat area being divided into two or more areas such that the division isolates the two new areas from each other. Isolation of habitat occurs when wildlife cannot move freely from one portion of the habitat to another or from one habitat type to another. An example is the fragmentation of habitats within and around “checkerboard” residential development. Habitat fragmentation can also occur when a portion of one or more habitats is converted into another habitat, as when scrub habitats are converted into annual grassland habitat because of frequent burning.

The project site does not lie within a designated wildlife corridor and is generally surrounded by residential uses. The proposed project would not interfere with regional wildlife movement as there

¹ United States Fish and Wildlife Service (USFWS). National Wetlands Inventory. <<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>> (accessed October 14, 2025).

is no recreational space near or within the project site vicinity. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. The City regulates trees within the public right of way and within parking areas (see City of Irvine Municipal Code Chapter 3-15-4 (Boundary landscaping requirements) and Chapter 3-15-5 (Parking area landscape and screening requirements)). In addition, the City has an Urban Forest Master Plan and urban forestry ordinance (see City of Irvine Municipal Code Chapter 4 (Urban Forestry)). Among other issues addressed, the urban forestry ordinance seeks to protect native oaks, native sycamores, and eucalyptus trees that are part of the City's historic eucalyptus windrows. The proposed project would remove trees along the southeastern periphery of the project site and two eucalyptus trees would be removed along Trabuco Road to allow for development of a driveway onto the project site. As described in Section 5-7-404 of the City's Municipal Code, these trees appear to meet the requirements to qualify as part of the City's historic eucalyptus windrows.

Prior to removing trees from the project site, the Project Applicant would obtain a tree removal permit under the City's Tree Removal Ordinance (Section 5-7-410). The permit must be granted by the Director of Community Development prior to the removal of any trees or historical trees. The project would be required to adhere to the Tree Removal Ordinance. Adherence to this ordinance would ensure that the proposed project would not conflict with any local policies or ordinances protecting biological resources. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Natural Communities Conservation Planning Act was enacted to encourage broad-based planning to provide for effective protection and conservation of the State's wildlife resources while continuing to allow appropriate development and growth. Natural Community Conservation Plans (NCCPs) may be implemented that identify measures necessary to conserve and manage natural biological diversity within the planning area, while allowing compatible and appropriate economic development, growth, and other human uses. Orange County has adopted a Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP); however, the proposed project is not mapped within the boundary of the Orange County NCCP/HCP. Because the project site is not located within a NCCP/HCP Reserve area, the proposed project would have no impacts pertaining to conflicts with an adopted NCCP or other plans. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

4.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

The following analysis is based upon information presented in the *Cultural Resource Survey Report* (CRSR) prepared by LSA Associates, Inc. in November 2025, included as **Appendix B** to the IS/NOP.

4.5.1 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

No Impact. Enacted in 1966, the National Historic Preservation Act established the National Register of Historic Places (National Register) program under the authority of the Secretary of the Interior. The National Register is managed by the National Park Service and serves as the nation's official list of historic and cultural resources. On the state level, the Office of Historic Preservation, a division of the California Department of Parks and Recreation, administers the California Register of Historical Resources (California Register), which was established to serve as an authoritative guide to the State's significant historical and archaeological resources.

The project site is currently developed with a temporary church building, parking lot, and landscaped area. According to the Conditional Use Permit, the temporary church building was developed in 1998, which means that the building is less than 45 years old. The project site does not contain any historical resources as the temporary church building is not of historic age (45 years or older). Therefore, the proposed project would not have potential to cause a substantial adverse change in the significance of a historical resource. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Potentially Significant Impact. A preliminary geotechnical report was prepared for the proposed project (see **Appendix C, Geotechnical Subsurface Evaluation**) and the analysis of the project site included four hollow-stem auger borings in areas around the Church drilled to depths ranging from approximately 10 to 70 feet below the existing grade. The borings indicated that the project site is underlain by Young Alluvial Fan Deposits (Qyf) topped with artificial fill. The depth of this artificial fill was found to range from approximately one to two feet below existing grade. Artificial fill is typically not anticipated to include significant archaeological resources.

The proposed project would involve demolition of the existing church building and the parking lot and excavation for the underground parking garage and the columbarium (refer to Section 2.4.6 for excavation depth and soil removal). A cultural resource record search was conducted at the California Historical Resource Information System's (CHRIS) South Central Coastal Information Center (SCCIC). The results of the record search identified that no cultural resources exist within the project site and that two resources were recorded along Trabuco Road over 0.25 mile southeast of the project site. The two resources consisted of an isolated pestle fragment and a one-story wooden house built circa 1915, which no longer exists. A pedestrian field survey was conducted on November 11, 2025, and no visible archaeological material was found during the survey.

Based on the results of the record search and pedestrian field survey, it was determined that the project site has limited potential to yield archaeological resources, and no further archaeological work was recommended under the proposed project. However, as the proposed project would include ground disturbance in the form of excavation and grading, there is potential for inadvertent discovery of previously unrecorded resources. In the event of an inadvertent archaeological discovery the project has potential to result in potentially significant impacts to archaeological resources. Therefore, this topic will be analyzed further in the EIR and any appropriate mitigation measures would be identified.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. No known human remains are present within the project site. As described previously, buried and undiscovered archaeological remains, including human remains, have the potential to be present below the ground surface in portions of the project site. Disturbing human remains could violate the State's Health and Safety Code, as well as destroy the resource. In the unlikely event that human remains are encountered during grading activities associated with the proposed project, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), Public Resources Code (PRC) Section 5097, and Section 7050.5 of the State's Health and Safety Code. To ensure proper treatment of remains in the event of an unanticipated discovery of a burial, human bone, or suspected human bone, State law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the contractor immediately notify the County Coroner of the find. Compliance with these provisions, as specified in the RCM CUL-1 below, would ensure that any potential impacts to unknown buried human remains would be less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law. Incorporation of RCM CUL-1 would reduce any potential impacts to human remains to less than significant, and this topic will not be analyzed further in the EIR.

Regulatory Compliance Measure:

RCM CUL-1 Human Remains. In the event human remains are encountered during project construction, the Orange County Coroner must be notified of the find immediately. State Health and Safety Code Section 7050.5 and *State CEQA Guidelines* Section

15064.5(e)(1) state that no further disturbance shall occur to the area of the find until the County Coroner has made a determination of origin and disposition of the human bone pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC) by phone within 24 hours, and the NAHC shall then immediately determine and notify a Most Likely Descendant (MLD), who, with the permission of the landowner or his/her authorized representative, may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment of the remains within 48 hours of being granted access to the site.

4.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☒	☐	☐	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☒	☐	☐	☐

4.6.1 Impact Analysis

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?*

Potentially Significant Impact. The proposed project would result in increased energy use, both through construction and operation. During construction, the proposed project would require grading, site preparation, substantial excavation, and building activities. Project construction would require use of energy for the manufacture and transportation of building materials, grading activities, removal of excavated soils, and building construction. Although it is anticipated that electricity would be used, fossil fuels (e.g., diesel and gasoline) would be the primary sources of energy employed during construction. Fossil fuels would be used by construction vehicles and equipment during grading, excavations, building construction, paving, and application of architectural coatings. Energy consumed during project operations would be primarily electricity associated with project site lighting, appliance use, and heating. In addition, gasoline and diesel fuel would be used for vehicle trips undertaken by residents, parishioners, and site visitors. Accordingly, the proposed project would increase the consumption of electricity and natural gas used at the project site and in Orange County. Energy use associated with the proposed project may result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. This topic will be evaluated in the EIR.

- b. *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Potentially Significant Impact. The City adopted a comprehensive Strategic Energy Plan in 2020, which includes recommendations for increasing energy efficiency throughout the City. While most of these recommendations are only directly applicable to City functions, some are relevant to residential development in Irvine. These recommendations include joining a Community Choice Energy (CCE) electricity supplier and reducing or removing administrative obstacles to energy storage, electric vehicles, and building electrification. In furtherance of meeting these recommendations, the City has membership in the Orange County Power Authority, a locally governed Community Choice Aggregation (CCA) agency that has developed the Community Power Plan focused on providing renewable energy to the local community.

State plans for renewable energy and energy efficiency include the California Energy Commission's Integrated Energy Policy Report (IEPR), the California Public Utilities Commission's (CPUC) Energy Efficiency Strategic Plan (CPUC Strategic Plan), and the 2022 Climate Change Scoping Plan (2022 Scoping Plan). The IEPR includes recommendations for electrification of buildings, use of energy efficient appliances, and reduced reliance on fossil fuels such as natural gas. Similarly, the CPUC Strategic Plan provides recommendations that include movement towards Zero Net Energy (ZNE) residential development, building electrification, and maximizing energy efficiency. The 2022 Scoping Plan sets a goal for achieving carbon neutrality by 2045 through measures such as reducing the State's GHG emissions and transitioning away from use of fossil fuels. Appendix D to the Scoping Plan includes strategies for local agencies to employ in helping achieve the State's climate goals. Key strategies include facilitating all-electric new construction for residential and commercial uses and reducing vehicle miles traveled. The recommendations in these plans have influenced the California Code of Regulations Title 24, Part 6 (Building Energy Efficiency Standards) and the California Green Building Standards Code Title 24, Part 11 (CALGreen) standards, as well as local planning efforts, all relevant to development of the proposed project.

The proposed project would be largely consistent with the goals, strategies, recommendations, and standards described above. Under CEQA, the proposed project's energy consumption would be required to comply with the California Code of Regulations Title 24, Part 6 and the CalGreen standards as they are both mandatory State requirements for new construction and development. The proposed residential development would be fully electric with no installation of natural gas lines and each dwelling unit would be equipped for electric vehicle charging. The buildings included in the proposed residential development would be solar ready. Similarly, the new church, rectory, and parish hall would be designed to be compliant with applicable State and regional plans, reducing reliance on fossil fuels. Exterior lighting throughout the project site would utilize LEDs, substantially reducing energy consumption. However, the project has potential to result in significant VMT impacts (see Section 4.17, Transportation). This would potentially conflict with the VMT reduction strategies in the 2022 Scoping Plan. Accordingly, this topic will be further evaluated in the EIR. The EIR will recommend appropriate mitigation measures, if necessary.

4.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☒	☐	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☒	☐	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☒	☐	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

4.7.1 Impact Analysis

a. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Alquist-Priolo Act) establishes regulatory zones surrounding surface traces of active faults within California in order to reduce losses from surface fault rupture. Alquist-Priolo earthquake fault zones are periodically mapped by the California Geological Survey, a division of the California Department of Conservation (DOC), in compliance with the Alquist-Priolo Act.

According to the California Department of Conservation, the project site is not located within a currently mapped Alquist-Priolo Earthquake Fault Zone, and no active faults have been mapped in proximity to the project site. The nearest active Alquist-Priolo mapped fault is the North Branch

Fault in the Newport-Inglewood-Rose Canyon Fault Zone, approximately 11 miles west of the project site.¹ Therefore, the potential for surface fault rupture within or in the vicinity of the project site is considered low, and the proposed project would not directly or indirectly cause potential substantial adverse effects related to surface rupture of a known earthquake fault. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

ii. Strong seismic ground shaking?

Potentially Significant Impact. Ground shaking due to seismic events (earthquakes) would typically be considered the greatest source of potential damage to structures. Seismic shaking is characterized by the physical movement of the land surface during and subsequent to an earthquake. Seismic shaking has the potential to cause destruction and damage to buildings and property, including damage resulting from damaged or destroyed gas or electrical utility lines; blockage of surface seepage and groundwater flow; changes in groundwater flow; dislocation of street alignments; displacement of drainage channels and drains; and possible loss of life.

While the project site is not located within an Alquist-Priolo Earthquake Fault Zone (see Response to 4.7.1 a-i), it is located within Southern California, which is a seismically active region containing various active and inactive faults. According to the United States Geological Survey (USGS) Quaternary Faults, the closest active fault to the project site is the San Joaquin Hills Thrust fault, located approximately 2.3 miles southeast of the project site, followed by the Newport-Inglewood Rose Canyon fault, located approximately 7.5 miles to the southwest. While the proposed project could be affected by strong seismic ground shaking originating from a nearby fault, the intensity of ground shaking would depend upon several factors, including but not limited to, distance from the fault, earthquake magnitude, and site characteristics. Because the potential effects of strong seismic shaking on all project components is unknown at this time, impacts would be potentially significant and will be evaluated in the EIR.

The proposed project would be developed in compliance with the California Building Code (CBC), and would be required to meet the CBC's seismic design provisions (primarily found in Chapters 16, Structural Design, and 16A, Structural Design), requiring use of construction techniques to ensure that all new buildings are designed to withstand strong seismic ground shaking. However, while a Preliminary Geotechnical Report was prepared for the proposed project, this report did not account for the proposed underground parking garage or basement level of the proposed church. Accordingly, a Geotechnical Report evaluating the entire proposed project will be prepared that will include applicable design and construction recommendations that would be implemented to address potential geologic hazards, including strong seismic ground shaking. These design and construction recommendations will be discussed in the EIR along with appropriate mitigation measures, if necessary.

¹ California Department of Conservation, California Geographic Survey, Earthquake Zones of Regular Investigation <https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/#data_s=id%3Adata_Source_4-191d8e93088-layer-27%3A28682> (accessed December 17, 2025).

iii. Seismic-related ground failure, including liquefaction?

Potentially Significant Impact. Liquefaction is caused by sudden temporary increases in pore water pressure due to seismic densification or other displacement of submerged granular soils. Layers of loose sand and sandy silt may be subject to liquefaction if these materials are or were to become submerged and are also exposed to strong seismic ground shaking. Seismic ground shaking of relatively loose granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. This loss of support can produce local ground failure such as settlement or lateral spreading that may damage overlying improvements. Liquefaction commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesion-lacking, primarily sandy soil; and (3) earthquake-generated seismic waves.

Per the California Geological Survey Seismic Hazards Program, an area identified as a liquefaction zone is located approximately 0.3-mile to the west of the project site.¹ However, the project site has not been identified as being susceptible to liquefaction. Regardless, an updated Geotechnical Report accounting for the proposed two story underground parking garage and columbarium is being prepared and will evaluate these additional features for susceptibility to seismic-related ground failure, including liquefaction. The updated Geotechnical Report will include design and construction recommendations to address potential geologic hazards that may result in potentially significant impacts to the proposed project. Therefore, this topic will be analyzed in the EIR. Design and construction recommendations will be discussed in the EIR along with appropriate measures to mitigate significant impacts, if necessary.

iv. Landslides?

Less Than Significant Impact. The project site is generally flat and not located on or adjacent to any steep slopes. According to Figure 4.5-2 (Deep-Seated Landslide Susceptibility) in the City's General Plan Final Environmental Impact Report, the project site is not located within an area identified as a Landslide Hazard Area.² In addition, the California Geological Survey (CGS) has not mapped the project site as being located within a landslide hazard zone. No known landslides have occurred within the project site or its vicinity. Accordingly, the proposed project would not directly or indirectly cause potential substantial adverse effects related to landslides. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

¹ California Department of Conservation, California Geological Survey, Seismic Hazards Program: Liquefaction Zones < <https://maps-cnra-cadoc.opendata.arcgis.com/datasets/cadoc::cgs-seismic-hazards-program-liquefaction-zones/explore?location=33.692576%2C-117.792971%2C14>> (accessed April 1, 2026).

² California Department of Conservation, California Geological Survey, Earthquake Zones of Regular Investigation <https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/#data_s=id%3AdataSource_4-191d8e93088-layer-27%3A28682> (accessed December 17, 2025).

b. Would the project result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact. The primary concern in regard to soil erosion or loss of topsoil would be during the construction phase of the proposed project. The proposed project would include a substantial amount of excavation to accommodate the proposed underground parking garage and the basement level of the proposed church. These areas, along with grading and earthwork activities across the rest of the project site could temporarily expose soils to potential short-term erosion by wind and water. However, because construction of the proposed project would disturb greater than one acre of soil, the construction contractor would be required to adhere to the requirements of Construction General Permit (CGP). This would include preparation of a Stormwater Pollution Prevention Plan (SWPPP) and implementation of construction Best Management Practices (BMPs) during construction activities. Construction BMPs would include erosion and sediment control BMPs designed to minimize soil erosion and retain sediment on the project site.

Once operational, the proposed project would increase the proportion of impervious surface area within the project site. The proposed project would potentially result in increased peak flow runoff and volumes as compared to existing conditions. Accordingly, proposed project impacts associated with substantial soil erosion or loss of topsoil would be potentially significant, and this topic will be evaluated in the EIR. The EIR will recommend appropriate mitigation measures, if necessary.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Potentially Significant Impact. The project site is relatively flat and there are no significant slopes or hills at or in the vicinity of the project site. However, the proposed project would include a substantial amount of excavation to accommodate the proposed underground parking garage and the basement level of the proposed church. This activity may make the site susceptible to lateral spreading, subsidence, liquefaction or collapse. Furthermore, the Geotechnical Report for the church portion of the project site states that some of the site soils are susceptible to hydro-collapse and require further analysis. Therefore, impacts associated with being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project would be potentially significant and will be further evaluated in the EIR. As previously discussed, a Geotechnical Report evaluating the proposed project will be prepared and will include applicable design and construction recommendations that would be implemented to address potential geologic hazards, including being located on a geologic unit or unstable, resulting in potentially significant impacts. Design and construction recommendations would be required to comply with the California Building Code. These design and construction recommendations will be discussed in the EIR along with appropriate measures to mitigate significant impacts, if necessary.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Potentially Significant Impact. Expansive soils are characterized by their ability to undergo substantial volume changes (shrink or swell) due to variations in moisture content as a result of precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or

other factors. Expansive soils contain types of clay minerals that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out.

While a Preliminary Geotechnical Report was prepared for the proposed project, this report did not account for the proposed underground parking garage or basement level of the proposed church. The results of testing conducted for the Preliminary Geotechnical Report did indicate that the soil has a “high to very high” potential for expansion. As previously discussed, a final Geotechnical Report evaluating the full proposed project will be prepared and will include applicable design and construction recommendations that would be implemented to address potential geologic hazards, including expansive soils, resulting in potentially significant impacts. Therefore, impacts associated with being located on expansive soil that would occur as a result of the proposed project that would be potentially significant and will be further evaluated in the EIR. These design and construction recommendations will be discussed in the EIR along with appropriate measures to mitigate significant impacts, if necessary.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed project would not use septic tanks or alternative methods for disposal of wastewater into subsurface soils. The entirety of the City, as well as the project site, are currently served by an existing sewer system; accordingly, there is no need for septic tanks or other alternative wastewater systems. The proposed project would include one or more new sewer laterals to be extended as needed from the existing mainline sewer system, as described in Section 1.4.5. Therefore, the proposed project would not result in any impacts related to septic tanks or alternative wastewater disposal methods. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. According to the Paleontological Resources Memorandum, the project site is located within the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast trending structural block with similarly trending faults. This block contains extensive pre-Cenozoic (more than 66 million years ago [Ma]) igneous and metamorphic rocks covered by Cenozoic (less than 66 Ma) sedimentary deposits.

Specifically, the project site is underlain by late Pleistocene to Holocene Young Alluvial Fan Deposits, formed roughly 129,000 years ago to 11,700 years ago. Young Alluvial Fan Deposits are considered to have low paleontological sensitivity from the surface to a depth of 10 feet and high paleontological sensitivity below that mark due to the presence of older material. Below depths of 10 feet, there is potential for the discovery of large and small mammal, reptile, fish, invertebrate, and plant fossils.

Artificial Fill is likely present on the project site due to the previous construction of the existing site conditions and adjacent roads in addition to the Young Alluvial Fan Deposits. Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition depends on the source and purpose. Artificial Fill can sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material. Although Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study, and Artificial Fill is considered to have no paleontological sensitivity.

According to the fossil locality search through the Natural History Museum of Los Angeles County (NHMLA), there are no known fossil localities within the project site. However, the search did identify two fossil localities in the general vicinity of the project site, with sediments similar in nature to those found underlying the project site. Based on this information, in conjunction with the high paleontological sensitivity of Young Alluvial Fan Deposits below 10 feet, there is the potential for paleontological resources to exist within the project site.

Excavation activities associated with the proposed project would reach a maximum depth of 25 feet, which would be associated with the underground parking garage for the proposed church development. Excavation activities under the proposed project have potential to reach depths of Young Alluvial Fan Deposits that would be considered paleontologically sensitive (10 feet or deeper). The proposed project may have a potentially significant impact related to undiscovered paleontological resources and will be evaluated in the EIR.

4.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

4.8.1 Impact Analysis

- Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Potentially Significant Impact. While the City of Irvine has prepared a Climate Action and Adaptation Plan (CAAP), the plan has yet to be formally adopted. Once adopted, the CAAP would serve as a roadmap for the City to reduce GHG emissions and adapt to climate change through local measures to reduce community-wide GHG emissions. The CAAP was prepared to be in alignment with the California Air Resources Board (CARB) 2022 Scoping Plan, including achieving carbon neutrality by 2045. Similarly, the 2022 Scoping Plan aims to reduce GHG emissions to 40 percent below 1990 levels by 2030 and achieving carbon neutrality no later than 2045. The South Coast Air Quality Management District (SCAQMD) has developed quantitative GHG significance thresholds intended to evaluate whether individual projects are consistent with these statewide reduction goals. SCAQMD's thresholds are designed to reflect the emissions reductions necessary to meet State and regional climate targets. Project construction and operations would produce greenhouse gas (GHG) emissions through the consumption of fuel and energy. Global climate change resulting from the increase of GHGs in the atmosphere is cumulative in nature as individual projects typically do not generate enough GHG emissions to substantially influence global climate change on their own. However, the proposed project could generate GHG emissions that could conflict with the applicable SCAQMD emissions thresholds as well as other plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, impacts associated with GHG emissions would be potentially significant and will be evaluated in the EIR.

4.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

4.9.1 Impact Analysis

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact. State regulations define a “hazardous material” as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (22 CCR Section 66261.10). Hazardous materials have the potential to impact public health and the environment, and risk is determined by the probability of exposure and to the inherent toxicity of a material.

Construction. Construction activities associated with the proposed project would use a limited amount of hazardous and flammable substances (e.g., oils, fuels) during heavy equipment operation for site excavation, grading, and construction. The amount of hazardous chemicals present during construction would be limited and would be used and stored in compliance with existing regulations (22 CCR Section 66265.173). The potential for the release of hazardous materials during project

construction is low, and even if a release were to occur, it would not result in a significant hazard to the public, surrounding land uses, or the environment due to the small quantities of these materials associated with construction vehicles.

Operation. The proposed project includes the development of a new church building, a rectory, a parish hall, and new residential dwelling units. In addition, paved parking lots and landscaped areas would be included in the proposed project. Day-to-day operation of the project would involve the use of potentially hazardous materials (e.g., solvents, cleaning agents, fertilizers, and pesticides) typical of institutional and residential land uses. When used correctly according to manufacturer recommendations and stored in compliance with existing laws and regulations (22 CCR Section 66265.173), these substances would not result in a significant hazard to people in the vicinity of the proposed project. The proposed project would not involve any large-scale manufacturing, industrial, or other uses utilizing large amounts of hazardous materials within the project site. Hazardous substances associated with institutional and residential land uses are typically limited in both amount and use such that they can be contained without impacting the environment. Accordingly, operation of the proposed project is not anticipated to use, store, dispose, or transport large volumes of hazardous materials. Therefore, potential impacts from the routine transport, use, or disposal of hazardous materials resulting from operation of the proposed project would be less than significant, no mitigation is required, and this topic will not be further analyzed in the EIR.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. There are two primary ways that the public and/or the environment could be affected by the release of hazardous materials from the project site, including: (1) exposing workers and/or the public to potentially contaminated soil and groundwater during construction and/or operation of the project; or (2) exposing workers and/or the public to hazardous building materials (e.g., lead paint, asbestos) during demolition of existing structures.

As described above, construction and operation activities would require hazardous materials to be used at the project site. Improper use, storage, or handling could result in the release of hazardous materials into the environment which could pose a risk to construction workers and the public. However, the proposed project would be required to comply with existing government regulations in the use and disposal of these materials, and such materials would not be used in sufficient strength or quantity to create a substantial risk to human or environmental health. Furthermore, the proposed project would be required to implement a construction management plan that would identify applicable best management practices to avoid contamination of any hazardous materials within the project site and would be subject to review by the City staff. As stated above, operation of the project is not anticipated to use, store, or dispose large volumes of hazardous materials that could create a significant hazard to the public. Therefore, the proposed project would not create a significant hazard through the release of hazardous materials into the environment. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. Northwood Elementary School is the nearest school to the project site, located approximately 0.3 mile to the north. The proposed project is not anticipated to include handling of acutely hazardous materials, substances, or waste in significant quantities. Construction activities associated with the proposed project would use a limited amount of hazardous and flammable substances during heavy equipment operation for site excavation, grading, and construction. The amount of hazardous chemicals present during construction would be limited and their use would be in compliance with existing government regulations. Therefore, construction of the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

During operation of the proposed project, church events and activities in the residential development would not require the use, storage, disposal, or transport of large volumes of hazardous materials that could cause serious environmental damage in the event of an accident. Therefore, impacts related to hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school would be less than significant. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. Government Code Section 65962.5 states that the California Department of Toxic Substances Control (DTSC) shall compile and maintain annually a list (Cortese List) of hazardous waste facilities subject to corrective action. Cortese List data resources include the DTSC EnviroStor database, the State Water Resources Control Board (SWRCB) GeoTracker database, and other resources identified by the California Environmental Protection Agency (CalEPA).¹

A Phase I Environmental Site Assessment & Phase II Site Investigation (Environmental Site Assessment/Investigation) for the project site was prepared by Enercon in June 2024 (see **Appendix D**). Preparation of the Environmental Site Assessment/Investigation included review of the DTSC Envirostor database and the SWRCB GeoTracker Database.

The DTSC Envirostor database identified four facilities within a one mile radius of the project site. Three of these sites, described as schools, have a facility status of no further action. The fourth case, a dry cleaner (Trabuco Cleaners) is located at 13925 Yale Avenue, approximately 1,800 feet northwest of the project site at a downgradient. This site is currently undergoing evaluation; based on the distance, location, depth to groundwater, and regulatory status, this facility was not determined to be an environmental concern.

¹ California Environmental Protection Agency (CalEPA). 2024. Cortese List Data Resources. <<https://calepa.ca.gov/sitecleanup/corteselist/>> (accessed November 15, 2025).

The SWRCB GeoTracker Database identified no existing cases at the project site. One open case was identified approximately 0.4-mile southeast of the project site at 14503 Trabuco Road, near the intersection of Jeffrey Road and Trabuco Road. The record is listed under Treasure Farm Windmachine 227 (T0605901751) and identifies gasoline leakage from a Leaking Underground Storage Tank (LUST). This case has been designated as “Open – Site Assessment” since 1991, indicating there have been site assessment activities to investigate potential impacts related to the gasoline leakage as a result of a previous tank closure. The case was opened as a result of the gasoline leakage contaminating an aquifer used for drinking water supply under the jurisdiction of Orange County Health Care Agency. In 2015, this case was transferred over to the Santa Ana Regional Water Quality Control Board (SARWQCB). In 2016, the SARWQCB contacted Orange County to obtain information on the responsible party for the LUST and to identify the site as a recalcitrant site. A recalcitrant site is a site where the responsible party is unwilling or able to perform the required environmental investigation and clean up actions. In 2018, the SARWQCB stated that there is no information available on file related to this case and the responsible party cannot be reached. Regardless, the SARWQCB oversight work is ongoing and given the distance between the project site and the LUST, the results pertaining to this LUST case would not present a potential hazard to the proposed project.

The project site is not identified on the Cortese List and it would not create a significant hazard to the public or the environment. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The project site is not within an airport land use plan, nor within two miles of a public of public use airport. The closest airport to the project site is John Wayne Airport, which is approximately 5.5 miles southwest of the project site. The project site is located outside the Notification Area for John Wayne Airport as delineated in the Airport Environs Land Use Plan (AELUP). No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The City of Irvine works in coordination with the Office of Emergency Management for evacuation responsibilities and maintains the City’s emergency evacuation plan which is updated on an on-going basis. The City’s General Plan Safety Element, adopted in 2024, incorporates an Emergency Evacuation Route Analysis which addresses a range of hazards that could impact the community, including natural and human-made disasters.¹ The City has prepared an Evacuation Zones Mapping tool, which identifies that the project site is located within the

¹ City of Irvine. 2024. General Plan Safety Element, Emergency Evacuation Route Analysis. <<https://cityofirvine.org/community-development/current-general-plan>> (accessed October 16, 2025).

Northwood Planning Area. The nearest evacuation routes to the project site are located on Trabuco Road, Remington, and Roosevelt.¹

Proposed project construction staging would be contained on the project site and project construction would have a minimal impact on surrounding roadways. During construction, temporary delays, road closures, or road obstructions may occur subject to a construction traffic management plan. The construction traffic management plan would implement traffic control features (signage, construction fencing, flagmen) to maintain access near and on-site to minimize potential impacts to the existing circulation system. Instances of temporary delay, road closures, or road obstructions may create potential minor delays in emergency situations. Construction debris, including material excavated for construction of the Church basement and two-story underground parking garage, would be hauled off-site, using major roads to arrive at the Orange County Waste and Recycling (OCWR) Frank R. Bowerman Landfill, which is an approved construction and demolition waste diversion facility. The project site's close proximity to Jeffrey Road would allow any debris haul trips to directly access the landfill, which is approximately two miles northeast of the project site, with minimal use of local streets. Therefore, the proposed project would therefore not create any significant impacts on any emergency plans in the local or regional area. Therefore, any impacts would be less than significant, and no mitigation is required. This topic will not be analyzed in the EIR.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. The project site is in an urbanized and developed area within the City and is not located near any wildlands or urbanized areas adjacent to wildlands. According to the California Department of Fire and Forestry Protection (CAL FIRE) Fire Hazard Severity Zone (FHSZ) mapping tool, the project site is within a Local Responsibility Area that has no FHSZ. The nearest FHSZ is approximately 1.75 miles northeast of the project site.² Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

¹ City of Irvine. Evacuation Zones Mapping Tool. <<https://cityofirvine.maps.arcgis.com/apps/webappviewer/index.html?id=c452152c1a5a46129dde513d8652e81e>> (accessed October 16, 2025).

² California Department of Forestry and Fire Protection (CAL FIRE). n.d. Fire Hazard Severity Zones. <<https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>> (accessed October 16, 2025).

4.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☒	☐	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

4.10.1 Impact Analysis

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Less than Significant Impact. In California, the quality of surface and groundwater bodies are regulated by the State Water Resources Control Board (SWRCB) and managed by nine Regional Water Quality Control Boards (RWQCBs). The City of Irvine falls within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB has established the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), last updated in April 2025, which contains the water quality standards applicable to surface and groundwaters within the Santa Ana Region, including the City of Irvine.

Section 303(d) of the federal Clean Water Act (CWA) requires that states identify waters that do not meet or are not expected to meet federal water quality standards. Waters identified by the states as not meeting standards are added to the Section 303(d) impaired waters list and the states are required to determine a Total Maximum Daily Load (TMDL) for each pollutant causing the impairment. TMDLs describe how much of a pollutant a water body can receive while still meeting established water quality standards. Each TMDL accounts for all sources of pollutants, including

runoff from homes and streets or highways, contaminated soils, legacy contaminants such as Dichlorodiphenyltrichloroethane (DDT), septic systems, and atmospheric deposition.

Under existing conditions, the project site is currently partially developed with the temporary church building and adjacent parking lot. Most of the project site is vacant. An existing channelized drainage, the Central Irvine Channel, runs down the middle of Trabuco Road, approximately 300 feet north of the project site. Under existing conditions, stormwater runoff on the project site drains from east to west with an average gradient of two percent. Flows are currently collected by a series of onsite inlets and conveyed to an existing catch basin located in the parking lot at the southeast corner of Remington and Roosevelt via an existing pipeline. A second catch basin is located further southeast in the parking lot, opposite Roosevelt. Stormwater is then discharged from the catch basins to an existing storm drain that runs northwest along the length of Roosevelt before connecting to a conduit that runs alongside I-5. Stormwater is then discharged into the Central Irvine Channel, approximately one mile northwest of the project site. Once in the Central Irvine Channel, stormwater flows northwest before entering Peters Canyon Channel, a tributary of San Diego Creek, which drains to Newport Bay. Newport Bay ultimately drains to the Pacific Ocean at Newport Beach through Newport Harbor.

The existing storm drain along Roosevelt is reinforced concrete pipe (RCP) ranging in size from 24- to 48-inch and the catch basin and the receiving storm drain were designed to accommodate a 25-year storm event.

The Basin Plan identifies nonpoint source problems that fall within four major categories: 1) siltation; 2) bacterial contamination; 3) eutrophication, and 4) toxic substances contamination.¹ In addition, according to the most recent United States Environmental Protection Agency (USEPA) approved 303(d) list (2024)², San Diego Creek (Reach 1) is listed as impaired for pathogens (indicator bacteria), pesticides (dichlorodiphenyltrichloroethane [DDT]) bifenthrin, malathion, pyrethroids, and toxaphene), nutrients (nitrogen), metals (selenium), sediment, toxicity, and benthic community effects; Upper Newport Bay is listed as impaired for pathogens (indicator bacteria), pesticides (chlordane and DDT) metals (copper), toxic organics (polychlorinated biphenyls [PCBs]), nutrients, sediment, and toxicity; and Lower Newport Bay is listed as impaired for pathogens (indicator bacteria), pesticides (chlordane, DDT, and dieldrin) metals (copper), toxic organics (PCBs), nutrients, and toxicity. TMDLs have been established for these receiving waters within the Newport Bay watershed, including for sedimentation, eutrophication (nutrients), bacterial contamination (fecal coliform), and toxic substance contamination including selenium, heavy metals (cadmium, copper, lead, and zinc), organochlorine pesticides (chlordane, dieldrin, DDT, and toxaphene), PCBs, and organophosphate pesticides (diazinon and chlorpyrifos). These TMDLs would be applicable to the proposed project.

¹ Santa Ana Regional Water Quality Control Board (RWQCB). Water Quality Control Plan for the Santa Ana River Basin <https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/> (accessed December 8, 2025).

² State Water Resources Control Board. California 2024 Integrated Report (303(d) List/305(b) Report), https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2024-integrated-report.html.

Runoff water quality is regulated by the Nation Pollution Discharge Elimination System (NPDES) Program (established through the federal Clean Water Act). The NPDES Program objective is to control and reduce pollutant discharges to surface water bodies. Compliance with NPDES permits is mandated by State and federal statutes and regulations. Locally, the NPDES Program is administered by the Santa Ana RWQCB.

Construction activities are subject to the SWRCB's *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002* (Construction General Permit).¹ Any construction activity, including grading, that would result in the disturbance of 1 acre or more would require compliance with SWRCB's Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Construction Best Management Practices (BMPs) during construction activities. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site, and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

The City is a co-permittee under the Santa Ana RWQCB's *Waste Discharge Requirements for The County of Orange, Orange County Flood Control District and The Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff, Orange County, Order No. R8-2009-0030, NPDES No. CAS618030, As amended by Order No. R8-2010-0062* (Orange County MS4 Permit). The Orange County MS4 Permit requires the preparation of project-specific Water Quality Management Plans (WQMPs) for priority projects. The Final WQMP would specify the site design, source control, low impact development (LID), and treatment control BMPs that would be implemented to capture, treat, and reduce pollutants of concern in storm water runoff. Site Design BMPs are storm water management strategies that emphasize conservation and use of existing site features to reduce the amount of runoff and pollutant loading generated from a site. Source Control BMPs are preventative measures that are implemented to prevent the introduction of pollutants into storm water. LID BMPs mimic a project site's natural hydrology by using design measures that capture, filter, store, evaporate, detain, and infiltrate runoff rather than allowing runoff to flow directly to piped or impervious storm drains. Treatment Control BMPs are structural BMPs designed to treat and reduce pollutants in storm water runoff prior to releasing it to receiving waters.

Construction. Construction activities would entail ground disturbance, including a substantial amount of excavation to accommodate the two-story underground parking garage and basement level of the church building. This would result in generation of sediment. Other pollutants of concern potentially generated by project construction could include metals, oil and grease, trash/debris, pesticides/herbicides, organic compounds, pathogens and nutrients (phosphorous and nitrogen). These pollutants, either alone or in combination, can detrimentally affect water quality. Pollutants that leave the project site have the potential to be transported via storm water runoff into receiving waters (i.e., Central Irvine Channel, San Diego Creek, Newport Bay, and the Pacific Ocean).

¹ SWRCB. 2022a. National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002. September 8. Effective September 1, 2023.

Because construction of the proposed project would disturb more than one acre, the proposed project would be subject to the Construction General Permit. The proposed project would also be required to comply with Chapter 3, Stormwater/Urban Runoff, which requires compliance with applicable NPDES permits and requirements. As required by the Construction General Permit and the City's Municipal Code, the construction contractor would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would include, but not be limited to, erosion and sediment control (designed to minimize erosion and retain sediment on site), and good housekeeping practices to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

The project site is located within the Coastal Plain of Orange County Groundwater Basin (CPOC Basin) (Basin No. 8-001), which the California Department of Water Resources (DWR) has designated as a medium-priority groundwater basin under the Sustainable Groundwater Management Act (SGMA). Groundwater resources within the basin are managed by the Orange County Water District (OCWD) in coordination with local agencies, including the Irvine Ranch Water District. OCWD implements the Basin 8-1 Alternative Groundwater Sustainability Plan and associated Groundwater Management Plan, which include programs for groundwater monitoring, recharge, water quality protection, and sustainable yield management. Existing groundwater quality within the basin is generally considered suitable for municipal and potable use and is subject to extensive monitoring and management to protect beneficial uses and prevent degradation. The proposed project is not anticipated to disrupt the implementation of applicable groundwater management programs or substantially degrade groundwater quality.

Borings were undertaken as part of the geotechnical subsurface investigation prepared for the project site (further discussed in Section 4.7, Geology and Soils). The geotechnical investigation documented that groundwater was not encountered to the maximum explored depth of 54 feet below existing grade. Historic high groundwater is estimated to be greater than 40 feet below existing ground surface. Excavation at the project site during construction of the proposed project is anticipated to extend to a maximum depth of 25 feet for construction of the parking garage. Therefore, due to the depth of groundwater at the project site, it is unlikely that excavation activities would have the potential to encounter groundwater and groundwater dewatering is not anticipated to be required during construction activities.

Overall, with adherence to the requirements of the Construction General Permit and Section 6-8-303 of the City's Municipal Code, including preparation of a SWPPP and implementation of Construction BMPs, impacts associated with the violation of water quality standards or waste discharge requirements during project construction would be less than significant, and no mitigation is required.

Operation. Implementation of the proposed project would result in a substantial increase in the amount of impervious surface area at the project site. The new residential uses could lead to the introduction of new pollutants of concern at the project site, and the proposed project's increase in impervious surface area on the project site could more effectively transport pollutants of concern to the stormwater system.

As previously discussed, the City is a co-permittee under the Santa Ana RWQCB's Orange County MS4 Permit, which requires the preparation of project-specific WQMPs for priority projects. The proposed project is considered a priority project because it involves the development of more than 10,000 square feet of impervious surface that would be exposed to stormwater runoff. In addition, the proposed project would also be required to comply with Chapter 3, Stormwater/Urban Runoff, which requires compliance with applicable NPDES permits and requirements, including preparation of a project-specific WQMP. Therefore, the Applicant would be required to prepare a Final WQMP. The Final WQMP would specify the Site Design, Source Control, LID, and Treatment Control BMPs that would be implemented to capture, treat, and reduce pollutants of concern in storm water runoff.

Preliminary WQMPs have been prepared for the church and residential portions proposed project that detail the operational BMPs that would be implemented to reduce acts to water quality from operation of the proposed project, including site design, non-Structural and Structural Source Control, and LID BMPs. Site Design BMPs would include minimizing impervious surface areas, maximizing natural infiltration capacity, preserving existing on-site drainage patterns, and re-vegetating disturbed areas; Non-Structural Source Control BMPs would include education of property owners regarding potential impacts to downstream water quality, landscape management BMPs, catch basin inspection program, and compliance with all applicable NPDES permits; Structural Source Control BMPs would include storm drain stenciling and signage, trash and waste storage areas that are designed and constructed to reduce pollution introduction, and efficient irrigation systems and landscape design; and LID BMPs would include catch basins and inlets with filters and modular wetland systems (i.e., biotreatment) to treat stormwater before discharging to the City's storm drain infrastructure located in the surrounding area.

Preliminary WQMPs have been prepared for the church and residential portions of the proposed project (see **Appendix E**), that detail the operational BMPs that would be implemented to reduce acts to water quality from operation of the proposed project, including hydrologic source control BMPs, non-structural and structural source control BMPs, and LID BMPs. Hydrologic source control BMPs would include planting of trees within the parking lot and central plaza area, and a reduction in impervious area through landscaping and incorporation of as much pervious area as possible. In addition, the proposed project would include hydromodification control BMPs, including oversized storm drain pipes, to mitigate the peak flow differential between existing conditions and the proposed project. The additional pipe volume will serve as a detention system and an orifice/weir structure will be installed to outlet pipes at a similar rate as existing conditions. Non-structural source control BMPs would include education for property owners, tenants, and occupants on ways to prevent polluting storm water; activity restrictions, common area landscape management, BMP maintenance, Title 22 CCR compliance, common area litter control, employee training, common area catch basin inspection, and street sweeping for residential alleys and parking lots. Structural BMPs would include storm drain stenciling and signage, design and construction of trash and waste storage areas to reduce the introduction of pollution, use of efficient irrigation systems and landscape design, water conservation, smart controllers, and source control. The LID BMP would include catch basins and inlets with filters and the development of a proprietary vegetated biotreatment systems (i.e., modular wetland systems) that would treat stormwater runoff from the

entire project site before discharging to the City's storm drain infrastructure located in the surrounding area consistent with the requirements of the Orange County MS4 Permit.

Infiltration of stormwater could also have the potential to affect groundwater quality. However, as discussed above, the proposed project includes operational BMPs, including catch basins and inlets with filters and the development of a proprietary vegetated biotreatment systems (i.e., modular wetland systems) to capture trash and debris and reduce pollutants of concern in stormwater runoff from the project site. In addition, when storm water is infiltrated, soil and plants absorb and filter pollutants and reduce the potential for pollutants of concern to reach groundwater. As discussed above, groundwater was not encountered to the maximum depth explored of 51.5 feet below the existing grade. Therefore, due to the depth to groundwater, it is not expected that any stormwater that may infiltrate at the project site would affect groundwater quality because the groundwater table is deep, and pollutants would be filtered prior to reaching groundwater. Further, infiltration of stormwater at the project site would be minimal, as the geotechnical subsurface investigation for the project site determined that groundwater infiltration on the project site is extremely low, demonstrating infiltration rates of 0.01 and 0.02 inches per hour.

Overall, with adherence to the requirements of the Orange County MS4 Permit and City's Municipal Code, including preparation of a Final WQMP to address pollutants of concern in storm water runoff, potential impacts associated with the violation of water quality standards or waste discharge requirements during operation of the proposed project would be less than significant, and no mitigation is required.

As discussed above, because the proposed project would be required to adhere to the Construction General Permit, Orange County MS4 Permit, and the City's Municipal Code, including preparation of a SWPPP and Final WQMP and implementation of construction and operational BMPs, the proposed project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality, during construction or operation. Impacts would be less than significant and this topic will not be analyzed in the EIR.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Potentially Significant Impact. According to the Department of Water Resources, the project site is located within the boundaries of the Coastal Plain of Orange County Groundwater Basin (CPOC Basin). The surface area of the CPOC Basin is approximately 224,000 acres or 350 square miles. The CPOC Basin underlies the lower Santa Ana River watershed and is bounded to the north by formations in the Puente and Chino Hills, to the east by the Santa Ana Mountains, to the south in the San Joaquin Hills, to the southwest by the Pacific Ocean, and to the northwest by a low topographic divide that roughly parallels the Orange County - Los Angeles County line. Groundwater in the CPOC Basin is recharged by way of the Santa Ana River system, precipitation, and injection into wells.

Construction. The proposed project would include a substantial amount of excavation associated with the development of the two-story underground parking garage and the church basement.

Excavation at the project site during construction of the proposed project is anticipated to extend to a maximum depth of 25 feet below ground surface. Borings taken as part of the preliminary geotechnical evaluation for the residential portion of the project site extended to a depth of approximately 51.5 feet below ground surface, and no groundwater was encountered. In addition, as provided above, historic high groundwater is estimated to be greater than 40 feet below existing ground surface. Groundwater levels may fluctuate based on several variables, including seasonal rainfall and groundwater pumping; however, due to the depth of groundwater at the project site at the anticipated maximum depth of excavation, it is unlikely that excavation activities would have the potential to encounter groundwater and groundwater dewatering is not anticipated to be required during construction activities. Therefore, construction of the proposed project would not directly decrease groundwater supplies through groundwater dewatering.

In addition, as provided in the geotechnical investigation and previously discussed, groundwater infiltration on the project site is extremely low. The project site does not provide significant groundwater recharge and construction of the proposed project at the project site would therefore not interfere substantially with groundwater recharge. Accordingly, construction impacts associated with a decrease in groundwater supplies or interference with groundwater recharge in a manner that may impede sustainable groundwater management would be less than significant, and no mitigation is required.

Operation. Currently, the project site is developed with the temporary church building and the adjacent parking lot. The majority of the project site is undeveloped and consists of pervious surfaces. The proposed project would substantially increase the area of impervious surface on the project site compared to existing conditions, which would decrease the potential for on-site infiltration. However, as discussed above, field testing completed as part of the geotechnical investigation determined that groundwater infiltration on the project site is extremely low, demonstrating an infiltration rate of 0.01 to 0.02 inches per hour. Accordingly, the project site does not provide significant groundwater recharge due to the poor permeability of onsite soils. Therefore, operation of the proposed project would not interfere substantially with groundwater recharge at the project site compared to existing conditions.

As discussed in Section 4.19, Utilities and Service Systems, water service to the project site would be provided by the Irvine Ranch Water District (IRWD). IRWD sources its water from a variety of sources. Roughly 52 percent of IRWD's water supply is drawn from 27 groundwater wells in the Irvine and Lake Forest Subbasins of the CPOC Groundwater Basin. Approximately 18 percent of IRWD's water is imported from the State Water Project and Colorado River Project and sold to IRWD by the Municipal Water District of Orange County. The remaining water supply is secured through recycling and water banking. Water demand estimates for operation of the proposed project will be prepared and discussed in the EIR to determine if sufficient water supplies exist to serve the proposed project. Accordingly, operational impacts related to a decrease in groundwater supplies in a manner that may impede sustainable groundwater management during operation would be potentially significant and will be further evaluated in the EIR.

- c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- i. *Result in substantial erosion or siltation on- or off-site?*

Less Than Significant Impact. Under existing conditions, stormwater on the project site is collected by a series of onsite inlets and conveyed to an existing catch basin located in the parking lot at the southeast corner of Remington and Roosevelt via an existing pipeline. A second catch basin is located further southeast in the parking lot, opposite Roosevelt. Stormwater is then discharged from the catch basins to an existing storm drain that runs northwest along the length of Roosevelt before connecting to a conduit that runs alongside I-5.

Implementation of the proposed project would include the installation of new stormwater drainage infrastructure. Specifically, on the church side of the project site, the proposed project would develop a series of on-site inlets throughout the parking lot that will connect to an on-site private storm drain system. The plaza, adjacent to the church building, would have small area drain inlets that would also connect to the on-site drainage system. The storm drain pipe will flow from east to the west converging at a proprietary biofiltration unit (i.e., modular wetland system) near the driveway off Remington, before extending westward across the project site just outside of the existing public utility easement along Remington and connecting to the existing catch basin at the southeast corner of Roosevelt and Remington. Stormwater would be treated by the modular wetland system prior to discharging to the City's surrounding storm drain system via the existing catch basins, similar to existing conditions.

On the residential portion of the project site, on-site drainage will be picked up at the end of each alley with small catch basins/grate inlets entering a system of storm drains that would run down the alleyways and connect to each residential building. These storm drains would connect to a proposed storm drain that would run along the southwestern edge of the project site (nearest to Roosevelt) and connect to the existing catch basin at the southeast corner of Roosevelt and Remington. From the existing catch basin, stormwater flows will enter the existing storm drain in Roosevelt, similar to existing conditions.

Construction. During construction activities, soil would be disturbed and drainage patterns would be temporarily altered during grading, excavation, and other construction activities. Accordingly, there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. However, as discussed above, the Applicant would be required to obtain coverage under the Construction General Permit, which requires preparation of a SWPPP. The SWPPP would detail the erosion and sediment control BMPs to be implemented during construction to minimize erosion and retain sediment on site. Therefore, compliance with the requirements of the Construction General Permit and the City's Municipal Code, including preparation of a SWPPP and implementation of erosion and sediment control BMPs, construction impacts related to substantial soil erosion or the loss of topsoil would be less than significant, and no mitigation is required.

Operation. Implementation of the proposed project would result in an increase in impervious surface area at the project site due to the construction of new structures and hardscaping. An increase in impervious surface area increases the rate and volume of runoff during a storm, which can more effectively transport sediments to receiving waters. However, the impervious surface areas on the project site would not be prone to on-site erosion or siltation because there would be no exposed soil. The remaining pervious surfaces on the project site would be landscaped with vegetation that would stabilize the soil and promote infiltration, thereby minimizing on-site erosion and siltation.

Further, the proposed project would be required to comply with the requirements of the Orange County MS4 Permit and the City's Municipal Code, including the preparation of a Final WQMP and the implementation of operation BMPs that minimize stormwater runoff thereby minimizing on-site erosion and siltation. In addition, the proposed storm drain system designed for the proposed project would be designed to mitigate the peak flow differential between the proposed project and existing conditions by employing oversized drain pipelines that will include installation of an orifice/weir structure that will add additional pipe volume and serve as a detention system. Mitigation of the peak flow differential to at or below the existing condition would address potential hydromodification impacts, including erosion and sedimentation. Further, the preliminary WQMPs prepared for the church and residential portions of the proposed project identify BMPs that include regular inspection of the proprietary biotreatment system (i.e., modular wetland systems) to prevent accumulation of debris and sediment, and inspection of catch basin inlets, area drains, curb-and gutter systems, and other drainage systems at least once a year and after large storm events. If necessary, drains shall be cleaned prior to subsequent rain events.

Therefore, compliance with the Construction General Permit, Orange County MS4 Permit, and City's Municipal Code, including preparation of a SWPPP and Final WQMP and the implementation of BMPs during project construction and operation would ensure that impacts relating to substantial erosion or siltation on or offsite would be less than significant. No mitigation would be required and this topic will not be analyzed in the EIR.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iv. Impede or redirect flood flows?

Less than Significant Impact. There are no streams or rivers on or near the project site. The nearest body of water is the Central Irvine Channel, located in Trabuco Road. Therefore, the proposed project would have no effect on the course of the channel. In addition, according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 06059C0284J (effective December 3, 2009), the project site is within Zone X (areas determined to be outside the 0.2 percent annual chance floodplain).¹

¹ Federal Emergency Management Agency (FEMA). 2009. National Flood Hazard Layer FIRMette. December 3. <<https://www.fema.gov/flood-maps/national-flood-hazard-layer>> (accessed October 16, 2025).

As discussed above, project construction would comply with the requirements of the Construction General Permit and the City's Municipal Code, which require preparation of a SWPPP that would specify construction BMPs to control and direct on-site surface runoff to ensure that project construction does not increase the rate or amount of surface runoff or impede or redirect flood flows in manner that would result in on-site or off-site flooding. With implementation of a SWPPP and associated construction BMPs, construction impacts related to a substantial increase in the rate or amount of surface runoff or impeding or redirecting flood flows in a manner that would result in on-site or off-site flooding would be less than significant, and no mitigation is required.

As previously discussed, development of the proposed project would result in an increase in impervious surfaces on the project site, which would increase stormwater runoff and could potentially result in flooding. However, the proposed storm drain system, including the proposed LID BMPs (i.e., modular wetland systems), would capture and treat stormwater runoff consistent with the requirements of the Orange County MS4 Permit. In addition, the proposed storm drain system designed for the proposed project is designed to mitigate the peak flow differential between the proposed project and existing conditions by employing oversized drain pipelines that will include installation of an orifice/weir structure that will add additional pipe volume and serve as a detention system. The use of oversized drain pipes and an orifice/weir structure will help prevent contribution of stormwater runoff in a manner that would alter the project site's existing drainage pattern to the extent that flooding would occur. Compliance with the Orange County MS4 Permit would ensure that operational activities would not result in a substantial increase in the rate or amount of surface runoff or impede or redirect flood flows in a manner that would result in on- or off-site flooding, and impacts would be less than significant. No mitigation is required.

Overall, compliance with the Construction General Permit, Orange County MS4 Permit, and City's Municipal Code, including preparation of a SWPPP and Final WQMP and the implementation of BMPs during project construction and operation, would ensure that impacts related to substantially increasing the rate or amount of surface runoff in a manner that would result in on- or off-site flooding or impeding or redirecting flood flows would be less than significant. No mitigation would be required, and this topic will not be analyzed in the EIR.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. As discussed above, project construction would comply with the requirements of the Construction General Permit and the City's Municipal Code, which require preparation of a SWPPP that would specify Construction BMPs to control and direct on-site surface runoff to ensure that storm water runoff from the construction site does not exceed the capacity of the stormwater drainage system and does not discharge polluted runoff during construction activities. With adherence to the Construction General Permit, including preparation of a SWPPP and the implementation of construction BMPs, construction impacts related to exceeding the capacity of the storm water drainage system or additional polluted runoff would be less than significant, and no mitigation is required.

In addition, as previously discussed, although the proposed project would increase the impervious surface area compared to existing conditions, which would increase stormwater runoff collected on

the project site and discharged off-site into the existing storm drainage system and receiving waters, the proposed project would capture and treat 100 percent of the stormwater runoff from the project site, in accordance with the Orange County MS4 Permit and the City's Municipal Code. The proposed storm drain system designed for the proposed project is designed to mitigate the peak flow differential between the proposed project and existing conditions by employing oversized drain pipelines that will include installation of an orifice/weir structure that will add additional pipe volume and serve as a detention system. The use of oversized drain pipes and an orifice/weir structure will help prevent contribution of stormwater runoff in a manner that would alter the project site's existing drainage pattern to the extent that the capacity of existing or planned storm water drainage systems would be exceeded. Therefore, operational impacts related to the creation or contribution of storm water runoff that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff would be less than significant, and no mitigation is required.

Overall, compliance with the Construction General Permit, Orange County MS4 Permit, and City's Municipal Code, including preparation of a SWPPP and Final WQMP and the implementation of BMPs during project construction and operation, would ensure that impacts related exceeding the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff would be less than significant. No mitigation would be required, and this topic will not be analyzed in the EIR.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less Than Significant Impact.

Flooding. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 06059C0284J (effective December 3, 2009), the project site is within Zone X (areas determined to be outside the 0.2 percent annual chance floodplain).¹ However, IRWD analyzed the potential for inundation in the event of failure of the Syphon Canyon Dam, located approximately 2.4 miles northeast of the project site.² The analysis indicated that in the event of a dam breach, the project site would risk inundation. Were the project site to be flooded due to a dam breach, there would be a potential for release of pollutants. However, the inundation analysis represents a worst case scenario that assumes total instantaneous failure of the dam and does not take into account the condition of the dam. The Syphon Canyon Reservoir Dam is regulated by the California Department of Water Resources, Division of Safety of Dams, and monitored on a daily basis and inspected on a regular basis. The likelihood of dam failure is extremely low.

In addition, as previously discussed, construction BMPs would be implemented during construction of the proposed project to ensure that during a rain event, pollutants would be retained on site and would be prevented from reaching downstream receiving waters, in accordance with the

¹ Federal Emergency Management Agency (FEMA). 2009. National Flood Hazard Layer FIRMette. December 3. <<https://www.fema.gov/flood-maps/national-flood-hazard-layer>> (accessed October 16, 2025).

² Irvine Ranch Water District, Syphon Reservoir Inundation Mapping <<https://www.irwd.com/construction/syphon-reservoir-inundation-mapping>> (accessed April 2, 2026).

Construction General Permit and the City's Municipal Code. During operation, the proposed project would generally maintain the existing drainage pattern of the site, and development would include operational BMPs that would ensure that pollutants would be treated and prevented from reaching downstream receiving waters, consistent with the requirements of the Orange County MS4 Permit and the City's Municipal Code. Compliance with these existing regulations would ensure the proposed project would not result in the release of pollutants due to flooding during operation.

Tsunami. Tsunamis are ocean waves generated by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rock falls, and exploding volcanic islands. Upon reaching shallow coastal waters, the waves can reach up to 50 feet in height, causing great devastation to near-shore structures. The project site is not located within a coastal area and is located approximately 10 miles east of the Pacific Ocean coastline at an elevation of approximately 160 feet above mean sea level. Therefore, the project site is not subject to inundation from tsunamis, and there is no risk of release of pollutants due to inundation from tsunami.

Seiches. Seiching occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. There are no large enclosed bodies of water in the vicinity of the project site; therefore, the project site is not subject to inundation from seiche waves, and there is no risk of release of pollutants due to inundation from seiche.

Based on the information presented above, the project site is not at risk of pollutant release associated with inundation from a flood, tsunami, or seiche. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Potentially Significant Impact. The project site is within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB adopted a Water Quality Control Plan (Basin Plan) in January 1995, which was last updated in April 2025, that designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. As previously discussed, the proposed project would be required to comply with the Construction General Permit and the existing Orange County MS4 Permit, which require preparation of a SWPPP, preparation of a Final WQMP, and implementation of construction and operational BMPs to reduce pollutants of concern in storm water runoff. Therefore, the proposed project would not result in water quality impacts that would conflict with the Santa Ana RWQCB Basin Plan. Impacts related to a conflict with or obstruction of the implementation of a water quality control plan would be less than significant, and no mitigation is required.

The Sustainable Groundwater Management Act (SGMA), enacted in September 2014, requires agencies located in high- and medium-priority groundwater basins to cease overdraft of the basins. SGMA requires the formation of local Groundwater Sustainability Agencies, which are required to adopt Groundwater Sustainability Plans (GSPs) or alternative plans to manage the sustainability of the groundwater basins. As previously described, the project site is located in the CPOC Basin, which has been identified by the Department of Water Resources as a medium-priority basin. IRWD, in

cooperation with the Orange County Water District and the City of La Habra, submitted the Basin 8-1 Alternative Plan to the Department of Water Resources in January 2017. As previously discussed, groundwater dewatering is not anticipated to be required during construction due to the depth of groundwater and the anticipated maximum depth of excavation during project construction. However, as the IRWD sources a majority of its water supply from the CPOC Groundwater Basin and the estimated water demand associated with operation of the proposed project is currently unknown, implementation of the proposed project may result in operational impacts associated with an increase in water demand. Impacts related to the decrease in groundwater supplies in a manner that may impede sustainable groundwater management would be potentially significant. Accordingly, the proposed project may conflict with or obstruct implementation of a sustainable groundwater management plan. Water demand estimates for operation of the proposed project will be prepared and discussed in the EIR to determine if sufficient water supplies exist to serve the proposed project. This topic will be further evaluated in the EIR.

4.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

4.11.1 Impact Analysis

a. *Would the project physically divide an established community?*

No Impact. As previously stated, existing conditions on the project site consist of an existing building (the temporary church building) and associated parking lot occupying roughly a third of the project site. The remainder of the project site is vacant. As stated in Section 2.0, Project Description, the project site is surrounded by residential land uses, however no residential uses currently exist on the project site. The proposed project includes the construction of a residential development and new church facilities. By developing the project site with these land uses, the proposed project would create physical buildings between the existing residential land uses in Northwood. However, the proposed project would not create a physical division between the existing residential land uses in the surrounding community because the proposed project would not close or modify access to any of the public roadways in the surrounding community. Key goals of the proposed project are to build a permanent home for a well-established community institution (the Our Lady of Peace Catholic Church) and build out the remaining housing units provided for in Planning Area 8, effectively completing the buildout of the Northwood Planning Area. Therefore, the proposed project would not physically divide an established community. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

b. *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

Less Than Significant Impact.

City of Irvine General Plan. As required by Section 65300 of the California Government Code, the City has adopted a long-term, comprehensive plan for its future growth and land use decisions. The General Plan provides information about the City, including demographics and existing environmental setting at the time the General Plan was prepared. The General Plan contains seven elements: Circulation, Conservation and Open Space, Environmental Protection and Climate Action, Housing, Land Use, Noise, and Safety. Each element contains various goals, policies, and objectives in order for the City to achieve its vision respective to each element.

The project site is located within the City and land uses within the project site would be subject to the City's General Plan Land Use Element.¹ The project site is within an area designated for Medium High Density Residential (MHDR) land use. The MHDR land use designation provides for zero to 25 units per acre of multi-family housing with on-site recreation areas for common use. However, it should be noted that the development within this land use designation is not limited to multi-family housing, other uses such as schools, parks, and churches may be found in the residential category, as appropriate.

The proposed project's residential development would be consistent with the MHDR land use designation as it proposes to construct 68 residential units in 11 three-story multi-family residential buildings on approximately 2.94-acre portion on the southern half of the project-site. Additionally, the proposed project would include church development on approximately 3.06 acres on the northern half of the project site. Therefore, land uses within the project site under the proposed project would be consistent with the applicable City of Irvine General Plan land uses designations.

City of Irvine Zoning Code. According to the City's Zoning Code, the project site is currently zoned as Medium-High Density Residential Zoning District (2.4C). The 2.4C zoning district is intended to accommodate a wide range of housing choices, including multi-family units, townhomes, and apartments, that contribute to the development of a well-designed, diverse community while balancing growth with the preservation of neighborhood character and quality of life. The 2.4C zoning district permits residential attached uses, residential single-family detached uses, and also includes a church as a conditional use. As previously stated, the project would include both residential and church development within the project site. The project would require a major modification of the existing CUP permit, which would incorporate additional conditions and mitigation measures (to be identified in the EIR) to avoid or mitigate environmental effects in compliance with City policies, plans, and standards. Therefore, under the proposed project, land uses within the project site would remain consistent with the applicable zoning and the proposed project would not result in any zoning changes.

Summary. Development of the proposed project would be limited to the project site and does not propose changes to land uses within any surrounding parcels. Therefore, implementation of the proposed project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

¹ City of Irvine. 2024. City of Irvine General Plan Land Use Element. <<https://cityofirvine.org/community-development/current-general-plan>> (accessed September 22, 2025).

4.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

4.12.1 Impact Analysis

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact. Minerals are defined as naturally occurring elements or compounds, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat, and oil-bearing rock, but excluding geothermal resources, natural gas, and petroleum by the United States Geological Survey.¹

The California DOC, California Geological Survey (CGS), and the California State Mining and Geology Board are required by the Surface Mining and Reclamation Act of 1974 to categorize lands into four Aggregate and Mineral Resource Zones (MRZs). These MRZs classify lands that contain significant regional or Statewide mineral deposits. Jurisdictions are mandated by the State to incorporate MRZs into their General Plans. According to the City's General Plan Conservation and Open Space Element, no significant mineral resources are identified to be present within the City. As there are no mineral resources in the City, no goals, objectives, policies, or implementation actions with respect to MRZ's have been included within the General Plan.² No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

- b. *Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. As stated previously, the City's General Plan indicates that there are no significant mineral resources present in the City. As there are no mineral resources in the City, no goals, objectives, policies, or implementation actions with respect to mineral resources have been included in the General Plan. The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or

¹ United States Geological Survey (USGS). n.d. What is the difference between a rock and a mineral? <<https://www.usgs.gov/faqs/what-difference-between-rock-and-mineral>> (accessed September 23, 2025).

² City of Irvine. 2045 Irvine General Plan Conservation and Open Space Element. Pg. 40. <<https://cityofirvine.org/community-development/current-general-plan>> (accessed September 23, 2025).

other land use plan because it is not located within or adjacent to City- or State-designated resource areas. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

4.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 Impact Analysis

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*
- b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Potentially Significant Impact. Construction and operation of the proposed project could increase ambient noise levels in the vicinity of the project site in excess of the City's established standards. Project construction would result in short-term noise impacts on nearby sensitive receptors, the degree of which may vary based on the specific construction activity and the location on the project site where it is being completed. Typically, short-term noise impacts associated with construction fall into two categories. The first category involves an increased use of motor vehicles. Examples of increased use include the construction crew commuting to the project site and the transportation of construction equipment and materials. Both of these activities may lead to an incremental increase in noise levels on roads leading to the site. The second category is associated with project construction. This includes potential short-term noise impacts generated during excavation, grading, and construction on the project site. Construction is performed in phases, each generally utilizing different types of equipment that produce unique types of noise. In addition, construction of the proposed project could expose nearby sensitive receptors to groundborne vibration.

Operation of the proposed project would result in off-site traffic noise (i.e., residents and parishioners traveling to and from the project site), as well as on-site noise associated with stationary equipment including heating, ventilation, and air conditioning (HVAC) mechanical equipment, vehicles parking on surface lots surrounding the church, and from large events. In addition, the church will regularly toll bells from its belltowers.

Because implementation of the proposed project could result in significant noise and vibration impacts during construction and operation, impacts related to the increase in ambient noise levels in excess of established standards and the generation of excessive groundborne vibration or groundborne noise would be potentially significant and will be further evaluated in the EIR. The EIR will recommend appropriate mitigation measures, if necessary.

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact. The nearest airport to the project site is John Wayne Airport, which is located approximately 5.5 miles to the southwest. There are no private airstrips located within the vicinity of the project site. Exposure to excessive airport generated noise levels is typically associated with placement of noise sensitive uses within the airport's 65 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) noise contour. The project site is located well outside of John Wayne Airport's 65 dBA CNEL noise contour. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels generated from nearby airport operations. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

4.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

4.14.1 Impact Analysis

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Less Than Significant Impact. The proposed project includes the development of 68 residential dwelling units on the southern portion of the project site, and development of a new church, rectory, and parish hall on the northern portion of the project site. The site is currently developed with an existing building and parking lot with landscaping. The proposed project would introduce new residential uses within the project site, specifically 68 multi-family residential dwelling units. In addition, the proposed project includes the continued operation of church uses on the project site. The existing church commonly exceeds capacity and the proposed buildings will help meet current and future demands on the church.

The Housing Element of the City of Irvine's General Plan identifies that the City has a population of approximately 281,707, which represents a 33 percent increase from 2010.¹ According to the Housing Element, Irvine's population is projected to increase to approximately 327,000 by 2045.² The proposed project's 68 multi-family dwelling units are accounted for in the City's Housing Element because they are already included in the buildout assumptions for the Northwood Planning Area and would effectively complete the buildout of that master-planned community. As of January 2023, the City had a population of approximately 314,615 people.³ According to the Southern California Association of Governments (SCAG), the average household size for its region was 2.99 people per household in 2020.⁴ Given that the proposed project would develop 68 dwelling units, it

¹ City of Irvine. General Plan. 2021-2029 Housing Element. Page 32. <<https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=35719>> (accessed September 24, 2025).

² Ibid. Page 33.

³ United States Census Bureau American Community Survey. Demographic and Housing Estimates. *Irvine, California*. <<https://data.census.gov/table?q=Irvine+city,+California&y=2023>> (accessed September 24, 2025).

⁴ Southern California Association of Governments (SCAG). Key Indicators SCAG Region. Page 1. <<https://rdp.scag.ca.gov/infographics/keystats/99999.html>> (accessed September 24, 2025).

would be expected to add approximately 204 new residents to the City's population.¹ Therefore, the potential population increase under the proposed project is already planned for by the City.

The proposed project would include new utility connections to link the proposed buildings and features to the existing utility infrastructure in the surrounding area. These connections would be limited to the project site and would not have the potential to induce unplanned population growth in the vicinity of the project site, especially given that the land immediately surrounding the project site is already developed and served by appropriate utilities and service providers.

Ultimately, any population growth associated with the proposed project would be negligible in comparison to the City's overall population. Further, the proposed project does not contain any growth-inducing roadway or infrastructure improvements with the potential to result in population growth. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As previously mentioned, the proposed project includes both residential development and church development within the project site. The project site currently has an existing building, parking lot, with some portion of the site being a vacant disturbed lot with ornamental vegetation. Given that the project site is not currently developed with any housing units, the proposed project would not result in the displacement of any housing and would not require the construction of replacement housing elsewhere. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

¹ 68 dwelling units x 2.99 people per household = 204 total people

4.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

4.15.1 Impact Analysis

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

- i. *Fire protection?*
- ii. *Police protection?*
- iii. *Schools?*
- iv. *Parks?*
- v. *Other public facilities?*

Less Than Significant Impact. In response to Impact 4.15.1 a-i, fire protection and emergency medical services for the project site are provided by Orange County Fire Authority (OCFA) through contracts with the City of Irvine. The OCFA is comprised of three divisions and provides fire protection, paramedic and ambulance services, fire prevention, public education, hazardous materials management, and fire investigation services.¹ Within the City, the OCFA operates eleven stations with paramedic teams, with an average response time of approximately eight minutes and forty-five seconds in an urban area.² Primary fire, paramedic, and basic medical services would be provided by OCFA Station No. 26, which is located at 4691 Walnut Avenue and approximately 0.5 mile west of the project site. OCFA Station No. 20, located at 7050 Corsair and approximately 2.1

¹ City of Irvine. Public Safety. <<https://cityofirvine.org/irvine-gives/public-safety>> (accessed September 24, 2025).

² City of Irvine. General Plan Environmental Impact Report, Section 4.12 (Public Services and Recreation). Page 3. <<https://cityofirvine.org/community-development/current-general-plan>> (accessed September 24, 2025).

miles southeast of the project site is the second-closest station, and would respond in the event that Station No. 26 could not.

The OCFA is the reviewing fire agency, as delegated by the State Fire Marshal, for the proposed project's design of fire safety and suppression implementation. The proposed project's fire suppression design includes plans to provide access to the proposed buildings through the access points along Remington and Trabuco Road. Within the church development, smoke and fire alarms would be installed in the stairwells, near the restrooms, and throughout other common areas on each floor. Fire extinguishers would be stored near the stairwells, the elevator and other common areas. An emergency evacuation plan and preliminary fire master plan have also been incorporated into the building design and would be in place during operations to ensure safety.

Construction of the proposed project would allow vehicles access to the project site via Remington and Trabuco Road. Construction equipment would be staged on the project site. Emergency fire services would not be obstructed in their access to the site. The proposed project would redevelop the project site and would include a negligible population increase. Therefore, it would be unlikely that service ratios or response times would be impacted adversely, and no new facilities would be necessary to maintain existing ratios.

The proposed project would not result in any substantial adverse physical impacts associated with the provision of or need for physically altered fire protection facilities and would require no additional expansion or staffing to maintain acceptable service ratios and response times. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

Less Than Significant Impact. In response to Impact 4.15.1 a-ii, the City of Irvine Police Department (IPD) operates out of its main headquarters located at 1 Civic Center Plaza, which is approximately 3.5 miles west of the project site. The IPD divides its service area into three geographic subareas: Portola, Crossroads, and University.¹ IPD is served by approximately 257 sworn officers and 180 non-sworn personnel that are committed to providing protection services throughout the City.² Based on the population size of 314,615 people in the City, the sworn officer to population ratio is approximately 0.81 sworn officers per 1,000 people.³ The project site is within the Northwood Planning Area, which is included in IPD's Portola service area.

As mentioned previously, the proposed project would develop the project site with both a residential development and a church development. As stated in Section 4.14, Population and Housing, the proposed project would add 68 dwelling units to the project site, which in turn would result in population growth (anticipated to be up to 204 people). Additionally, the expansion of the

¹ City of Irvine. General Plan Draft Environmental Impact Report, Section 4.12 (Public Services and Recreation). Page 4. <<https://cityofirvine.org/community-development/current-general-plan>>(accessed September 24, 2025).

² Irvine Police Department. Department Summary. < <https://irvinepd.gov/>>(accessed February 20, 2026).

³ United States Census Bureau American Community Survey. Demographic and Housing Estimates. *Irvine, California*. <<https://data.census.gov/table?q=Irvine+city,+California&y=2023>> (accessed September 24, 2025).

existing church uses on the project site would accommodate additional people on the project site that will help meet current and future demands on the church, including church employees, volunteers, and visitors. However, the proposed project would not require expansion or additional staffing of off-site police facilities as all necessary police services are provided within a reasonable distance. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

Less Than Significant Impact. In response to Impact 4.15.1 a-iii, the project site is located in the Irvine Unified School District (IUSD), which consists of one early childhood school, 24 elementary schools, five kindergarten through 8th grade schools, six middle schools, six high schools, and two virtual academy schools for a total of approximately 44 schools.¹ The project site is served by Northwood Elementary School, located at 28 Carson, approximately 0.4 mile north of the project site. Northwood Elementary School serves Kindergarten through 6th grade students and reported 508 total students enrolled in the 2024-2025 school year.² The project site is also served by Sierra Vista Middle School, located at 2 Liberty, approximately 1.2 miles north of the project site. Sierra Vista Middle School serves 7th to 8th grade students and reported approximately 1,282 total students in the 2024-2025 school year.³ The project site is also served by Northwood High School, located at 4515 Portola Parkway, approximately 2.05 miles northeast of the project site. Northwood High School serves 9th through 12th grade students with a total enrollment of 2,244 students for the 2024-2025 school year.⁴ See **Table 4.A: Irvine Unified School District Data** below for more detail related to the 2024-2025 existing enrollment, total enrollment capacity, and remaining capacity of the schools that would serve the proposed project.

Table 4.A: Irvine Unified School District Data

School Name	Type	Existing Enrollment (2024-2025) ¹	Total Enrollment Capacity ²	Remaining Capacity
Northwood Elementary	Elementary	508	676	168
Sierra Vista Middle School	Middle	1,282	1,200	-82
Northwood High School	High	2,244	2,333	89

Sources: 1: California Department of Education Data Quest. 2024-25 Enrollment by Grade – Irvine Unified Report.

2: Irvine Unified School District, Response to Notice of Preparation, Program Environmental Impact Report, Irvine 2045 Focused General Plan Update, Pages 3-4. August 18, 2023 (See Appendix A).

As shown above, with the exception of Sierra Vista Middle School, each of the schools serving the project site have additional capacity to serve potential new students. Sierra Vista Middle School is currently operating above capacity with 82 more students than the planned capacity of 1,200 students. Although the project site is served by these schools, it is anticipated that the proposed

¹ Irvine Unified School District (IUSD). District Overview. <<https://iusd.org/about/our-district/district-overview>> (accessed September 24, 2025).

² California Department of Education Data Quest. 2024-25 Enrollment by Grade – Irvine Unified Report. <<https://dq.cde.ca.gov/dataquest/dqcensus/enrgrdlevels.aspx?agglevel=District&year=2024-25&cds=3073650>> (accessed April 10, 2026).

³ Ibid.

⁴ Ibid.

project would generate additional student enrollment as it includes development of additional residential units. **Table 4.B: Irvine Unified School District Student Generation** below provides the multifamily student generation rates that apply to each type of school, and applies it to calculate the estimated number of students that would be generated by the proposed project's residential units.

Table 4.B: Irvine Unified School District Student Generation

School Name	Type	Multifamily Student Generation Rates per School Type	Proposed Residential Units	Number of Students ¹
Northwood Elementary	Elementary	0.133	68	9
Sierra Vista Middle School	Middle	0.038		3
Northwood High School	High	0.056		4

Note: 1\ Numbers are rounded.

Source: Irvine Unified School District, Response to Notice of Preparation, Program Environmental Impact Report, Irvine 2045 Focused General Plan Update, Page 3, August 18, 2023 (see Appendix A).

As shown above, implementation of the proposed project is estimated to generate approximately nine new students for Northwood Elementary School, three new students for Sierra Vista Middle School, and four new students for Northwood High School. Based on this information and the information provided in Table 4.A showing remaining capacity for these schools, it is anticipated that there would be no issues in serving the future students generated by the proposed project at Northwood Elementary School and Northwood High School. However, Sierra Vista Middle School would continue to operate beyond capacity with the addition of the three new students generated by the proposed project. The City of Irvine's General Plan identifies that there is additional capacity within the Irvine Unified School District, including enough capacity to accommodate 3,352 additional elementary school students, 1,129 middle school students, and 1,374 high school students.¹ In addition, the Applicant would be required to pay school facilities fees to the IUSD to offset the cost of expansion or rehabilitation of existing schools and construction of new schools prior to the issuance of the building permits for the proposed project's residential development. Payment of these fees would reduce any potential impacts related to the provision of school facilities to the proposed project's residents. Therefore, the project would not be anticipated to have a significant impact on schools related to the provision of new or physically altered school facilities, or a need for new or physically altered school facilities, the construction of which could cause significant environmental impacts. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

Less Than Significant Impact. In response to Impact 4.15.1 a-iv, as part of the proposed residential development, the proposed project would include the creation of a neighborhood park (Park Plan 00973403-PPP). The proposed neighborhood park would be required to comply with the City's neighborhood and community park requirements. The neighborhood park would include elements such as synthetic turf area for play, hardscape concrete area, four trees, two trash receptacles, shade structure, two benches, two seats, table, grill, two cornholes, giant chess, security lights, and a dog bag dispenser. Future residents would have access to passive recreation amenities provided

¹ Ibid. Table 4.12-3B. Page 7.

onsite and local city parks. Local recreational parks near the project site include Orchard Park located approximately 0.2 mile to the west, Sycamore Park located approximately 0.2 mile to the north, and Coralwood Park located approximately 0.3 mile to the north. Although the proposed project would increase the number of individuals on the project site, the neighborhood park would only be accessible to future residents as it would be a private neighborhood park. The neighborhood park would assist in serving the induced demand for park facilities through the new residential land use. Furthermore, given the proximity of the three local parks and the negligible population increase with the proposed project, it is likely that the increased use of existing parks or recreational facilities in the area would be negligible. Construction of the proposed park would result in short-term impacts related to aesthetics, air quality, noise, energy, GHG emissions, transportation facilities, and utilities and service systems on the proposed project site. However, these impacts would only occur during the construction period and would cease once the proposed park and other elements of the proposed project are fully constructed. Therefore, the proposed project would not result in substantial adverse physical impacts that would result in the need for new or physically altered park facilities. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

Less Than Significant Impact. In response to Impact 4.15.1 a-v, the proposed project may result in a negligible increased demand for fire protection, police, schools, and parks as the proposed project would introduce a new residential land use. While these land uses may induce increased demand for public services, the population increase associated with the residential portion of the proposed project is unlikely to generate enough demand to result in substantial adverse impacts to other public facilities within the City. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

4.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

4.16.1 Impact Analysis

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Less Than Significant Impact. The proposed project involves both church development and residential development. As part of the proposed residential development, the proposed project would include the creation of a neighborhood park (Park Plan 00973403-PPP). The proposed neighborhood park would be designed to comply with the City's Park Plan requirements. Although the proposed project would increase the number of individuals on the project site (anticipated to be up to 204 people), the neighborhood park would only be accessible to future residents as it would be a private neighborhood park. The neighborhood park would assist in serving the induced demand for park facilities through the new residential land use. As mentioned earlier, the Northwood Planning Area contains several public parks including Orchard Park, Sycamore Park, Coralwood Park, Racquet Club Park, Brywood Park, Blue Gum Park, Pepperwood Park, Pinewood Park, Carrotwood Park and Northwood Park (Castle Park). Given the number of the local parks within the Northwood Planning Area, and the population increase with the proposed project, it is likely that the increased use of existing parks or recreational facilities in the area would be negligible. No substantial physical deterioration of the neighborhood or the regional parks would occur or be accelerated. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Less Than Significant Impact. The proposed project includes the installation of various outdoor recreational amenities such as synthetic turf, cornhole play areas, a shade structure, seating areas (including benches and tables), BBQ grill, giant chess, funball setup, and a dog bag dispenser. These improvements would enhance the existing outdoor environment by providing additional opportunities for passive and active recreation. The park would be built around an existing water well with an existing access easement to the well site (approximately 60 by 90 feet). The proposed project would include a new well access easement located near the southwestern edge of the project site.

Construction of the proposed recreational amenities would not require substantial earthwork, vegetation removal, or other activities likely to cause significant physical environmental effects. Construction of the proposed park would result in short-term impacts related to aesthetics, air quality, noise, energy, GHG emissions, transportation facilities, and utilities and service systems on the project site. However, these impacts would only occur during the construction period and would cease once the proposed park and other elements of the proposed project are fully constructed. The proposed improvements would be designed to integrate with the surrounding development and comply with applicable local and State regulations. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

4.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☒	☐	☐	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

The following analysis is based on the Traffic Study prepared by LSA Associates, Inc. in January 2026 (see Appendix G).

4.17.1 Impact Analysis

a. *Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Less Than Significant Impact. The project site currently contains a temporary church facility, parking lot, and courtyard. The existing 7,128 square feet of church use generates 54 daily trips, including two a.m. peak hour trips (one inbound and one outbound) and three p.m. peak-hour trips (one inbound and two outbound). The proposed 45,521 square foot church and 68 multi-family residential dwelling units would generate 804 daily trips, including 42 a.m. peak hour trips (16 inbound and 26 outbound) and 57 p.m. peak-hour trips (32 inbound and 25 outbound).

Level of Service. Although Level of Service (LOS) is no longer an accepted metric for determining a transportation impact under CEQA, the City includes policies addressing LOS in the General Plan. LOS is a qualitative, letter-grade system (A-F) used to measure motor vehicle congestion, speed, and delay at intersections and on road segments. The 2045 *Irvine General Plan Transportation Section* includes the following policy with LOS:

The 2045 *Irvine General Plan Circulation Element* includes the following policy that references LOS:

- Policy (b) of Objective C-1 is to “Develop, on an incremental basis, a motor vehicular circulation system responding to local and regional access requirements. Such access requirements and associated improvements shall be determined, in part, through an evaluation of impacts in terms of traffic congestion (measured in terms of Level of Service). The following Level of Service (LOS) Standards shall be the goal applied to arterial highways,

as shown in Figure 1, which are in the City of Irvine or its sphere of influence, and which are under the City's jurisdiction."¹

Furthermore, the City of Irvine's *Traffic Study Guidelines* (March 21, 2023) also identifies LOS as an appropriate metric.

Pursuant to Senate Bill 743, the analysis of transportation impacts under CEQA has shifted from LOS to Vehicle Miles Traveled (VMT). Accordingly, LOS is no longer used to determine the significance of transportation impacts under CEQA, though it may continue to be applied by the City for local planning and operational purposes as indicated in the City's *Traffic Study Guidelines* (March 21, 2023).

Vehicle Miles Traveled. The *2045 Irvine General Plan Circulation Element* includes policies that aim to support reducing VMT

- Policy (c) of Objective C-1 is to "Evaluate transportation impacts in terms of vehicle miles traveled (VMT) to ensure compliance with Senate Bill 743 and to minimize trip lengths to, from, and within the City."
- Policy (e) of Objective C-1 is to "Support programs and infrastructure that promote non-vehicular travel (e.g., walking/biking), increase vehicle occupancy, and/or reduce VMT."
- Policy (h) of Objective C-2 is to "Proposed developments shall include measures to minimize negative impacts of additional vehicular traffic and aim to reduce vehicle miles traveled (VMT)."

Pedestrian Circulation. The *2045 Irvine General Plan Circulation Element* includes sixteen policies that aim to support pedestrian circulation and are listed below.

- Policy (e) of Objective C-1 is to "Support programs and infrastructure that promote non-vehicular travel (e.g., walking/biking), increase vehicle occupancy, and/or reduce VMT."
- Policy (i) of Objective C-2 is to "Encourage intersections and public right of ways to be designed to provide adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities."
- Policy (m) of Objective C-2 is to "Encourage safe and accessible routes to school for children and families walking, bicycling, and taking public transportation to schools in the community. Improvements may include but are not limited to, high visibility crosswalks, island refuges, pavement markings, rapid flashing beacons, pedestrian signals, traffic delineators, enhanced bikeways, defined bus stops, and roundabouts."

¹ City of Irvine. 2024. *Irvine 2045 General Plan: Circulation Element* < <https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=35716> > (accessed December 16, 2025).

- Policy (a) of Objective C-3 is to “Link residences with schools, job centers, shopping centers, parks, and other public facilities/destination centers, both within a planning area and to adjacent planning areas, through an internal system consisting of pedestrian facilities (e.g., sidewalks and/or shared-use paths).”
- Policy (b) of Objective C-3 is to “Encourage proposed developments to provide safe, convenient, and direct pedestrian access to surrounding land uses, on-street parking, and transit stops, as applicable, emphasizing active transportation and supporting the Complete Streets Act.”
- Policy (c) of Objective C-3 is to “Design and locate land uses that facilitate access by non-automotive means (e.g., walking and/or bicycling).”
- Policy (d) of Objective C-3 is to “Continue to implement the existing sidewalk improvement program and enhance standards for improved active transportation and connectivity to create an interconnected system of pedestrian-friendly boulevards, avenues, and streets.”
- Policy (a) of Objective C-5 is to “Implement Complete Streets design principles to ensure that all roadway projects accommodate the needs of pedestrians, cyclists, and transit users, in addition to motorized vehicles, by incorporating features such as widened sidewalks, dedicated bike lanes, pedestrian crossings, and traffic calming measures.”
- Policy (b) of Objective C-5 is to “Develop a comprehensive network of active transportation facilities, including sidewalks, enhanced bikeways, and multi-use paths, to provide safe and convenient routes for walking and cycling within neighborhoods, commercial areas, employment centers, and recreational destinations.”
- Policy (c) of Objective C-5 is to “Implement Safe Routes to Schools programs and infrastructure improvements to promote walking and cycling to schools, enhance pedestrian safety, and reduce traffic congestion around school zones through measures such as sidewalk enhancements, crosswalk upgrades, and traffic calming measures.”
- Policy (e) of Objective C-5 is to “Integrate active transportation planning considerations into land use decisions, transportation projects, and development approvals to prioritize pedestrian and cyclist safety, accessibility, and comfort, and ensure that new developments are designed to support active transportation modes.”
- Policy (f) of Objective C-5 is to “Collaborate with community organizations, schools, businesses, and advocacy groups to support and promote active transportation initiatives, leverage resources, and engage stakeholders in the planning and implementation of active transportation projects.”
- Policy (b) of Objective C-9 is to “Promote active transportation modes such as walking and biking by developing pedestrian- and bicycle-friendly infrastructure, creating and enhancing bike lanes and trails, and implementing traffic calming measures to improve safety and encourage non-motorized travel.”

- Policy (f) of Objective C-9 is to “Support multimodal connectivity by integrating various transportation modes, including public transit, walking, biking, and shared mobility options, to provide residents and visitors with diverse and convenient transportation choices that meet their needs and preferences.”
- Policy (b) of Objective C-11 is to “Implement Complete Streets design standards and guidelines to integrate transportation and land use planning considerations into street design, ensuring that streets accommodate the needs of all users, including pedestrians, cyclists, motorists, and transit riders, while fostering vibrant and accessible communities.”
- Policy (a) of Objective C-12 is to “Require the incorporation of sustainable transportation features in all new development projects, including bike lanes, pedestrian walkways, and transit-oriented designs. Prioritize the use of environmentally friendly transportation modes, such as electric vehicles, public transit, and active transportation options, in City planning and infrastructure development.”

In the vicinity of the project site, sidewalks are currently provided on Roosevelt, Remington and Trabuco Road. The project would include sidewalks throughout the site to serve both the residential and church uses and provide connection to the adjacent public facilities. During construction, the project would require permanent modification of the existing sidewalk on Trabuco Road to develop the proposed secondary driveway into the project site. Construction and operation of the proposed project would not substantially alter the existing pedestrian facilities. The proposed project would maintain the existing pedestrian facilities and not preclude the implementation of any future planned facilities. Furthermore, implementation of the on-site sidewalk improvements would be consistent in supporting the sixteen policies related to pedestrian circulation as identified in the *2045 Irvine General Plan Circulation Element*.

Bicycle Circulation. The *2045 Irvine General Plan Circulation Element* includes 18 policies that aim to support bicycle planning and are listed below.

- Policy (a) of Objective C-4 is to “Encourage proposed developments to provide connectivity to the existing bicycle circulation network, both on- and off-street, and within the proposed planning area. The on-street and off-street trails shall be designed for the safety of all users per approved City plans and documents.”
- Policy (b) of Objective C-4 is to “Accommodate cyclists of all levels of experience and provide for both recreation and functional transportation when designing shared-use pathways.”
- Policy (c) of Objective C-4 is to “Enhance the existing bicycle network to improve connectivity between residential areas, employment areas, schools, parks, community facilities, commercial centers, and transit facilities.”
- Policy (d) of Objective C-4 is to “Encourage new developments to include detailed circulation plans for pedestrian and bicycle trails providing access to the subject property, adjacent properties, and community facilities, as applicable.”

- Policy (e) of Objective C-4 is to “Bicycle trip destinations, including community facilities, commercial centers, and transit facilities, shall be encouraged to be equipped with appropriate bicycle facilities/amenities including, but not limited to, the provision of universal bike racks, shade trees, drinking fountains, benches, and showers, where feasible.”
- Policy (f) of Objective C-4 is to “Encourage grade-separated crossings for pedestrians and cyclists, wherever feasible, to increase safety and efficiency.”
- Policy (g) of Objective C-4 is to “Encourage separated, off-street bicycle trails and shared-use paths in areas with minimal cross traffic, such as open space spine, flood control and utility easements, where feasible.”
- Policy (h) of Objective C-4 is to “Support programs and engage the community to increase public awareness of bicycle safety and bicycling as an alternative mode of transportation.”
- Policy (i) of Objective C-4 is to “Incorporate, where appropriate, school and park locations within the design of the bicycle network system.”
- Policy (a) of Objective C-5 is to “Implement Complete Streets design principles to ensure that all roadway projects accommodate the needs of pedestrians, cyclists, and transit users, in addition to motorized vehicles, by incorporating features such as widened sidewalks, dedicated bike lanes, pedestrian crossings, and traffic calming measures.”
- Policy (b) of Objective C-5 is to “Develop a comprehensive network of active transportation facilities, including sidewalks, enhanced bikeways, and multi-use paths, to provide safe and convenient routes for walking and cycling within neighborhoods, commercial areas, employment centers, and recreational destinations.”
- Policy (c) of Objective C-5 is to “Implement Safe Routes to Schools programs and infrastructure improvements to promote walking and cycling to schools, enhance pedestrian safety, and reduce traffic congestion around school zones through measures such as sidewalk enhancements, crosswalk upgrades, and traffic calming measures.”
- Policy (d) of Objective C-5 is to “Provide secure and convenient bicycle parking facilities, such as bike racks, bike parking and storage, and bike shelters, at key destinations, including transit stops, commercial centers, parks, and employment hubs, to encourage cycling as a viable transportation option and support active commuting.”
- Policy (e) of Objective C-5 is to “Integrate active transportation planning considerations into land use decisions, transportation projects, and development approvals to prioritize pedestrian and cyclist safety, accessibility, and comfort, and ensure that new developments are designed to support active transportation modes.”
- Policy (f) of Objective C-5 is to “Collaborate with community organizations, schools, businesses, and advocacy groups to support and promote active transportation initiatives,

leverage resources, and engage stakeholders in the planning and implementation of active transportation projects.”

- Policy (b) of Objective C-9 is to “Promote active transportation modes such as walking and biking by developing pedestrian- and bicycle-friendly infrastructure, creating and enhancing bike lanes and trails, and implementing traffic calming measures to improve safety and encourage non-motorized travel.”
- Policy (f) of Objective C-9 is to “Support multimodal connectivity by integrating various transportation modes, including public transit, walking, biking, and shared mobility options, to provide residents and visitors with diverse and convenient transportation choices that meet their needs and preferences.”
- Policy (a) of Objective C-12 is to “Require the incorporation of sustainable transportation features in all new development projects, including bike lanes, pedestrian walkways, and transit-oriented designs. Prioritize the use of environmentally friendly transportation modes, such as electric vehicles, public transit, and active transportation options, in City planning and infrastructure development.”

In June 2025, the City approved an amendment to an ordinance (Ordinance 25-20) that amended text related to bicycle parking requirements in the Irvine Zoning Ordinance. However, as of January 2026, the City is required to comply with the updated 2025 California Green Building Standards Code, which requires that short-term and long-term bicycle parking is mandated for new non-residential, hotel, and multifamily developments and is no longer considered voluntary.

On-street (Class II) bicycle lanes in the study area are currently provided on Yale Avenue, Jeffrey Road, Trabuco Road and Roosevelt. Construction and operation of the proposed project is not anticipated to impact these existing bicycle facilities and would not preclude the implementation of any future planned bicycle facilities. In addition, development of the proposed project would include on-site bicycle parking per the 2025 California Green Building Standards code.

Transit Facilities. The *2045 Irvine General Plan Circulation Element* includes 13 policies that aim to support transit circulation and are listed below.

- Policy (a) of Objective C-7 is to “Plan residential, commercial, and industrial areas to enable effective use of public transit.”
- Policy (b) of Objective C-7 is to “Consider designating excess right-of-way areas on arterial highways for potential public transit corridors or for emergency parking lanes.”
- Policy (c) of Objective C-7 is to “Continue to expand the bus service network as an alternative mode of transportation through the following:
 - o Pursue additional transit service to and within the City, increase frequency and/or provide service to new developments.

- Provide infrastructure at transit stops for convenience and safety (e.g., proper lighting, covered shelter and safe crossings) to encourage commuting to work.
- Incorporate public art and green infrastructure to enhance existing and future transit stops.
- Continue to expand the bus service network within the City.”
- Policy (d) of Objective C-7 is to “Continue planning efforts as necessary to further develop the advanced transit network providing connection to all local and activity center systems encompassing the City and its sphere of influence.”
- Policy (e) of Objective C-7 is to “Coordinate the development of intracounty and regional transit stops with Irvine’s intracity transit system.”
- Policy (f) of Objective C-7 is to “Encourage the short-term use of rights of way reserved for the various circulation systems for other uses, such as special events (i.e. temporary closure of portions of public roadways for non-vehicular events).”
- Policy (g) of Objective C-7 is to “Consider the use of railroad rights of way as transportation corridors.”
- Policy (h) of Objective C-7 is to “Explore the use of technology to communicate transit patterns, promote safety, and attract passengers.”
- Policy (i) of Objective C-7 is to “Consider implementing and supporting proposed guidelines for near- and long-term improvements to transit infrastructure within the City limits.”
- Policy (f) of Objective C-9 is to “Support multimodal connectivity by integrating various transportation modes, including public transit, walking, biking, and shared mobility options, to provide residents and visitors with diverse and convenient transportation choices that meet their needs and preferences.”
- Policy (a) of Objective C-11 is to “Promote transit-oriented development (TOD) by concentrating higher-density, mixed-use development around transit hubs, such as rail stations, bus stops, and transportation centers, to maximize access to public transit, reduce automobile trips, and encourage active transportation modes.”
- Policy (b) of Objective C-11 is to “Implement Complete Streets design standards and guidelines to integrate transportation and land use planning considerations into street design, ensuring that streets accommodate the needs of all users, including pedestrians, cyclists, motorists, and transit riders, while fostering vibrant and accessible communities.”
- Policy (a) of Objective C-12 is to “Require the incorporation of sustainable transportation features in all new development projects, including bike lanes, pedestrian walkways, and transit-oriented designs. Prioritize the use of environmentally friendly transportation

modes, such as electric vehicles, public transit, and active transportation options, in City planning and infrastructure development.”

Transit facilities are accessible both to and from the project site via sidewalks along Trabuco Road, Roosevelt, and Remington. This is an important feature because Orange County Transportation Authority (OCTA) and Irvine CONNECT stops are provided at the northeast and southwest corners of Yale Avenue/Trabuco Road (approximately 2,200 walkable feet from the project site) for Irvine CONNECT, the northeast and southwest corners of Yale Avenue/Roosevelt (approximately 1,900 walkable feet from the project site) for Irvine CONNECT, and the northeast and southwest corners of Jeffrey Road/Trabuco Road (approximately 2,700 walkable feet from the project site) for OCTA Route 167. Neither project construction nor project operation would impact these existing facilities. The proposed project is not anticipated to substantially impact the existing facilities or preclude future transit facilities.

Based on the analysis presented above, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?

Potentially Significant Impact. On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law, which directed the Governor’s Office of Planning and Research (OPR) to establish new CEQA guidance for jurisdictions that removes the LOS method, which focuses on automobile vehicle delay and other similar measures of vehicular capacity or traffic congestion, from CEQA transportation analysis. Rather, vehicle miles traveled (VMT), or other measures that promote “the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses,” are now used as the basis for determining significant transportation impacts in the State.

As part of a January 2018 update to the *State CEQA Guidelines*, Section 15064.3 codifies that project-related transportation impacts are typically best measured by evaluating the project’s VMT. Specifically, subdivision (b) focuses on specific criteria related to transportation analysis. Subdivision (b)(2) addresses VMT associated with transportation projects and states that projects that reduce VMT, such as pedestrian, bicycle, and transit projects, should be presumed to have a less than significant impact.

The project has potential to result in significant VMT impacts, which will be further evaluated in the EIR. The EIR will recommend appropriate mitigation measures, if necessary.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The project site is bordered by Remington to the west and Trabuco Road to the north. Remington is classified as a local roadway in the City’s General Plan Circulation Element and runs in a north-south orientation. Trabuco Road is classified as a Primary Highway and runs in an east-west orientation. Vehicle access to the project site would continue to be provided via

a full-access driveway on Remington and also a new right-in-right out (RIRO) driveway on Trabuco Road. An Access Analysis was conducted as part of the Traffic Study per the City's Transportation Design Procedures for the existing (City of Irvine, 2007) analyzed the following Traffic Design Procedures (TDP):

- TDP-1 (Turn Lane Pocket Lengths)
- TDP-3 (Left-Turn In/Out Access)
- TDP-4 (Right-Turn Lanes at Uncontrolled Driveways)
- TDP-10 (Distances between Driveways and Intersections)
- TDP-14 (Driveway Lengths)

The Traffic Study concluded that all the listed TDP criteria per the City's Transportation Design procedures identified were satisfied for the proposed project (see Appendix G).

During construction, temporary delays, road closures, or road obstructions may occur subject to a construction traffic management plan. The construction traffic management plan would implement traffic control features (signage, construction fencing, flagmen) to maintain access near and on-site to avoid and minimize potential impacts to the existing circulation system. These traffic control features would assist in the overall management of multi-modal circulation within and near the project site to minimize and avoid any issues with safety and access. With implementation of the proposed project, vehicle access to the project site would continue to be provided via a full-access driveway on Remington (across from Danville Street) and also a new right in right out (RIRO) driveway on Trabuco Road. The proposed project would modify the existing conditions of the project site through the development of the new driveway, a surface parking lot for the church facility, an underground parking garage, and surface parking and various private roadways for the proposed residential development. The proposed project would introduce surface parking lots and modify the existing circulation system on the project site and would be subject to project plan review by City staff. In addition, internal roadway design would be largely consistent with City design standards; however, the proposed project would require variances for three portions of the roadway system. Variances would be required for the entrance to the secondary driveway off Trabuco Road, the driveway width along the eastern side of the church parking lot up to the residential area, and the eastern most drive aisle in the proposed church parking lot (see Section 2.4.3, Project Site Access Circulation and Parking, for further discussion). However, based on the analysis above, the proposed project would not include any sharp curves or turns that would result in increased hazards. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

d. Would the project result in inadequate emergency access?

Less Than Significant Impact. During project construction, emergency vehicle access to the project site would be provided via the existing main driveway along Remington. The proposed project is not expected to result in substantial traffic impacts or queuing on nearby streets during construction, as all equipment would be staged on site. During construction, temporary delays, road closures, or road obstructions may occur subject to a construction traffic management plan. Instances of temporary delay, road closures, or road obstructions may create potential minor delays in emergency situations. Construction debris would be hauled off-site, using major roads to arrive at

the Orange County Waste and Recycling (OCWR) Frank R. Bowerman Landfill, which is an approved construction and demolition waste diversion facility. Material excavated for construction of the Church basement and two-story underground parking garage would also be disposed at the Bowerman Landfill or another nearby site accepting clean soil, such as the Great Park. Based on the proposed project requiring approximately 45,000 cubic yards of export and the average dump truck being able to carry approximately 16 cubic yards per load, the number of trips anticipated to the project site is approximately 2,813 trips.¹ The project site's close proximity to Jeffrey Road would allow any debris haul trips to directly access the landfill using Jeffrey Road and Portola Parkway. Alternately, the project site's location near the I-5/Jeffrey Road interchange would allow debris haul trips to reach their destination via the regional freeway system, with minimal use of local streets. The construction traffic management plan would implement traffic control features (signage, construction fencing, flagmen) to maintain access near and on-site to avoid and minimize potential impacts to the existing circulation system. Additionally, construction of the proposed project would not result in permanent road closures or long-term blocking of road access that would physically impair or otherwise conflict with an emergency response plan or emergency evacuation plan. Furthermore, the existing driveway provides adequate access to accommodate emergency vehicles.

Once the proposed project is constructed, emergency access would be provided via the driveways from Remington and Trabuco Road. The proposed project would be reviewed and approved by the OCFA and City staff as part of the City's Design Review process to ensure the proposed project is compliant with all applicable codes and ordinances for emergency vehicle access. Project design would adhere to City of Irvine requirements pertaining to emergency access, ensuring that emergency vehicles would be able to access all areas of the project site and egress to evacuation routes would remain unaffected. Furthermore, the proposed project would be required to comply with Chapter 5 of the California Fire Code (CFC) requirements pertaining to emergency apparatus roadways and water supply. Section 5-9-408 (Fire Code) of the City's Municipal Code incorporates the CFC. With City design review and the OCFA's review of the project plans, project impacts related to emergency access would be less than significant. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

¹ TheUpFitInsider. 2025. *Dump Truck Capacity Chart 2025 | How Many Tons Does a Dump Truck Hold?* <<https://theupfitinsider.com/p/how-many-tons-can-a-dump-truck-haul>> (accessed April 2, 2026).

4.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☒	☐	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

4.18.1 Impact Analysis

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*
- i. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*
- ii. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Potentially Significant Impact. Chapter 532, Statutes of 2014 (i.e., Assembly Bill [AB] 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include "[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources." AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a "tribal cultural resource." Consultation under AB 52 will be completed during preparation of the EIR and discussed in further detail in that document.

4.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☒	☐	☐	☐

4.19.1 Impact Analysis

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Potentially Significant Impact. As identified in Section 2.4.5, Utilities and Infrastructure Improvements, the proposed project would require the construction of additional utilities consisting of stormwater drainage, water, wastewater, and electric power within the project site.

Water. Water service for the proposed project would be provided by the Irvine Ranch Water District (IRWD) via the existing water service line located in Remington. IRWD serves about 20 percent of Orange County and operates more than 1,500 miles of drinking water lines, more than 900 miles of sewer lines, 53 reservoirs, and two large water recycling facilities.¹ IRWD's existing water supply consists of imported water, local groundwater, recycled water, and local surface water. In addition, IRWD purchases treated and untreated water from the Metropolitan Water District of Southern California (MWD).² The IRWD provides drinking water and recycled water to over 446,365 residents

¹ City of Irvine. 2024. General Plan Update Program EIR, Utilities and Service System. <<https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=>> (accessed December 8, 2025).

² Ibid.

in Orange County cities including Irvine, Tustin, Lake Forest, Newport Beach, Orange, Costa Mesa and unincorporated areas of Orange County (approximately 20 percent of Orange County).¹

As identified in Section 2.4.5, water service to the project site would be provided via new lines and connections to the existing water service lines in Remington and Roosevelt. As discussed under Section 4.19(b) below, project-specific water demand estimates will be prepared for the proposed project and discussed in the EIR in order to determine if sufficient water supplies exist to serve the proposed project. The project-specific water demand estimates would help to inform if implementation of the proposed project would exceed the capacity of existing water treatment and conveyance facilities. Will serve letters from IRWD would be required to ensure sufficient capacity exists. Accordingly, the impact of the proposed project on water infrastructure would be potentially significant and will be further evaluated in the EIR.

Wastewater. Wastewater service for the proposed project would be provided by the IRWD. IRWD owns a sanitary sewer system with approximately 132,000 sewer connections serving approximately 446,000 customers. IRWD operates and maintains more than 900 miles of sanitary sewer mains, is structurally responsible for 361 miles of lower lateral mains and operates and maintains 29 miles of force mains spanning 181 square miles (84,000 acres) of service area in Orange County.²

Currently, IRWD collects and treats wastewater at two water recycling plants, the Michelson Water Recycling Plant (MWRP) and the Los Alisos Water Recycling Plant (LAWRP). The MWRP is permitted to treat approximately 28 million gallons per day (mgd) and the LAWRP is permitted to treat approximately 5.5 mgd, for a total of 33.5 mgd.³ There are a few small portions of the IRWD service area that are not served by these two water recycling plants. For these areas, wastewater is collected by Orange County Sanitation District (OC San) and Santa Margarita Water District (SMWD). The project site is not located in these areas.

Because the proposed project would increase the number of residents and users on the project site, the impact of the proposed project on wastewater infrastructure would be potentially significant and will be further evaluated in the EIR. Project-specific wastewater generation estimates will be prepared for the proposed project and discussed in the EIR in order to determine if the LAWRP and MWRP have adequate capacity to accommodate project related wastewater flow and if the existing sewer system can accommodate the proposed project. In addition, will-serve letters from IRWD would be required to ensure sufficient capacity exists. A Water and Sewer Master Plan will be prepared by the project applicant for review by the City and IRWD to ensure sufficient capacity exists. Accordingly, the impact of the proposed project on wastewater infrastructure would be potentially significant and will be further evaluated in the EIR.

¹ Irvine Ranch Water District. n.d. About Us. <<https://www.irwd.com/about-us>> (accessed December 8, 2025).

² Irvine Ranch Water District. 2025. Sewer System Management Plan – Update. <https://www.irwd.com/images/pdf/services/2025_IRWD_SSMP_Board_Approved.pdf> (accessed December 8, 2025).

³ Irvine Ranch Water District. 2021. Urban Water Management Plan. <https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf> (accessed December 8, 2025).

Stormwater. As discussed in Section 2.4.5, the proposed project would install new drainage features throughout the project site to accommodate stormwater. The local storm drain system is owned by the City and maintained by Orange County Public Works (OCPW). The proposed project would introduce substantial amounts of new impervious surfaces throughout the project site. However, existing drainage patterns on the project site would generally be maintained under the proposed project.

As discussed in Section 4.10, Hydrology and Water Quality, in order to characterize the hydrologic conditions at the project site and address stormwater runoff with implementation of the proposed project, a project-specific Drainage Study and WQMP will be prepared and discussed in the EIR. The project-specific WQMP will provide project-specific design and BMPs that would be implemented to manage stormwater runoff on the project site. Accordingly, the impact of the proposed project on water infrastructure would be potentially significant and will be further evaluated in the EIR.

Electricity and Natural Gas. Electricity is provided to the City by the Orange County Power Authority and is accessed via Southern California Edison's (SCE) infrastructure. Irvine's natural gas is provided by the Southern California Gas Company (SoCalGas). Section 4.6, Energy, discusses the proposed project's energy requirements (i.e., electricity, fuel consumption, and natural gas consumption) and explains that the proposed project would increase demand for electricity and natural gas. The residential portion of the project would be fully electric, and the church development would include a natural gas line connection to the proposed church buildings. Accordingly, the impact of the proposed project on electricity or natural gas supply infrastructure would be potentially significant and will be further evaluated in the EIR.

Overall, the proposed project's impacts to water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause potentially significant impacts and will be further evaluated in the EIR.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Potentially Significant Impact. As discussed above, water service to the project site would be provided by IRWD. IRWD adopted its 2020 Urban Water Management Plan (UWMP) in June 2021, which provides a framework for long-term water planning and informs the public of IRWD's plans for long-term resource planning to ensure adequate water supplies for existing and future demands.¹ According to the 2020 UWMP, IRWD's water use in 2020 (potable and non-potable) totaled 56,374 acre-feet (af), with multi-family residential uses accounting for approximately 24,995 af and institutional accounting for 1,454 af.² In addition, according to the 2020 UWMP, IRWD's

¹ Irvine Ranch Water District. 2021. Urban Water Management Plan. <https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf> (accessed December 8, 2025).

² Irvine Ranch Water District. 2021. Urban Water Management Plan, DWR Table 4-1 Retail: Demands for Potable and Non-Potable Water- Actual <https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf> (accessed December 8, 2025).

water use (potable, raw, and recycled) is projected to be 32,048 af in 2030, 31,638 af in 2035, and 30,846 af. In addition, the 2020 UWMP indicates that IRWD's water supplies are projected to meet full-service demands now and into the future. Further, IRWD's 2020 UWMP confirms that IRWD can meet the projected full-service demands of its member agencies during normal years, single dry year, and multiple dry years.¹

Implementation of the proposed project would increase water use at the project site as compared to existing conditions. Accordingly, this impact would be potentially significant and will be further evaluated in the EIR. Project-specific water demand estimates will be prepared for the proposed project and discussed in the EIR in order to determine if sufficient water supplies exist to serve the proposed project. The EIR will also recommend appropriate mitigation measures, if necessary.

- c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Potentially Significant Impact. Please see the discussion in Section 4.19(a), above. Implementation of the proposed project would increase wastewater generation at the project site as compared to existing conditions. Accordingly, this impact would be potentially significant and will be further evaluated in the EIR. Project-specific wastewater generation estimates will be prepared for the proposed project and discussed in the EIR in order to determine if the MWRP and LAWRP would have adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments.

- d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Potentially Significant Impact. Solid waste disposal services in the city are provided by CR&R. Solid waste in the city, including the project site, would most likely be disposed of at the Bowerman Landfill, which is operated by Orange County Waste and Recycling (OC Waste and Recycling). The Bowerman Landfill, located at 11002 Bee Canyon Access Road in Irvine, is approximately 3.6 miles northeast of the project site. The landfill opened in 1990 and is 725 acres in size, with approximately 534 acres dedicated to waste disposal. The landfill accepts a maximum of 11,500 tons of solid waste per day and has a projected capacity to serve residents and businesses until approximately 2053.²

The project site is currently developed with a temporary church building and adjacent parking lot, which generate some solid waste under existing conditions. Construction and operation of the proposed project would increase the amount of solid waste generated at the project site from existing conditions. The solid waste would be transported and disposed of at the Bowerman Landfill.

¹ Irvine Ranch Water District. 2021. Urban Water Management Plan. <https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf> (accessed December 8, 2025).

² Orange County Waste & Recycling, Frank R. Bowerman Landfill. <<https://oclandfills.com/landfills/frank-r-bowerman-landfill>> (accessed December 16, 2025).

Accordingly, this impact would be potentially significant and will be further evaluated in the EIR. Project-specific solid waste generation estimates will be prepared for the proposed project and discussed in the EIR in order to determine if the Frank R. Bowerman Landfill would have adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. The EIR will also recommend appropriate mitigation measures, if necessary.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Potentially Significant Impact. All land uses within the city are required to coordinate with a waste hauler to collect solid waste on a common schedule as established in applicable local, regional, and State programs. Additionally, all development within the city, including the proposed project, is required to comply with applicable elements of AB 1327, Chapter 18 (California Solid Waste Reuse and Recycling Access Act of 1991), AB 939 (California Department of Resources Recycling and Recovery [CalRecycle]), AB 341, and other local, State, and federal solid waste disposal standards. Both AB 1327, Chapter 18, and AB 939 require the diversion of 50 percent of solid waste, including solid waste generated from residential, commercial, industrial, and public facility uses. AB 341 requires mandatory commercial recycling and focuses on increasing commercial waste diversion as a method of reducing GHG emissions. AB 341 is designed to achieve a reduction of 5 million metric tons of carbon dioxide equivalent (MTCO₂e), which would require an additional 2 to 3 million tons of solid waste materials to be recycled from the commercial section by 2020 and beyond. Consistent with these requirements, at least 50 percent of solid waste from the proposed project would be diverted and the proposed project would recycle solid waste in accordance with AB 341.

With compliance with AB 1327, AB 939, AB 341, and all other applicable local, State, and federal solid waste disposal standards, implementation of the proposed project would not otherwise impair the attainment of California solid waste reduction goals. Project-specific solid waste generation estimates will be prepared for the proposed project and discussed in the EIR in order to determine if the Bowerman Landfill would have adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. The EIR will also recommend appropriate mitigation measures, if necessary.

4.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

4.20.1 Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The California Department of Forestry and Fire Protection (CAL FIRE) maps areas of significant fire hazards in the State through its Fire and Resources Assessment Program (FRAP). These maps place areas of California into different fire hazard severity zones (FHSZ), based on a complex hazard scoring system. The project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) or a State Responsibility Area (SRA). The nearest FHSZ is a moderate FHSZ located in the Stonegate village, approximately 1.65 miles northeast of the project site.

As mentioned in Section 4.9, Hazards and Hazardous Materials, the City's Emergency Evacuation Route Analysis identifies the nearest evacuation routes to the project site as Trabuco Road, Remington, and Roosevelt. During construction, temporary delays, road closures, or road obstructions may occur subject to a construction traffic management plan. Instances of temporary delay, road closures, or road obstructions may create potential minor delays in emergency situations. Construction debris would be hauled off-site, using major roads to arrive at the Orange County Waste and Recycling (OCWR) Bowerman Landfill, which is an approved construction and demolition waste diversion facility. Material excavated for construction of the Church basement and two-story underground parking garage would also be disposed at the Bowerman Landfill or another nearby site accepting clean soil, such as the Great Park. Based on the proposed project requiring approximately 45,000 cubic yards of export during construction, the proposed project is anticipated to generate approximately 2,813 haul trips. The project site's close proximity to Jeffrey Road would allow any debris haul trips to directly access the landfill using Jeffrey Road and Portola Parkway. In addition, the project site's location near the I-5/Jeffrey Road interchange would allow debris haul

trips to reach their destination via the regional freeway system, with minimal use of local streets. The construction traffic management plan would implement traffic control features (signage, construction fencing, flagmen) to maintain access near and on-site to avoid and minimize potential impacts to the existing circulation system. Additionally, construction of the proposed project would not result in permanent road closures or long-term blocking of road access that would physically impair or otherwise conflict with an emergency response plan or emergency evacuation plan. The proposed project is not anticipated to substantially impair an adopted emergency response plan or emergency evacuation plan. No impact would occur, no mitigation would be required, and this topic will not be analyzed in the EIR.

b. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The project site is not within a VHFHSZ or SRA as designated by CAL FIRE. The project site is located in an urbanized portion of the City of Irvine and is surrounded by existing development. The nearest FHSZ is a moderate FHSZ located in the Stonegate village, approximately 1.65 miles northeast of the project site. The dominant meteorological feature affecting the City is the Pacific High-Pressure Zone, which produces the prevailing westerly to northwesterly winds which tend to blow pollutants away from the coast toward the inland areas.¹ As discussed in Section 4.7, Geology and Soils, the site is relatively flat and is surrounding by urban development and lacks topographical conditions that would contribute to wildfire spread.

Therefore, the project site faces little to no wildfire risk and the proposed project would not exacerbate wildfire risks or expose occupants to pollutant concentrations from a wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact. As previously discussed, the project site is located within an urbanized area of Irvine and is not located in a VHFHSZ or SRA as designated by CAL FIRE. The nearest FHSZ is a moderate FHSZ located in the Stonegate village, approximately 1.65 miles northeast of the project site. The project site is currently developed with one temporary church building and parking lot, with the remaining portion of the project site being vacant; however, there are utility connections within the site for the temporary church building. As described in Section 2.4.5, Utilities and Infrastructure Improvements, the project site is currently served by existing underground utilities, including water, sanitary sewer, stormwater, and electricity. The proposed project would establish new underground utility connections that would be limited to the project site to serve the proposed structures; however, the proposed project would not result in any large-scale infrastructure installation or maintenance that would place the project site at greater risk of wildfire. The

¹ City of Irvine. 2024. City of Irvine General Plan Land Use Element. <<https://cityofirvine.org/community-development/current-general-plan>> (accessed September 22, 2025).

proposed project would have less than significant impacts associated with exacerbated wildfire risks. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. As previously discussed, the project site is located within an urbanized area of Irvine and is not located in a VHFHSZ or an SRA as designated by CAL FIRE. The nearest FHSZ is a moderate FHSZ located in the Stonegate village, approximately 1.65 miles northeast of the project site. As discussed in Section 4.7, Geology and Soils, the site is relatively flat and lacks topographical conditions that would contribute to wildfire spread. The project site currently drains from east to west with an average gradient of 2 percent. Flows are received through a series of on-site inlets and piped to an existing basin located at the southeast corner of the Remington and Roosevelt intersection. The catch basin and the receiving storm drain were designed for multi-family residential development of the project site and a 25-year storm event. The proposed project would generally maintain the existing drainage patterns and is not anticipated to expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the project site faces little to no wildfire risk, and post-fire conditions are not concern for the project site. The proposed project does not propose any land use changes within the project site that would include any features that would increase the exposure of people or structures to post-fire risks. Impacts would be less than significant, no mitigation would be required, and this topic will not be analyzed further in the EIR.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

4.21.1 Impact Analysis

- a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Potentially Significant Impact. The proposed project would construct 68 new multi-family residential units and replace a temporary church building occupied by the Our Lady of Peace Korean Catholic Church with a new permanent church building, including a columbarium and chapel within the basement. In addition, the proposed project would construct a new parish hall building, a new rectory building, and a two-story underground parking garage.

As discussed in Section 4.4, Biological Resources, the proposed project is anticipated to result in less than significant impacts to habitat, wildlife species, and/or plant and animal communities. However, implementation of the proposed project would require the removal of buildings, ornamental trees, and shrubs, all of which are potential nesting habitat for birds, and compliance with federal and state avian protections would be required. Implementation of RCM BIO-1 would implement pre-construction bird surveys during nesting periods to identify and avoid adverse effects to nesting birds. Therefore, the proposed project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, nor substantially reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section 4.9, Cultural Resources, the project site does not contain any buildings or structures that meet any of the California Register of Historical Resources (California Register) criteria or qualify as “historical resources” as defined by CEQA and is not designated as a historical/archaeological landmark by the City. Therefore, the proposed project would not eliminate important examples of historical resources associated with the major periods of California history. However, the project site has low potential to yield buried and undiscovered archaeological remains, including human remains. Implementation of RCM CUL-1 would require work to stop and appropriate authorities to be notified if human remains are discovered. Compliance with RCM CUL-1, would ensure that any potential impacts to unknown buried human remains would be less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law. However, as discussed in Section 4.18, Tribal Cultural Resources, consultation under AB 52 is currently in process and the results of this consultation will be discussed in further detail in the EIR.

The proposed project would include ground disturbance in the form of excavation and grading. Subsequently, there is potential for inadvertent discovery of previously unrecorded archaeological resources. In the event of an inadvertent archaeological discovery, the project has potential to result in potentially significant impacts to archaeological resources. This topic will be evaluated further in the EIR and appropriate mitigation measures will be identified.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Potentially Significant Impact. Section 15355 of the *State CEQA Guidelines* defines cumulative impacts as “two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts.” Section 15130 of the *State CEQA Guidelines* requires evaluation of potential environmental impacts when the project’s incremental effect is cumulatively considerable. Per *State CEQA Guidelines* Section 15355, “cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of “reasonably foreseeable probable future” projects. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time. When future development proposals are considered by the City, these proposals would undergo environmental review pursuant to CEQA and, when necessary, mitigation measures would be adopted as appropriate. In most cases, this environmental review and compliance with project conditions of approval, relevant policies and mitigation measures, and the City’s General Plan , as well as compliance with applicable regulations, would ensure that significant impacts would be avoided or otherwise mitigated to less than significant levels. As discussed in the previous sections, the proposed project has the potential to result in significant impacts to Air Quality, Cultural Resources, Energy, Geology/Soils, Greenhouse Gas Emissions, Hydrology/Water Quality, Noise, Transportation, Tribal Cultural Resources, and Utilities/Service Systems. Accordingly, these topics will need to be further evaluated in the EIR,

including the proposed project's contribution to any significant cumulative impacts, as well as identification of mitigation measures where feasible.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. Previous sections of this IS reviewed the proposed project's potential impacts and identified potential to result in significant impacts to environmental factors including Air Quality, Cultural Resources, Energy, Greenhouse Gas Emissions, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, and Utilities/Service Systems. Therefore, the proposed project has potential to result in substantial direct or indirect adverse effects to human beings, and these environmental factors would need to be further analyzed in the EIR.

5.0 LIST OF PREPARERS

5.1 LEAD AGENCY

5.1.1 City of Irvine

The following individuals from the City of Irvine were involved in the preparation of this Initial Study/Notice of Preparation:

- Brett Cannon, AICP, Senior Planner
- MyThu Lam, Senior Transportation Analyst
- Chris Chung, AICP, Senior Planner

5.2 CEQA CONSULTANT

5.2.1 LSA Associates, Inc.

- Ryan Bensley, Principal
- Chris Jones, AICP, Associate/Project Manager
- Cesar Madrigal, Environmental Planner
- Lauren Peachey, Environmental Planner

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APPENDIX A

BIOLOGICAL RESOURCES ASSESSMENT

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Memorandum

Date: May 12, 2026

To: Orange County Development Company LLC. VP of Development c/o
Danielle Prigmore, Shea Homes

From: Brianna Bernard

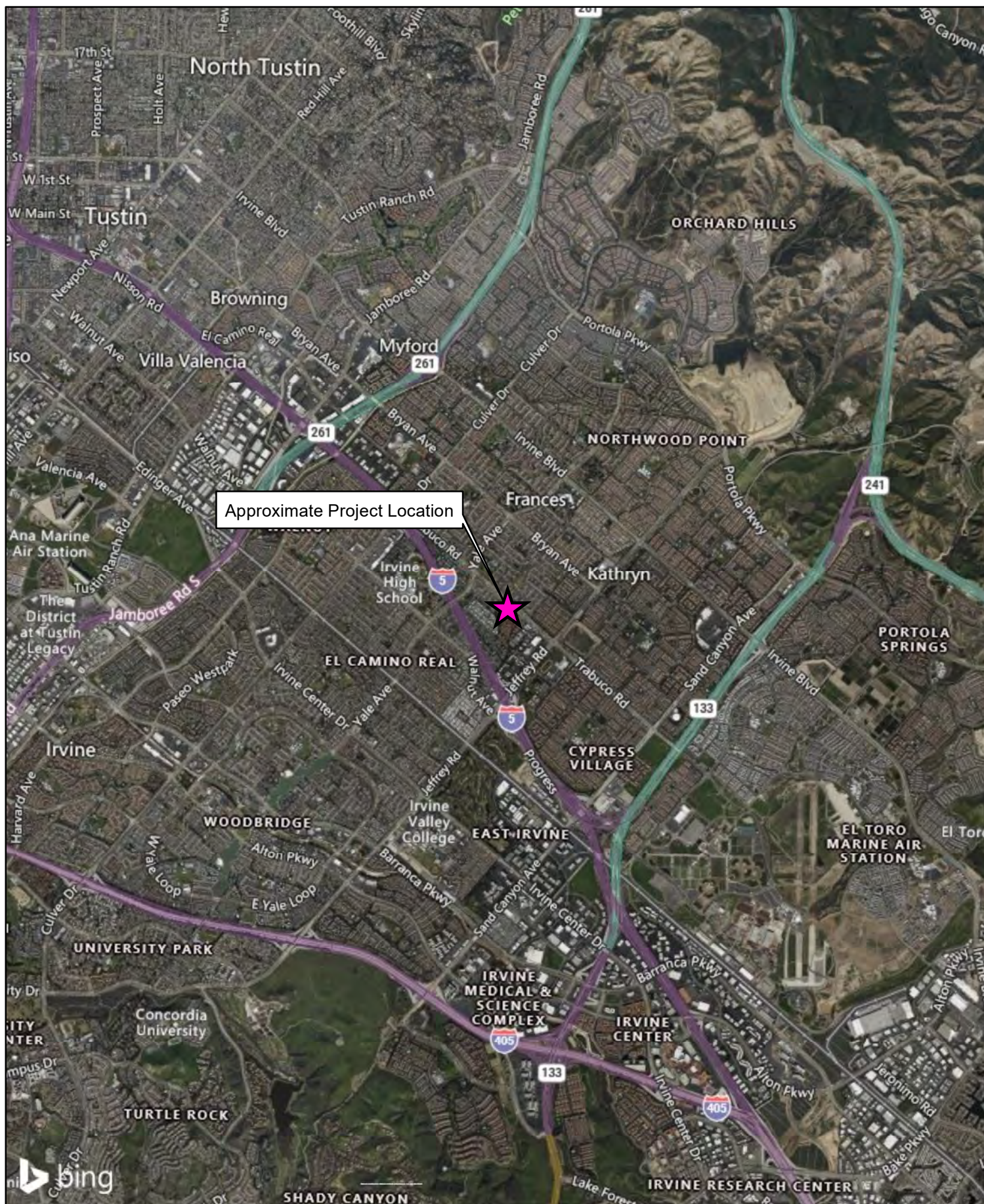
Subject: Biological Resource Assessment for Our Lady of Peace Korean Catholic
Church Project in the City of Irvine

Carlson Strategic Land Solutions (CSLS) prepared this Biological Resource Assessment memorandum and graphics documenting the finding of a field review for potential sensitive plants and wildlife for the Our Lady of Peace Korean Catholic Church Project (Project) located in the City of Irvine. In support of Project efforts CSLS biologist, Brianna Bernard, conducted an analysis of the biological resources onsite on April 11, 2024. This memorandum provides the results of the site visit.

1.0 Project Location and Description

The Project site includes the Our Lady of Peace Korean Catholic Church, paved parking lot, and unpaved parking lot/disturbed area located at 14010 Remington in the City of Irvine (**Figures 1 and 2**). The approximately 6-acre Project site is surrounded by residential uses to the north, east, south and west.

The Project proposes to construct a new Church main building, a Parish Hall, and a Rectory building, with associated parking on the northern portion of the Project site. Furthermore, the Project proposes to construct residential units on the southern portion of the Project. The proposed Site Plan is provided on **Figure 3**.



GIS Prepared By: Carlson SLS Created: April 16, 2024	  1 inch = 5,000 feet	Data Source: Bing Maps	<i>Our Lady of Peace Korean Catholic Church Project Regional Location Map</i>
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FIGURE 1

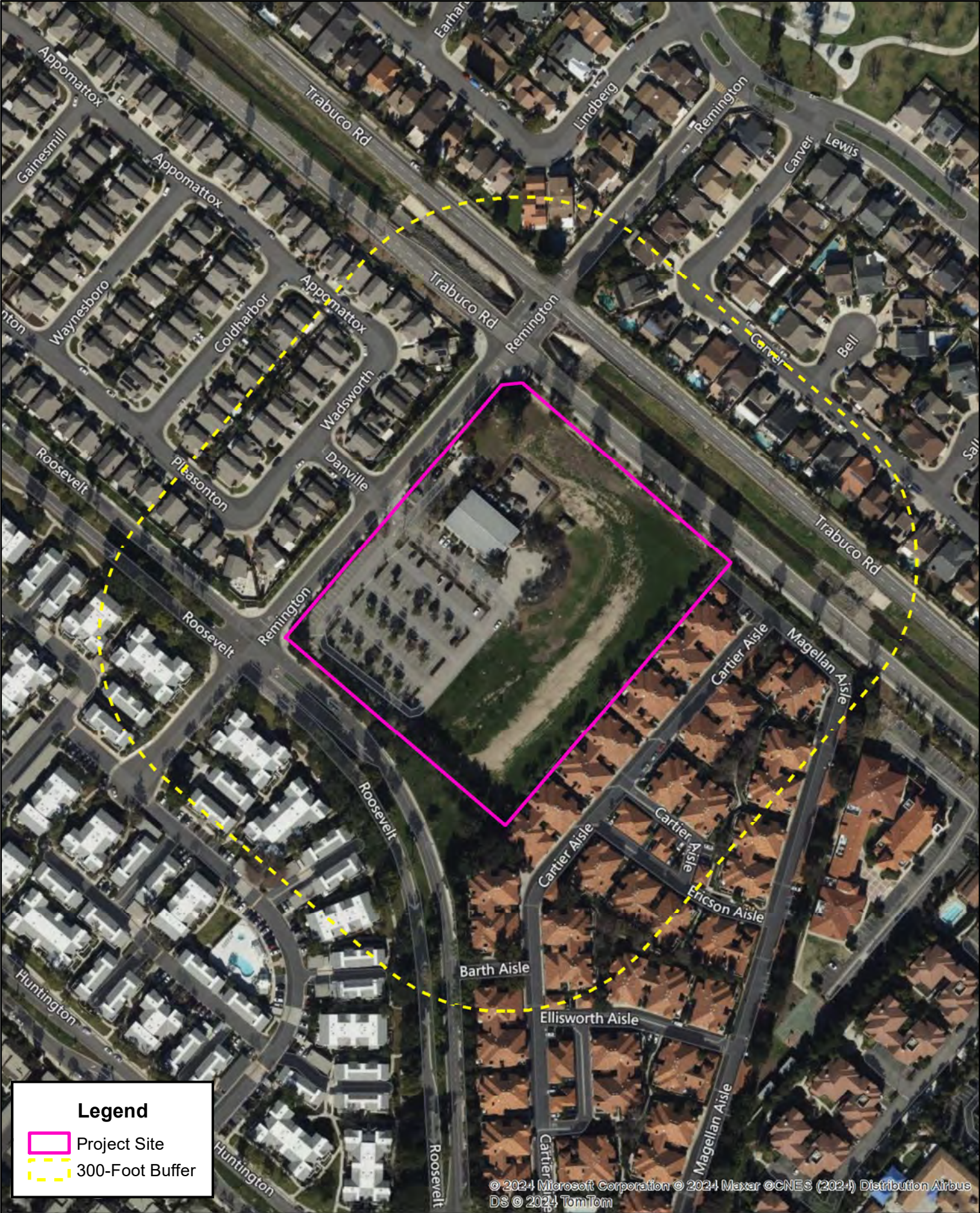


FIGURE 2

Site Summary :

Total Homes : 68

Site Area (Church) : ± 3.06 Acres
Site Area (Residential) : ± 2.94 Acres

Density : ± 23.1 Homes per Acre

3-STORY TOWNHOMES
OCCUPANCY R-2/U
1-HOUR FIRE PARTITIONS BETWEEN UNITS IN ACCORDANCE WITH SECTION 708 AND HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH SECTIONS 711 (C.B.C. SECTIONS 420.2, 420.3)

TYPE V-B CONSTRUCTION WITH NFPA 13 SPRINKLER SYSTEM PER C.B.C 903.3.1.1.

Plan 1 - 1,344 SF
Plan 2 - 1,466 SF
Plan 3 - 1,910 SF
Plan 3X - 1,878 SF

Parking Required:	
1.6 Spaces / 2BR x 26	: 41.6
2.0 Spaces / 3BR x 42	: 84
0.25 Spaces / Unit x 68	: 17
Total Required	: 142.6
	: 143 (2.1:1)

Parking Provided:	
Garage Spaces	: 136
Uncovered Spaces	: 9
Total Provided	: 145 (2.13:1)

Church Spaces	: 206
---------------	-------

Landscape Coverage:

Residential Required:	
30% of site area	: ±38,400 SF

Provided*	: ±21,868 SF (17.1%)
-----------	----------------------

Church Required:	
15% of site area	: ±20,002 SF

Provided:	: ±36,587 SF (27.4%)
-----------	----------------------

Total Required	: ±58,402 SF
Total Provided	: ±58,455 SF



2.0 Methodology

2.1 Biological Survey

Prior to the field survey, available literature, historical aerials, and databases were reviewed regarding sensitive habitats, special status plants, and wildlife species within the vicinity. CSLS reviewed and consulted literature and databases focused on Orange County, California, including the California Natural Diversity Database (CNDDDB) and the U.S. Fish and Wildlife Service (USFWS) Critical Habitat database. The CNDDDB is a California Department of Fish and Wildlife (CDFW) species account database that inventories status and locations of rare plants and wildlife in California. The CNDDDB was used to identify any sensitive plant communities and special status plants and wildlife that have potential to occur within the Project site.

The USFWS's online service for information regarding Final Critical Habitat designation within California was reviewed to determine if the Study Area is within any species' designated Critical Habitat. Additionally, the Information for Planning and Consultation (IPaC) database from the USFWS was reviewed, which generates a list of federally sensitive species and other resources, such as critical habitat, that are known or expected to be on or near the Project site. The search was utilized to determine the likelihood a Project may have impacts on federally sensitive species onsite with Project implementation.

2.1.1 Vegetation Community and Land Cover Mapping

Vegetation communities and land cover were mapped in the field directly onto a 200-scale (1" = 200') focusing on dominant plant species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). Vegetation communities were characterized utilizing vegetation alliances in accordance with The Manual of California Vegetation, Second Edition (MCVII) (Sawyer et al. 2009). Where necessary, deviations were made on best professional judgment when areas did not fit into a specific habitat description provided by MCVII. After completing the fieldwork, the plant community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages.

2.2 City of Irvine Tree Ordinance

The City establishes regulations and standards for parking lot trees and boundary trees as outlined in the City of Irvine's Municipal Code (Chapter 3-15-4 and Chapter 3-15-5). Per the City's Municipal Code the intent is to preserve the trees that provide shading

throughout parking areas and reduce the amount of heat absorbed, while providing aesthetics. Per the City's Municipal Code removal of parking lot trees and boundary trees are required to obtain a tree removal permit. Furthermore, tree distribution within parking areas is to provide one 15-gallon canopy tree for every uncovered parking space. Boundary trees which shade the parking area may count towards the fulfillment of parking lot trees. Two boundary trees shall equal one parking lot tree. Those trees observed in the public right-of-way are not included in the calculation.

2.3 Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP)

The Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) was prepared in cooperation with CDFW and USFWS. The NCCP/HCP focuses on creating a multiple-species, multiple-habitat subregional Reserve System and implementing a long-term adaptive management program that will protect coastal sage scrub and other habitats and species located within the CSS habitat mosaic, while providing for economic uses that will meet the social and economic needs of the people of the subregion.

The primary goal of the NCCP/HCP is to protect and manage habitat supporting a broad range of plant and animal populations. To accomplish this goal, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve.

The Project site is not mapped within the boundary of the Orange County NCCP/HCP. Therefore, no impacts would occur, and no mitigation is required.

2.4 Jurisdictional Waters

The Project site was assessed for jurisdictional Waters of the United States (U.S.) and Waters of the State. To determine the presence of a wetland, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The methodology published in the *U.S. Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require that 50 percent or more dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present.

Additionally, jurisdiction over non-wetland Waters of the U.S. is typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical

characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Projects with impacts to Waters of the U.S. are regulated under Sections 401 and 404 of the Clean Water Act.

Waters of the State are regulated by the California Department of Fish and Wildlife (CDFW) through Section 1600 et seq. of the California Fish and Game Code. The limits of Waters of the State are defined as the "body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Therefore, the limits extend from the channel bed to the top of the bank, with the addition of the canopy of any riparian habitat associated with the watercourse.

3.0 Results

3.1 Biological Results

CSLS Biologist conducted a general biological survey within the Project site and surrounding 300-foot buffer, collectively referred to as the Study Area, on April 11, 2024. The survey was conducted between 9:15 a.m. and 10:15 a.m. The temperature was 67° F during the field survey, with clear skies. Any inaccessible or restricted areas were surveyed using binoculars. The vegetation, trees, jurisdictional waters, and wildlife observed were documented.

The Project site is currently occupied and operated by the Our Lady of Peace Korean Catholic Church. The Our Lady of Peace Korean Catholic Church congregants meet regularly on the campus and is staffed full time. The building perimeter was surveyed to evaluate bat presence, identify potential bat day-roosting habitat, and signs of other cavity nesting wildlife. The building was visually examined for evidence of cavity nesting wildlife and bat use (e.g., presence of guano, evidence of day roost use, culled insect parts, urine staining, odors associated with bats, bird droppings, etc.). No indicative signs were observed and it was determined additional surveys for bats were not warranted.

Representative photographs of the Study Area are included in **Attachment A**.

3.1.1 Vegetation Communities and Land Cover

The Project site is a developed lot with a church building and associated parking lot. The site is of developed community with scattered ornamental species in the parking lot and frontage of the building, ornamental habitat, and disturbed habitat (**Figure 4**). The Project site contains no special-status vegetation type listed by the CNDDB and CDFW. A description of the vegetation communities are found below.

Table 1. Onsite Vegetation

Vegetation Community and Land Cover	Acreage
Disturbed	3.32
Ornamental	0.15
Developed	2.53
TOTAL	6.00

Disturbed

The portion located to the northeast of the building is a large disturbed area that is currently being used as overflow parking. Vegetation within this community includes mouse barley (*Hordeum murinum*), bristly ox-tongue (*Helminthotheca echioides*), cheeseweed (*Malva parviflora*), summer mustard (*Hirschfeldia incana*), lemon scented eucalyptus (*Corymbia citriodora*), carrotwood (*Cupaniopsis anacardioides*), castor bean (*Ricinus communis*), date palm (*Phoenix dactylifera*), bougainvillea (*Bougainvillea spp.*), and vinegar trees (*Lophostemon confertus*). This area is mowed regularly and utilized as overflow parking for the church.

Ornamental

The southwest portion of the Project site contains ornamental species. The trees within this community include typical non-native ornamental species such as Monterey pines (*Pinus radiata*).

Developed

The Project site is developed with a church building with accessory buildings. Several portables occur to the north east of the main church building. To the southwest of the main building is an asphalt-paved parking lot and associated parking lot landscaping. Vegetation within this community include typical landscaped trees and shrubs such as Indian hawthorne (*Rhaphiolepis indica*), African iris (*Dietes bicolor*), Japanese pittosporum (*Pittosporum tobira*), vinegar tree, Brazilian peppertree (*Schinus*

terebinthifolia), London plane (*Platanus × acerifolia*), bougainvillea, glossy privet (*Ligustrum lucidum*), and creeping juniper (*Juniperus horizontalis*).

3.1.2 Special Status Plant and Wildlife Species

Due to the developed environment of the Project site, it does not contain any suitable habitat for special status plants or wildlife. No sensitive wildlife species was reported as occurring on the Project site based on the CNDDDB. No special status wildlife were identified or observed within the Project site during the field survey.

3.1.3 Observed Wildlife Species

The Project site is located along a busy corridor along Trabuco Road. Due to this, few wildlife species were observed onsite during the survey. Species detected consisted primarily of those accustomed to urban settings, including Allen's hummingbird (*Selasphorus sasin*), barn swallow (*Hirundo rustica*), European starling (*Sturnus vulgaris*), rough-necked swallow (*Stelgidopteryx serripennis*), American crow (*Corvus brachyrhynchos*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), and mourning dove (*Zenaida macroura*).

3.1.4 Observed Special Status Plant Species and Vegetation Communities

The Project site does not include habitat for any special status plants. Additionally, no special status plants were observed onsite during the survey.

Furthermore, a CNDDDB search within the Tustin USGS topographic quadrangle found a single sensitive special status vegetation community designated by CDFW. This community is the Southern Coastal Salt Marsh. The Project site does not include the southern coastal salt marsh. No vegetation species associated with the southern coastal salt marsh occur on the Project site.

3.1.5 Wildlife Corridor

The Project site is characterized by exposed areas that lack suitable cover (disturbed/developed land covers) and resources that are typically associated with wildlife movement areas (i.e. water). Furthermore, the Project site is surrounded by residential development to the west, east, and south, is actively used by church attenders regularly, and is adjacent to Trabuco Road, located to the north, which is a busy street with consistent traffic and noise, further restricting any wildlife movement.



FIGURE 4

3.2 Jurisdictional Waters

Based on the literature review and USGS quadrangle topographic map, no drainages, mapped as a blue line on the topographic map and represents a natural drainage path, were mapped on the Project site. During the field survey, biologists paid special attention for any drainages meeting the regulatory definitions of waters of the US and waters of the State. While a formal wetland delineation was not conducted and no wetland pit test were performed, no indicators of waters of the US or State were observed.

The Project site is a developed condition with a church building, associated paved parking lot and a large, disturbed area used as overflow parking. Based on the field survey, there are no features identified on the Project site that meet the definition and are considered jurisdictional Waters of the United States or Waters of the State, pursuant to Section 1600-1603 of the California Fish and Game Code and Section 401 and 404 of the Clean Water Act, respectively.

4.0 Impacts

With the implementation of the Project as outlined within **Figure 3**, the entire Project site will be directly impacted with the construction of the Project. Additionally, indirect impacts to areas surrounding the Project site, within 300-feet, were analyzed below.

4.1 Biological Impacts

4.1.1 *Vegetation Communities*

Development of the Project site would result in the direct removal of non-native species and hardscape, including buildings and parking lot as identified in **Table 2** below. No direct or indirect impacts would occur to vegetation communities or land cover within the surrounding 300-feet. The direct impacts to the Project site vegetation communities and land cover are due to the demolition, grading, and construction of the Project as outlined within **Figure 3**.

Table 2. Onsite Vegetation Impacts

Vegetation Community and Land Cover	Acreage
Disturbed	3.32
Ornamental	0.15
Developed	2.53
TOTAL	6.00

No special status or sensitive plant species were observed onsite. Therefore, no impacts to sensitive vegetation would occur.

4.1.2 Sensitive Wildlife Species

Development of the Project site would result in the disruption and removal of potential nesting habitat in the form of buildings, ornamental trees, and shrubs. Due to the built nature of the site, the busy street, and development within the vicinity (e.g., nearby neighborhood), these impacts would not be expected to reduce the general wildlife populations below self-sustaining levels within the region and impacts to non-sensitive wildlife species do not meet the significance thresholds. Therefore, impacts to common wildlife species would not be considered a significant impact and no mitigation is required.

The Project site consists of developed habitat and lacks suitable habitat for sensitive wildlife species. The Project site provides limited suitable habitat for some common avian species in the form of ornamental species and existing building eaves. While none of the common species carry a Federal or State listing as threatened or endangered, they are all protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code (FGC) 3503. Under Fish and Game Code 3503, it is unlawful to take, possess, or destroy nest or eggs of any bird. Therefore, a pre-construction survey is required in compliance with the MBTA and FGC. Implementation of **Standard Condition SC BIO-1** which is proposed to ensure that activities affecting potential nesting habitat are restricted to periods outside of the avian breeding season or, where activities must occur, pre-activity surveys and avoidance measures are implemented. **SC BIO- 1** would ensure avoidance of direct impacts associated with vegetation removal or indirect impacts associated with construction related noise impacts for avian species covered under the MBTA and FGC during the typical nesting bird season. The Project would be required to adhere to federal and state regulations. Impacts would be less than significant.

SC BIO-1 *Prior to the issuance of any grading permit that would impact potentially suitable nesting habitat for avian species, the Project applicant shall adhere to the following:*

- 1. Vegetation removal activities shall be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to the extent feasible to avoid potential impacts to nesting birds and/or ground nesters.*

2. *Any construction activities that occur during typical nesting season (February 15 to August 15 for songbirds; January 15 to August 31 for raptors) will require that all suitable habitat, on-site and within 300-feet surrounding the site (as feasible), be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement ground disturbances. If active nests are identified on the Project site, the biologist would establish buffers around the vegetation (500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers would be halted until the nesting effort is finished (i.e. the juveniles are surviving independent from the nest). The onsite biologist would review and verify compliance with these nesting boundaries and would verify the nesting effort has finished. Work can resume within these areas when no other active nests are found. Alternatively, a qualified biologist has the discretion to determine the size of an appropriate no-work buffer based on species/active nest observed. The reduced buffer determined by nesting species, would be monitored and a monitoring plan would be submitted to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared and submitted to City for mitigation monitoring compliance record keeping.*

4.1.3 Wildlife Corridor

The Project site is surrounded by residential development, is characterized by exposed areas that lack suitable cover (disturbed/developed land covers) and lacks resources that are typically associated with wildlife movement areas (i.e. water). Furthermore, the Project site is adjacent to Trabuco Road, a busy street with consistent traffic and noise. Therefore, the Project site does not function as a wildlife corridor. As such, no impacts would occur, and no mitigation is required.

4.2 Local Ordinances or Policies

While the City has a tree ordinance, the purpose of the ordinance is to regulate the removal and destruction of trees from Public right-of-way and provide shade for parking areas. Landscaping plans for the proposed construction of the parking lot shall adhere to the City's tree ordinance. All tree removal from any right-of-way or trees that were provided for the parking lot that are anticipated to be removed shall comply with the City ordinance and obtain a tree removal permit. Furthermore, the Project shall comply with the installation of shade trees for the parking lot as outlined within the City's Municipal Code Chapter 3-15-4 and Chapter 3-15-5. Additionally, ornamental trees or

native trees, can provide suitable nesting habitat and roosting areas for avian species. Should tree removal occur during the typically nesting season there is potential for disruption of nesting activity, if nests occur in the proposed removed tree. With the compliance of the City Ordinance and **SC BIO-1**, impacts are less than significant and no mitigation is required.

4.3 Jurisdictional Features

No jurisdictional features occur on the Project site that meet the definition and are considered jurisdictional Waters of the United States or Waters of the State, pursuant to Section 1600-1603 of the California Fish and Game Code and Section 401 and 404 of the Clean Water Act, respectively. Therefore, no impacts would occur, and no mitigation is required.

5.0 Summary

The Project site consists of a church building, accessory buildings, and a developed parking lot with ornamental trees and shrubs. The southeastern portion of the Project site consists of a disturbed area that is utilized for overflow parking and was generally void of vegetation. The Project site does not contain sensitive habitat or suitable habitat for sensitive species.

While the site is developed, the building and scattered ornamental species could provide suitable nesting habitat for avian species. None of the common species with potential to occur in these habitat are listed as federally or state threatened or endangered species (or candidates for listing), they are all protected under the MBTA and FGC 3503. Therefore, in compliance with the MBTA and applicable FGC regulations, **Standard Condition SC BIO-1** shall be implemented, which ensures that construction activities with potential to impact nesting avian species are restricted to periods outside of the breeding season of these species or, where such activities must occur, pre-activity surveys and avoidance measures are implemented.

The City does have current ordinances that govern removal of trees (Section 5-7-401 [Urban Forest Ordinance], and Section 5-7-401 [Tree Removal Ordinance]) and the Project would comply with these ordinances in regard to removal of any right-of-way tree and parking lot tree removal and provide appropriate replacement trees as outlined within the City's Municipal Code Chapter 3-15-4 and Chapter 3-15-5. Additionally, since the trees may provide suitable nesting habitat and roosting areas, **SC BIO-1** is to be implemented. With the compliance of the City Ordinance and **SC BIO-1**, impacts are less than significant and no mitigation is required.

The Project site does not fall within the Orange County NCCP/HCP boundary, therefore there is no impact and no mitigation required.

No jurisdictional features are present onsite, therefore there is no impact and no mitigation required.

Please contact me at bbernard@carlsonsls.com or 949.542.7042, should you have any questions or comments.

Brianna Bernard
Project Manager

Enclosures:

- Attachment A: Representative Photographs

Attachment A

Representative Photographs



Looking north from the parking lot towards the main church building.



The parking lot consists of asphalt with ornamental species.



Looking south over the disturbed area where overflow parking occurs.



Looking northwest over the disturbed area along the north side of the main church building.



Looks west at the main building and accessory buildings.



Looking east at the main church building.



Looking south over the parking lot.



Looking north east towards the main church building from the parking lot.

APPENDIX B

CULTURAL RESOURCE SURVEY REPORT

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

December 03, 2025

Roman Catholic Diocese
14010 Remington
Irvine, California 90620

Subject: Cultural Resource Survey Report for the approximately 6-acre Our Lady of Peace Project at 14010 Remington, City of Irvine, Orange County, California (20241645)

Dear Joanna:

The purpose of this letter is to describe the results of a cultural resource record search and field survey conducted for the Roman Catholic Diocese of Orange's (Project Applicant) Our Lady of Peace Project (project) located at 14010 Remington (Assessor's Parcel Number [APN] 529-401-01) in the City of Irvine, Orange County, California.

This work was conducted per the California Environmental Quality Act (CEQA) (as amended January 1, 2025); Public Resources Code Division 13 (Environmental Quality), Chapter 2.6, Sections 21083.2 (Archaeological Resources) and 21084.1 (Historical Resources); and the *State CEQA Guidelines* (as amended December 1, 2024), California Code of Regulations Title 14, Chapter 3, Article 5, Section 15064.5 (Determining the Significance of Impacts on Historical and Unique Archaeological Resources). Sites determined important under CEQA are eligible for listing on the California Register of Historical Resources. No cultural resources were identified during this project.

INTRODUCTION

The project is an approximately 6-acre area located on the southeast corner of Trabuco Road and Remington in the City of Irvine. Roosevelt is south of the project area, while residences on Cartier Aisle are situated on the east. The project area is one-third of a mile east of Interstate (I)-5.

The rectangular project area measures 450 feet (ft) in the northwest-southeast direction and 550 ft in the southwest-northeast direction. Elevation ranges from 151 to 163 ft with slope in the west-southwest direction. The project area is depicted on the *Tustin, California* 7.5-minute United States Geological Survey (USGS 1981) quadrangle map in Township 5 South, Range 9 West in the northeast corner of Section 36 (Attachment A, Figure 1). The parcel lies in the southwest corner of the *Rancho Lomas de Santiago* Mexican Period Land Grant.

Currently, approximately 2.5 acres on the western side of the project area is developed with a Korean Catholic Church building, an asphalt parking lot, and landscaped areas. The remaining portion of the project area is undeveloped grassy area. The project proposes to replace the existing church building with a permanent Our Lady of Peace Korean Catholic Church building, and to construct a new parish hall building and a new rectory building, all in the north half of the project area. Additionally, the project proposes to construct 68 new multi-family residential units in the southern portion of the project area.

Work conducted for this project included a cultural resource record search and field survey. The record search at the California Historical Resource Information System's (CHRIS) South Central Coastal Information Center (SCCIC) located at California State University, Fullerton (CSUF) was conducted to identify prior studies and recorded resources. The pedestrian field survey was conducted to locate buried cultural material in areas of exposed sediment. An historic building assessment was not conducted as part of this study.

RESULTS OF INFORMATION SEARCHES AND FIELD SURVEY

Results of the South Central Coastal Information Center (SCCIC) Information Search

Prior Cultural Resource Studies. On October 28, 2025, a cultural resource record search for the project area and a 0.5-mile radius was conducted at the SCCIC by Assistant Coordinator and GIS Program Specialist, Isabela Kott. The results of the SCCIC record search are summarized in Table A and listed as provided by the SCCIC (Attachment B).

Table A: Results of Record Search

Reference	OR No. ¹	Type of Study
Previous Studies in the Project Area		
Ahlering (1972)	762	Resource Inventory
ARI (1976)	2225	Annual Report
Strozier (1978)	2225	Planning Review
Cooley (1979)	1099	Survey
Schroth (1979)	305	Historical Review
Gardener (1981)	647	Survey
Padon (1985)	847	Resource Inventory
Previous Studies within 0.5-mile of the Project Area		
OR-142, -455, -492, -586, -645, -698, -785, -786, -808, -814, -906, -1404, -1686, -1881, -1881A, -1902, -1902A, -1902B, -2342, -2345, -2845, -3206, -3260, -3277, -3277B, -3277C, -3392, -3825, -4084, -4226.		

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 Attachment B.

ARI – Archaeological Research, Inc.

Prior Studies Inside the Project Area. The information search identified total of 7 prior resource studies within at least a portion of the project area. These studies include survey (2), resource inventory (2), historical/planning review (2), and annual report (1) studies. These studies are identified by author and date in Table A and referenced at the end of this report.

The record search shows that the current project area has been completely surveyed in the past. The entire project area was surveyed once by Gardener (1981), while a length of the project area along Trabuco Road, approximately 20 percent of the current project area, was surveyed by Cooley (1979).

Prior Studies Outside the Project Area. The record search shows that another 30 cultural resource studies have been conducted within 0.5-mile of the project area. These 30 studies in the project area are survey (20), monitoring (3), architectural evaluation (2), bridge/culvert evaluation (2), peer review (2), and Environmental Impact Report (1) studies. Studies outside of the project area are identified by OR No. in Table A and are listed in Attachment B.

Prior Cultural Resources

Resources Inside the Project Area. The record search identified no cultural resources within the project area.

Resources Outside the Project Area. Two resources were recorded along Trabuco Road over 0.25-mile southeast of the project area. One of the resources was an isolated pestle fragment. The other was a one-story wooden house built circa 1915. The house no longer exists.

Results of the Historic Map and Aerial Photograph Review

To determine the original use of the project area, SCCIC maps (Attachment B) and available online aerial photographs and maps (NETROnline 2025) were reviewed.

Historic Maps. Two historic maps were provided with the SCCIC record search were reviewed. The earliest of the two 15-minute USGS maps provided by the SCCIC record search (USGS 1896) shows what appears to be Trabuco Road as a dirt road. The 1896 map also depicts three buildings more than one mile northwest of the project area and one building 0.5-mile southeast of the project area. The second 15-minute USGS map provided by the SCCIC (USGS 1901) shows that the building southeast of the project area is gone, but another building is depicted along Trabuco Road approximately 0.5-mile northwest of the project area. No other development is shown on these maps within more than 3 miles of the project area.

Several historic maps available online (NETROnline 2025) were reviewed. They show no change from the 1901 edition of the 15-minute USGS map described above until 1935, when Trabuco Road is depicted as a paved route. The 1935 map shows a building, probably a farmstead, situated along the southwest side of Trabuco Road less than 0.25-mile northwest of the project area. The next major change identified on maps is a 1957 7.5-minute USGS map that identifies the general area including the project as agricultural and also depicts the farmstead just northwest of the project area. A 1967 map of the area depicts 2 buildings at the nearby farmstead location. A 1975 map shows residential development on the west side of Interstate (I)-5 approximately 0.5-mile away from the project area. A 1982 map shows residential development on the northeast side of Trabuco Road directly across the road from the project area.

Historic Aerial Photographs. The earliest available online aerial photograph (NETROnline 2025) dates from 1946 and shows that the project area was agricultural, likely orange groves, that occupied an extensive area extending 2 miles or more in every direction. The farmstead buildings just northwest of the project area are clearly depicted on the 1946 aerial photograph, as are eucalyptus windrows planted in a northwest-southeast direct along what are now Huntington, Roosevelt, and Trabuco Roads. An aerial photograph dating 1952 shows little change. An aerial photograph dating 1962 also shows little change except that it appears that some of the orange trees in the grove at the project area are gone. An aerial photograph dating 1965 shows that only about half of the original number of trees exist in the grove at the project area.

A 1972 aerial photograph is of poor quality but shows that the project area remains in agricultural use. A 1980 aerial photograph shows that the land on the northeast side of Trabuco Road is residential, while the project area still used agriculturally. A 1985 aerial photograph shows that the project area is disked but is no longer orchard, while the property northwest of Remington is being

developed into a residential neighborhood. A 1992 aerial photograph shows that while the current project area is vacant, all areas surrounding the project area are residential.

Aerial photographs taken annually from 1992-1999 show the project area to be vacant. An aerial photograph taken in 2000 shows the parking lot and church exist, indicating they were constructed in 2000. Construction of the concrete patio on the southeast side of the church is shown on a 2002 aerial photograph. Little change is depicted on aerial photographs dating after 2002.

Field Survey

On November 11, 2025, a pedestrian field survey of the project area was conducted by LSA archaeologist Ivan Strudwick. No archaeological material was found during the survey.

The survey began in the northern portion of the project area and was conducted by walking northwest-southeast transects separated by 5-7 meters (m) in the direction parallel to Trabuco Road. The survey did not cover the church building area in the middle of the project along Remington, or the paved parking lot at the west end of the project along Remington.

The undeveloped portions of the project area comprise an open area northeast of the church building, between the building and Trabuco Road, as well as the entire southeastern half of the study area. These areas are level, except for a low earthen berm adjacent to the sidewalk along Trabuco Road. Undeveloped areas contain low grasses with excellent ground visibility of 80 percent or more. Ground visibility was 100 percent in many areas. Surface sediment was a yellow brown to light brown clay loam with some gravel. The grassy area southeast of the church appears to have been used for overflow parking. The field survey failed to identify any prehistoric material.

SUMMARY AND RECOMMENDATIONS

The current SCCIC cultural resource record search of the 6-acre Our Lady of Peace Project shows that the entire project area had been previously surveyed before but recorded no cultural resources. The pedestrian survey of the project area also failed to identify any resources within the project area.

Because no cultural resources exist in or adjacent to the project area, no additional cultural resource work is recommended for this project. If buried resources are found during ground-disturbing construction activities, it is recommended that a qualified professional archaeologist assess the resource(s) to determine its extent and potential significance.

In the event human remains are encountered during project construction, the Orange County Coroner must be notified of the find immediately. State Health and Safety Code Section 7050.5 and *State CEQA Guidelines* Section 15064.5(e)(1) state that no further disturbance shall occur to the area of the find until the County Coroner has made a determination of origin and disposition of the human bone pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC) by phone within 24 hours, and the NAHC shall then immediately determine and notify a Most Likely Descendant (MLD), who, with the permission of the landowner or his/her authorized representative, may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment of the remains within 48 hours of being granted access to the site.

If you have any questions, please contact me at (949) 337-6101 or at ivan.strudwick@lsa.net.

Sincerely,

LSA

A handwritten signature in black ink, appearing to read 'Ivan Strudwick', is written over a faint, light blue circular stamp.

Ivan Strudwick, M.A., RPA
Associate/Archaeologist

Attachments: A: Figure 1 – Project Location
B: Results of Information Center Record Search
C: Project Photographs

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Schroth, Adella

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Strozier, Hardy

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United States Geological Survey (USGS)

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ATTACHMENT A

FIGURE

Figure 1 – Project Location

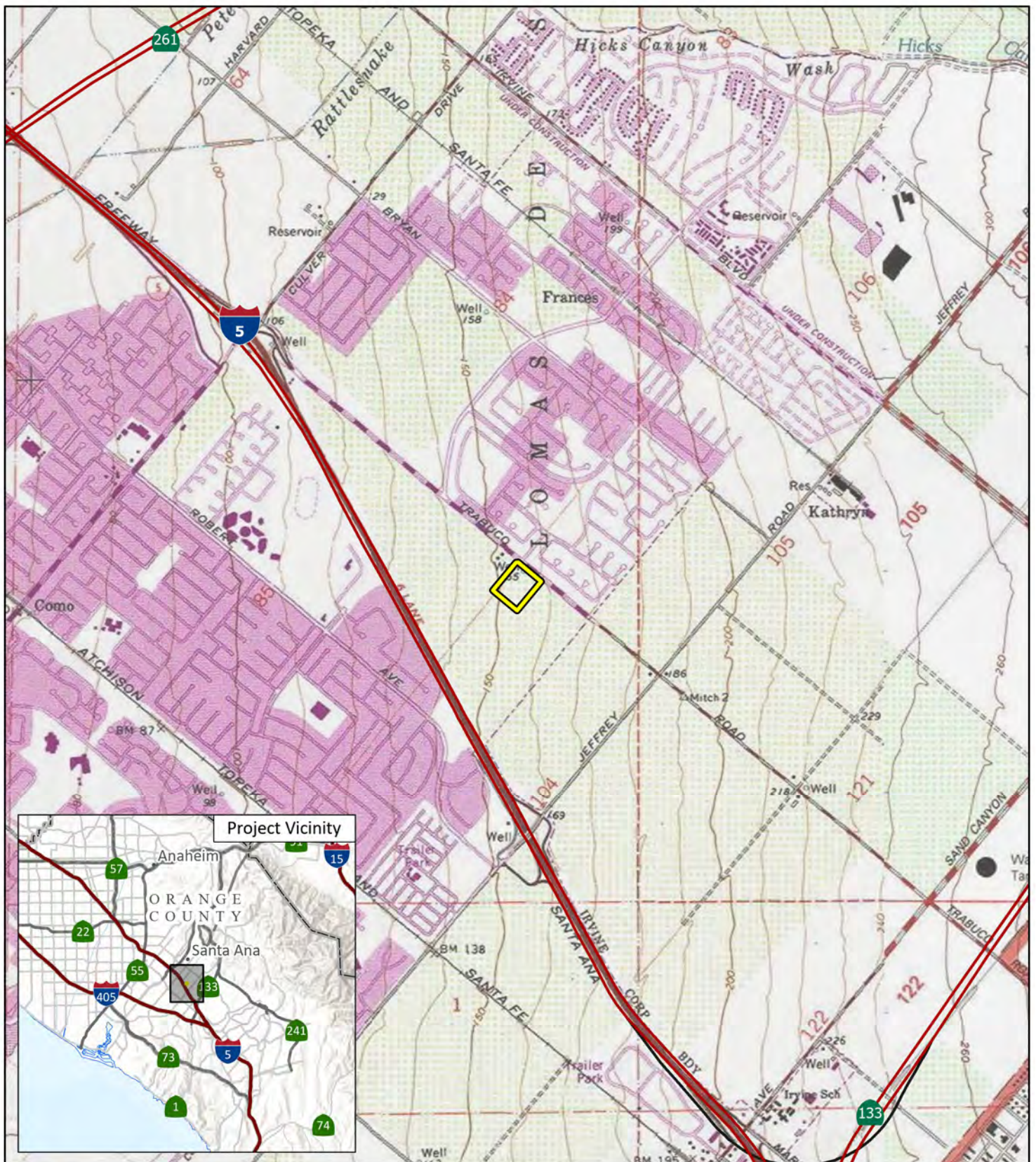
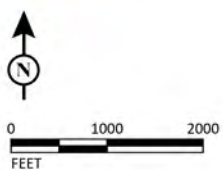


FIGURE 1

LSA

 Project Site



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

I:\2024\20241645\GIS\Pro\Our Lady of Peace Project\Our Lady of Peace Project.aprx (Fig 1 - Project Location and Vicinity)
9/5/2025 10:48 AM

Our Lady of Peace Project
Project Location and Vicinity

ATTACHMENT B

RESULTS OF INFORMATION CENTER RECORD SEARCH

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

10/28/2025

Records Search File No.: 27518.13555

Ivan Strudwick
LSA
20 Executive Park, Suite 200
Irvine, CA 92614

Re: Record Search Results for Our Lady of Peace (20241645, Phase Z)

The South Central Coastal Information Center received your records search request for the project area(s) referenced above, located on the Tustin, CA USGS 7.5' quadrangle(s). 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 resources 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: 2	SEE ATTACHED MAP or LIST
Reports within project area: 7	OR-00305, OR-00647, OR-00762, OR-00847, OR-01099, OR-02225, OR-02534
Reports within ½-mile radius: 25	SEE ATTACHED MAP or LIST

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 Built Environment Resources Directory (BERD) 2022:

☒ available online; please go to

https://ohp.parks.ca.gov/?page_id=30338

Archaeo Determinations of Eligibility 2022:

☐ enclosed ☐ not requested ☒ nothing listed

Los Angeles Historic-Cultural Monuments

☐ enclosed ☐ not requested ☒ nothing listed

Historical Maps:

☒ enclosed ☐ not requested ☐ nothing listed

San Bernardino Historical Maps:

☒ not available at SCCIC; please go to

<https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02>

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](#),

Isabela Kott

 Digitally signed by Isabela Kott
Date: 2025.10.28 17:04:05 -07'00'

Isabela Kott

Assistant Coordinator, GIS Program Specialist

Enclosures:

- (X) GIS Shapefiles – 34 shapes
- (X) Custom Maps – 6 pages
- (X) Resource Database Printout (list) – 1 page
- (X) Resource Database Printout (details) – 2 pages
- (X) Report Database Printout (list) – 4 pages
- (X) Resource Record Copies – (all) 6 pages
- (X) Historical Maps – 4 pages

RECORDS SEARCH RESULTS REDACTED

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RECORDS SEARCH RESULTS REDACTED

RECORDS SEARCH RESULTS REDACTED

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-100468		Resource Name - Isolate/EMA 801; Voided - 30-100022	Other	Prehistoric	AP02		
P-30-162325		OHP Property Number - 094367; Resource Name - Spencer House; Other - zip 92620	Building	Historic	HP02		

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00142		1976	Desautels, Roger J.	Archaeological Survey Report on the North Irvine Assessment District Located in The	Scientific Resource Surveys, Inc.	
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-00455		1979	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Yale Avenue Right-of-ways, Irvine California	Archaeological Planning Collaborative	
OR-00492		1980	Anonymous	Archaeological Records Search and Field Survey Northwood Project Sites Number One and Two, City of Irvine, California	Archaeological Planning Collaborative	
OR-00586		1980	Douglas, Ronald D.	Assessment of Cultural/Scientific Resources, Village 12, SCE HVTL Relocation Irvine, California	Archaeological Planning Collaborative	30-000341
OR-00645		1981	Mabry, Theo N.	Archaeological Survey Report for Proposed Improvements to Jeffrey Road and I-5 Freeway, City of Irvine, California	Larry Seeman Associates, Inc.	
OR-00647		1981	Gardener, Edward	Cultural Resources Records Search and Field Survey Northwood Project Sites 3 and 4 City of Irvine, Calif.	Larry Seeman Associates, Inc.	
OR-00698		1983	Padon, Beth	Historic Property Survey Report Proposed Yale Avenue/ I-5 Overcrossing Irvine, California	LSA Associates, Inc.	
OR-00762		1972	Ahlering, Michael L.	A Discussion of Scientific Cultural Resources in Relation to the North Irvine Precise Land Use Plan	Archaeological Research, Inc	
OR-00785		1985	Padon, Beth	Archaeological Monitoring for the Northwood Horizon Project	LSA Associates, Inc.	
OR-00786		1985	Padon, Beth	Archaeological Monitoring for the Northwood Place Apartment Project	LSA Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00808	Paleo -	1979	Unknown	Final Environmental Impact Report Regional Domestic Water Storage and Transmission Facilities From Diemer/Sac and Wellfield Systems to Existing Distribution Network	Culp/Wesner/Culp	30-000344, 30-000349, 30-000382, 30-000383
OR-00814		1982	Romani, John F.	ARCHAEOLOGICAL SURVEY REPORT for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 605 in Los Angeles County Pm 21.30/44.38; 0.00/6.85	Caltrans	
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-00906		1988	Padon, Beth and Jertberg, Pat	Cultural Resources Report for the San Diego Creek Drainage Basin Project Level Facilities Orange County, CA	LSA Associates, Inc.	
OR-01099		1979	Cooley, Theodore G.	Archaeological Resources Assessment Conducted for Proposed Irvine Ranch Water District Pipeline Right of Ways	Archaeological Resource Management Corp.	30-000344, 30-000349, 30-000382, 30-000383, 30-000556, 30-000647, 30-000806, 30-000807, 30-000808, 30-000809, 30-000810, 30-000811
OR-01404	Paleo -	1994	Padon, Beth and Fran Govean	An Archaeological and Paleontological Resource Review of the Proposed Planning Area 8 Project, City of Irvine, Orange County, USGS Tustin 7.5' Quadrangle, 60 Acres	Petra Resources Inc.	
OR-01686		1976	Cottrell, Marie G.	A Walk Over Survey of Tenative Tract 9372 for the E.S.R. Corporation of Newport Beach, California	Archaeological Research Inc.	30-000513
OR-01881		1983	Padon, Beth	Historic Property Survey Report Proposed Yale Avenue/I-5 Overcrossing Irvine, California	LSA Associates, Inc.	
OR-01881A		1979	Anonymous	Archaeological Reocrds Search and Reconnaissance Yale Avenue Right-of-ways Irvine, California	Archaeological Planning Collaborative	
OR-01902		1985	Casen, George A., John F. Romani, and Lois M. Webb	Hiistoric Property Survey 07 ORA 5 Route 405 to Route 55 PM 21.3/30.3 07210 - 065480	Caltrans	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01902A		1985	Webb, Lois M. and George A. Casen	Historic Architectural Evaluation 07 Ora 5 Route 405 to Route 55 PM 21.3/30.3 07210 065480	Office of Environmental Analysis Department of Transportation	
OR-01902B		1982	Snyder, John W.	Evaluations of Standard Bridges and Culverts on 07-Ora, LA-5 Santa Ana Transit Corridor	Office of Environmental Planning Department of Transportation	
OR-02225	Other - Irvine Ranch	1978	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	The Irvine Company	
OR-02342		2001	Bissell, Ronald M.	Peer Review of "A Phase I Cultural Resources Inventory for Planning Area 9, Irvine, California," dated 12 April 2001. Author, Christopher Drover, Ph.D. Prepared by The Keith Companies, Incorporated (TKCIJ for the Irvine Community Development Company (ICDC)	RMW Paleo Associates, Inc.	30-001480
OR-02345		2001	Bissell, Ronald M.	Peer Review of "A Phase I Cultural Resources Inventory for Planning Area 8A, Irvine, California," dated 4 April 2001. Author, Christopher Drover, Ph.D. Prepared by The Keith Companies, Incorporated for the Irvine Community Development Company	RMW Paleo 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-02845		2001	Drover, Christopher E.	A Phase I Cultural Resources Inventory for Planning Area 9 Irvine, California	The Keith Companies Archaeological Division	30-176641
OR-03206		2003	Harper, Caprice D.	Cultural Resource Assessment Cingular Wireless Facility No. CM 305-04 Irvine, Orange County, California	LSA Associates, Inc.	
OR-03260		2001	Drover, Christopher E., David M. Smith, and Catherine Bell	A Phase I Cultural Resources Inventory for the 73 Acre Planning Area 8a, Irvine, California	The Keith Companies Archaeological Division	
OR-03277		1985	Casen, George A., John F. Romani, and Lois M. Webb	The Proposed Project Is the Widening and General Improvement of Interstate Route 5 Between Route 405 and Route 55 in Orange County, California	Caltrans Environmental Planning Branch	30-157788, 30-161870, 30-161875, 30-161889, 30-176772
OR-03277B		1985	Webb, Lois M. and John W. Snyder	Historic Architectural Evaluation 07 Ora 5 Route 405 to Route 55	Environmnetal Planners Caltrans	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-03277C		1982	Snyder, John W.	Evaluations of Standard Bridges and Culverts on 07-Ora, LA-5 Santa Ana Transit Corridor	Environmental Planning, Caltrans	
OR-03392		2004	Strudwick, Ivan H.	Cultural Resource Survey of the Proposed Irvine Desalter Project, City of Irvine, Orange County, California	LSA Associates, Inc.	19-000373
OR-03825		2000	Drover, Christopher E.	A Cultural Resources Inventory of Planning Area 9B and 9C, Irvine, California	The Keith Companies, Inc.	
OR-04084		2005	Fulton, Terri and Deborah McLean	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites Within the San Diego Creek Watershed - Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	LSA Associates	30-000161, 30-000391, 30-000495, 30-000602, 30-001462
OR-04226	Paleo -	2012	Padon, Beth	Archaeological and paleontological monitoring st Cypress Village (PA 40) Jeffery Road street improvements for north of I-5 to Trabuco Road, Irvine, California	Discovery Works, Inc.	

RECORDS SEARCH RESULTS REDACTED

RECORDS SEARCH RESULTS REDACTED

RECORDS SEARCH RESULTS REDACTED

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ATTACHMENT C

PROJECT PHOTOGRAPHS



View of project area parking lot and church buildings from lot near Remington and Roosevelt in the west corner of the project. View to NE. November 11, 2025.



View of project area parking lot, church buildings on left, and undeveloped area (SE of church) from parking lot near Remington and Roosevelt. View to E. November 11, 2025.



Southeast entrance of Our Lady of Peace Korean Catholic Community Church.
View to NW. November 11, 2025.



View of SE edge of open field from the east corner of the project along Trabuco Road.
View to SW. November 11, 2025.



View of church buildings and open field (southeast of the church) from the east corner of the project along Trabuco Road. View to W. November 11, 2025.



Continuation of above photo. View of open field and earthen berm along Trabuco Road (on right) from the east corner of the project area. View to NW. November 11, 2025.

APPENDIX C

PALEONTOLOGICAL RESOURCES MEMORANDUM

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MEMORANDUM

DATE: December 5, 2025

To: Brett Cannon, AICP, Senior Planner

FROM: Kelly Vreeland, M.Sc., Senior Paleontologist

SUBJECT: Paleontological Resources Memorandum for the Our Lady of Peace Project
(LSA Project No. 20241645)

INTRODUCTION

This memorandum documents the results of the paleontological analysis conducted for the proposed Our Lady of Peace Project (project) in Irvine, Orange County, California. This analysis was conducted to determine the potential for the project to impact paleontological resources in compliance with all applicable State and City of Irvine (City) regulations and requirements regarding paleontological resources, as well as the standards of the Society of Vertebrate Paleontology (SVP, 2010). The applicable regulations and requirements include the California Environmental Quality Act (CEQA): Public Resources Code (PRC) Division 13, Chapter 2.6; the *State CEQA Guidelines*: California Code of Regulations, Title 14, Chapter 3, Appendix G; PRC Section 5097.5; and the Resources Element from the County of Orange General Plan (County of Orange, 2015). Information from this paleontological memorandum is intended for incorporation into the Environmental Impact Report (EIR) being prepared for this project.

INTRODUCTION

The project is an approximately 6-acre area located on the southeast corner of Trabuco Road and Remington in Irvine. Roosevelt is south of the project area, and residences on Cartier Aisle are situated on the east. The project area is one-third of a mile east of Interstate (I) 5.

The rectangular project area measures 450 feet in the northwest-southeast direction and 550 feet in the southwest-northeast direction. Elevation ranges from 151 to 163 feet with slope in the west-southwest direction. The project area is depicted on the *Tustin, California* 7.5-minute United States Geological Survey (USGS, 1981) quadrangle map in Township 5 South, Range 9 West in the northeast corner of Section 36 (Figure 1 provided in Attachment B). The parcel lies in the southwest corner of the *Rancho Lomas de Santiago* Mexican Period Land Grant.

Currently, approximately 2.5 acres on the western side of the project area is developed with a Korean Catholic Church building, an asphalt parking lot, and landscaped areas. The remaining portion of the project area is undeveloped grassy area. The project proposes to replace the existing church building with a permanent Our Lady of Peace Korean Catholic Church building and to construct a new parish hall building and a new rectory building, all in the north half of the project

area. Additionally, the project proposes to construct 68 new multifamily residential units in the southern portion of the project area.

METHODS

To assess the impacts of the project with respect to paleontological resources, LSA reviewed geologic maps of the project site and relevant geological and paleontological literature to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those or similar geologic units elsewhere in the region. In addition, a fossil locality search was conducted through the Natural History Museum of Los Angeles County (NHMLA) to determine the status and extent of previously recorded paleontological resources within and surrounding the project site. On November 11, 2025, LSA conducted a pedestrian field survey of the project area. The purpose of the field survey was to document and collect any paleontological resources that may have been present, as well as to note the sediments at the surface.

RESULTS

Setting

Results of the literature review indicate that the project area is within the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast trending structural block with similarly trending faults 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). The total width of this province is 225 miles, extending from the Colorado Desert in the east, across the continental shelf, to the southern Channel Islands (Santa Barbara, San Nicolas, Santa Catalina, and San Clemente) in the west (Sharp, 1976). This province is characterized by a series of mountain ranges and valleys that trend in a northwest-southeast direction roughly parallel to the San Andreas Fault Zone (Norris and Webb, 1976; Sharp, 1976). It contains extensive pre-Cenozoic (more than 66 million years ago [Ma]) igneous and metamorphic rocks covered by Cenozoic (less than 66 Ma) sedimentary deposits (Norris and Webb, 1976).

Geologic mapping by Morton and Miller (2006) shows that the project site is underlain by Holocene to Late Pleistocene (less than 129,000 years ago) Young Alluvial Fan Deposits. Although not mapped by Morton and Miller (2006), Artificial Fill is present from the prior construction of the area and was noted during the field survey. These geologic units and their paleontological sensitivities are described in more detail below. Dates for the geologic time intervals referenced in this report are derived from the *International Chronostratigraphic Chart* published by the International Commission on Stratigraphy (Cohen et al., 2024).

Artificial Fill

Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition depends on the source and purpose. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material.

Although Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study, and Artificial Fill has no paleontological sensitivity.

Young Alluvial Fan Deposits

The Young Alluvial Fan Deposits are Holocene to late Pleistocene in age (less than 129,000 years ago) and consist of unconsolidated silt, sand, and gravel (Morton and Miller, 2006). Cobble- and boulder-size clasts are also present and become more abundant closer to the hills and mountains (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. They show slight to moderate dissection by erosional gullies (Morton and Miller, 2006).

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; Cohen et al., 2024) 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 feet. Therefore, these deposits are assigned a low paleontological sensitivity above a depth of 10 feet and a high sensitivity below that mark.

Fossil Locality Search

According to the locality search conducted by the NHMLA, there are no known fossil localities within the boundaries of the project. However, this search noted two fossil localities nearby from similar sedimentary deposits that may occur in the project area. The closest locality, LACM VP 7867 from Pleistocene deposits at Great Park, produced Rodent (Rodentia) from 25 feet below ground surface. The next closest locality, LACM VP 7713 from City of Irvine south of Interstate 405 and northeast of San Canyon Reservoir which produced remains of Sloth (Mylodontidae) from Pleistocene deposits at an unknown depth. A copy of the NHMLA fossil locality search results letter is included in Attachment C.

Field Survey

The pedestrian field survey was completed by LSA archaeologist Ivan Strudwick, who is cross-trained in paleontology. The survey was conducted on November 11, 2025. No paleontological material was found during the survey.

The survey began in the northern portion of the project area and was conducted by walking northwest-southeast transects separated by 5–7 meters in the direction parallel to Trabuco Road. The survey did not cover the paved parking lot at the west end of the project along Remington.

The undeveloped portions of the project area comprise an open area northeast of the church building, between the building and Trabuco Road, as well as the entire southeastern half of the study area. These areas are level, except for a low earthen berm adjacent to the sidewalk along Trabuco Road. Undeveloped areas contain low grasses with excellent ground visibility of 80 percent or more. Ground visibility was 100 percent in many areas. Surface sediment was a yellow-brown to light-brown clay loam with some gravel. Visible native sediments were consistent with geologic mapping by Morton and Miller (2006).

SUMMARY AND RECOMMENDATIONS

Impact Analysis

The project site contains Artificial Fill, which has no paleontological sensitivity, and Young Alluvial Fan Deposits, which have low paleontological sensitivity from the surface to a depth of 10 feet and high paleontological sensitivity below a depth of 10 feet.

Mitigation

To ensure that potential impacts to undiscovered paleontological resources remain less than significant, preparation of a Paleontological Resources Impacts Mitigation Program (PRIMP), paleontological monitoring of construction activities, appropriate treatment of newly discovered resources, and preparation of a final paleontological monitoring report would be required, as outlined in the following Mitigation Measure (MM) PALEO-1.

MM PALEO-1

Paleontological Resources. Prior to the commencement of ground-disturbing activities, a qualified, professional paleontologist who meets the standards set by the Society of Vertebrate Paleontology (SVP) shall be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the guidelines of the SVP and shall include the methods that will be used to protect paleontological resources that may exist within the project limits, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of ground disturbance.

If ground-disturbing activities occur in deposits with high paleontological sensitivity (i.e. Young Alluvial Fan Deposits below a depth of 10 feet), those activities shall be monitored by a qualified paleontological monitor following the PRIMP. If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. Once soils have been monitored during the excavation stage and determined to lack the presence of

paleontological resources, monitoring of these soils would no longer be necessary for the remainder of grading activities. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossil shall be collected from the field.

Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.

Attachments: A: References
B: Figure
C: Fossil Locality Search Results Letter

ATTACHMENT A

REFERENCES

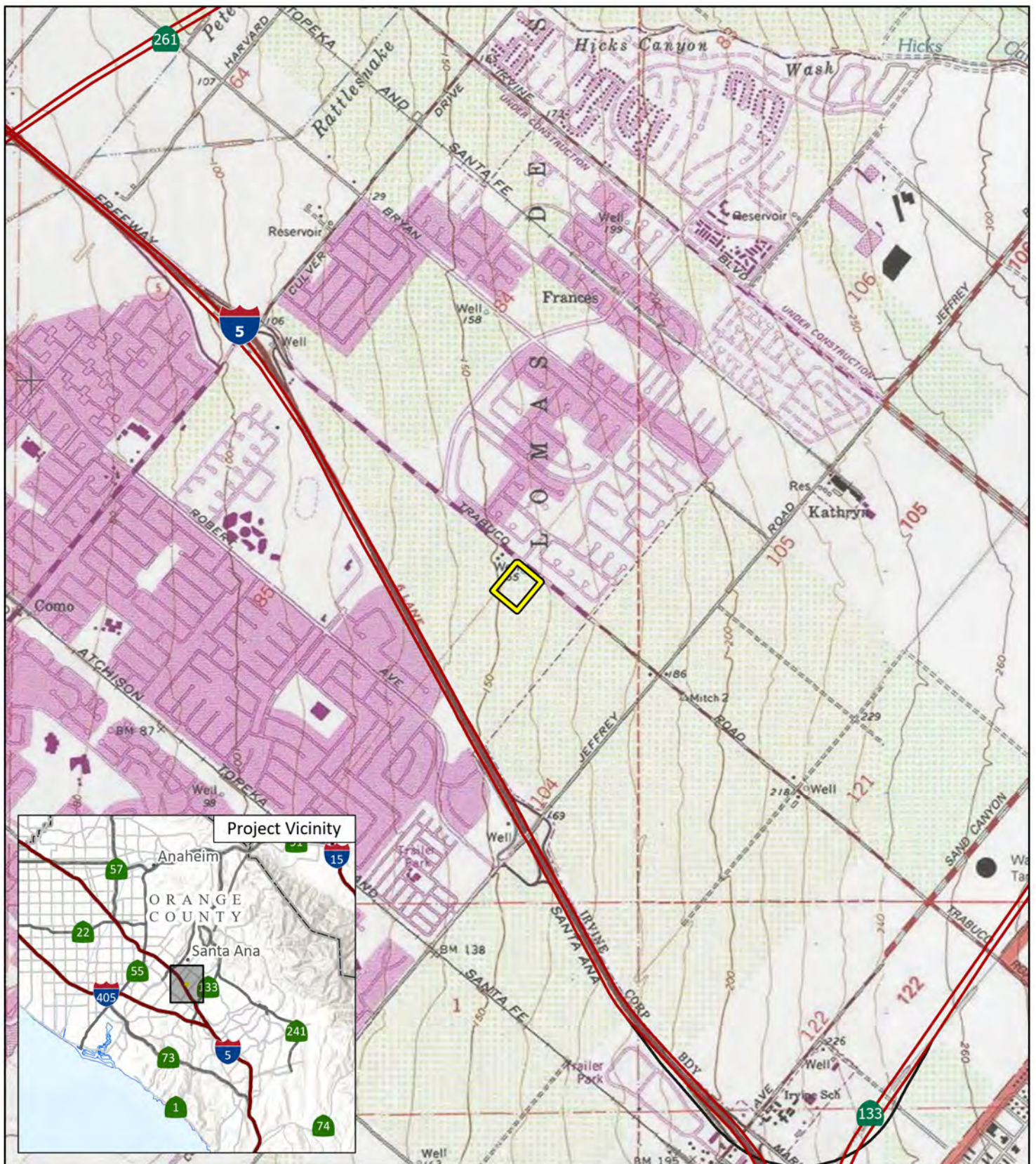
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- _____. 1991b. A Catalogue of Late Quaternary Vertebrates from California: Part Two: Mammals. *Natural History Museum of Los Angeles County Technical Reports* No. 7, Los Angeles.
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- Sharp, R.P. 1976. *Geology: Field Guide to Southern California. Second Edition*. Kendall/Hunt Publishing Company. p. 181.
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- Springer, Kathleen, Eric Scott, J. Christopher Sagebiel, and Lyndon K. Murray. 2009. The Diamond Valley Lake Local Fauna: Late Pleistocene Vertebrates from Inland Southern California. In L.B. Albright, III, ed. *Papers in Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne. Museum of Northern Arizona Bulletin* 65:217–23.

ATTACHMENT B

FIGURE

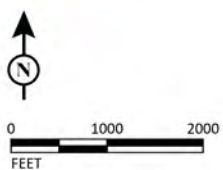
Figure 1: Project Location and Vicinity



LSA

 Project Site

FIGURE 1



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

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9/5/2025 10:48 AM

Our Lady of Peace Project
Project Location and Vicinity

ATTACHMENT C

FOSSIL LOCALITY SEARCH RESULTS LETTER



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

October 10, 2025

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

Subject: Fossil Locality Search for the Our Lady of Peace Project in the City of Irvine, Orange County

Dear Dr. Bell:

LSA is requesting the Natural History Museum of Los Angeles County conduct a fossil locality search for the Our Lady of Peace Project (project) in the City of Irvine, Orange County. The project proposes to construct 68 new multi-family residential units and replace the temporary church building occupied by the Our Lady of Peace Korean Catholic Church with a new permanent church building. The attached figure (Records Search Map) depicts the project area on the Tustin, California 7.5-minute United States Geological Survey (USGS) topographic map in Township 5 South, Range 9 West, and Section 36, San Bernardino Baseline and Meridian (USGS, 1982).

LSA is interested in knowing the location of fossil localities within an approximately 1-mile radius around the project area. In addition, LSA would like to know what specimens have been found from those localities. If there are no known fossil localities within a 1-mile radius, please provide the location of the closest localities within sediments similar to those found within the project area, as well as information on the fossils recovered.

Please send an invoice to my attention, including a reference to LSA project number **20241645**.

If possible, LSA is requesting receipt of the results by October 31, 2025. Please send the results via e-mail to Kelly.vreeland@lsa.net

Sincerely,

LSA Associates, Inc.

Kelly Vreeland, M.Sc.
Senior Paleontologist

Attachment: Records Search Map

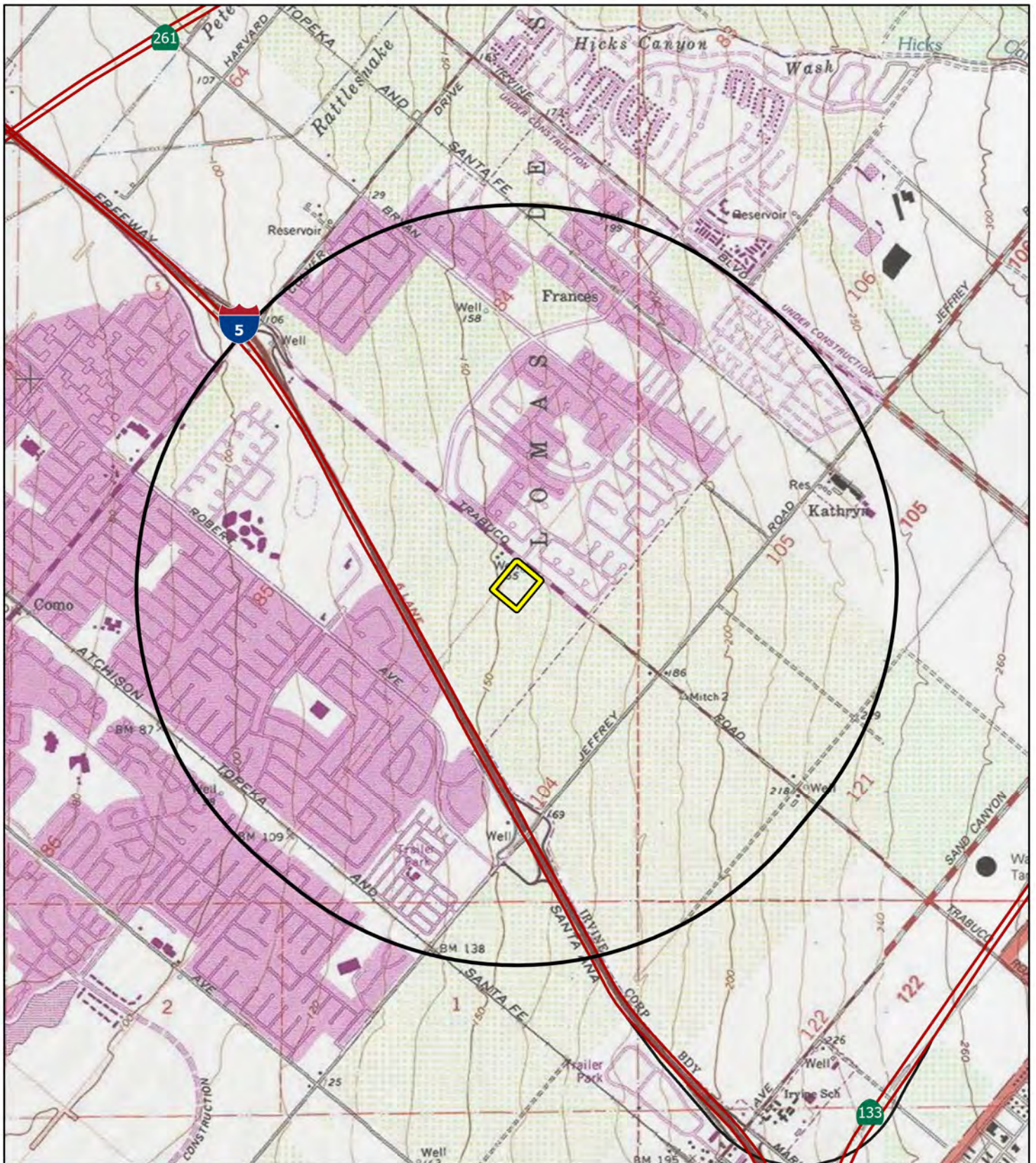


FIGURE 1

LSA

- Project Site
- 1-mile Buffer of Project Site



0 1000 2000
FEET

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

I:\2024\20241645\GIS\Pro\Our Lady of Peace Project\Our Lady of Peace Project.aprx (Records Search Map - One Mile)
9/5/2025 10:51 AM

Our Lady of Peace Project
Records Search Map



Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

October 26, 2025

LSA Associates, Inc.
Attn: Kelly Vreeland

re: Paleontological resources records search for the Our Lady of Peace Project (LSA Proj# 20241645)

Dear Kelly:

I have conducted a search of our paleontology collection records for the proposed development at the Our Lady of Peace Project area as outlined on the portion of the Tustin USGS topographic quadrangle map that you sent to me via e-mail on October 10, 2025. We do not have fossil localities that have been recorded or georeferenced directly within the proposed project area, but we do have fossil localities nearby from similar sedimentary deposits that may occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 7867	Great Park (former El Toro Marine base)	Unknown formation (Pleistocene)	Rodent (Rodentia)	25 feet bgs
LACM VP 7713	City of Irvine south of I-405 & northeast of Sand Canyon Reservoir	Unknown formation (Pleistocene, reddish-brown alluvium)	Sloth (Mylodontidae?)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search is limited to the records of the NHMLA. It is not intended as a paleontological assessment of the project for the purposes of California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a paleontological assessment be conducted by a paleontologist meeting Federal (43 Code of Federal Regulations Part 49.110) or Society of Vertebrate Paleontology standards for compliance with applicable regulations, such as CEQA or NEPA.

Sincerely,

A handwritten signature in black ink that reads "Alyssa Bell". The script is cursive and fluid, with the first name and last name clearly distinguishable.

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

APPENDIX D-1

PRELIMINARY GEOTECHNICAL SUBSURFACE EVALUATION

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July 1, 2024

Project No. 23174-01

Roman Catholic Bishop of Orange

13280 Chapman Avenue
Garden Grove, CA 92840

***Subject: Preliminary Geotechnical Subsurface Evaluation, Proposed Church Development,
14010 Remington, Irvine, California***

In accordance with your request, LGC Geotechnical, Inc. has performed a geotechnical subsurface evaluation for the proposed church development located at 14010 Remington in the City of Irvine, California. This report summarizes the results of our background review, subsurface exploration, and geotechnical analyses of the data collected, and presents our findings, conclusions, and preliminary recommendations for the proposed church project.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully,

LGC Geotechnical, Inc.



Barry Graham, CEG 2749
Project Geologist



Dennis Boratynec, GE 2770
Vice President



Branden Petersen, EIT
Senior Staff Engineer

DJB/BPP/BPG/amm

Distribution: (1) Addressee (electronic copy, wet signed copies can be provided upon request)

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Appendix B – Exploration Logs
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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents the results of our geotechnical subsurface evaluation for the proposed church development located at 14010 Remington in the City of Irvine, California (see Site Location Map, Figure 1). The purpose of our work was to collect subsurface data in order to confirm that the site can be developed from a geotechnical perspective. Our scope of services included:

- Review of pertinent readily available geotechnical information and geologic maps (Appendix A).
- Subsurface evaluation including excavation, sampling, and logging of four small-diameter hollow stem borings.
- Infiltration testing at two of the small-diameter hollow-stem borings.
- Laboratory testing of representative samples obtained during our subsurface evaluation (Appendix C).
- Geotechnical analysis and evaluation of the data obtained, including:
 - Suitability of the site for the proposed development from a geotechnical standpoint;
 - Description of the site geology, and subsurface soil and groundwater conditions;
 - Evaluation of the seismic conditions at the site, including seismic design criteria based on the 2022 California Building Code (CBC); and
 - Recommendations for remedial grading operations and site preparation.
- Preparation of this report presenting our findings, conclusions and recommendations with respect to the proposed site development.

1.2 Background/Project Description

The approximately 3-acre site is bound to the north by Trabuco Road, to the west by Remington, to the south by a parking lot for the associated church and open space and east by a residential development. Review of historical aerial photographs suggests the site was undeveloped farmland prior to 1980. By 1985, Roosevelt was constructed but the site remained undeveloped until 2000. The church and associated parking lot was completed by 2002. The site has essentially remained unchanged since then.

The proposed development will consist of a new parish hall, plaza, church, rectory, parking lot and other associated improvements. We understand that the proposed church development will have a basement approximately 9 feet deep while the other structures will be at grade with relatively light building loads (column and wall loads assumed to be a maximum of approximately 30 kips and 3 kips per lineal foot, respectively). At this time, we do not have any design cut/fill information, but we assume maximum design cuts will be a maximum of approximately 10 feet (for basement) and design fills will be less than 5 feet.

The recommendations provided herein are based upon the estimated structural loading, potential grade changes, and expected layout information above. We understand that the project plans are currently being developed at this time; LGC Geotechnical should be provided with updated project plans (including grading, foundation, retaining/basement walls, etc.) and

any changes to the assumed structural loads when they become available, in order to either confirm or modify the recommendations provided herein.

Note that an evaluation of the adjacent proposed residential site (LGC Geotechnical, 2024) was conducted at a similar time to the subject proposed church site. The limits of these sites can be found in Figure 2 - Boring Location Map. The laboratory test results from the adjacent residential evaluation were also included within this report.

1.3 Subsurface Evaluation

LGC Geotechnical performed a subsurface geotechnical evaluation of the site consisting of the excavation of 4 hollow-stem auger borings.

Four hollow-stem borings (HS-5, HS-6, I-3, and I-4) were drilled to depths ranging from approximately 10 to 70 feet below existing grade. An LGC Geotechnical representative observed the drilling operations, logged the borings, and collected soil samples for laboratory testing. The borings were excavated using a track-mounted drill rig equipped with 8-inch-diameter hollow-stem augers. Driven soil samples were collected by means of the Standard Penetration Test (SPT) and Modified California Drive (MCD) sampler generally obtained at 2.5 to 5-foot vertical increments. The MCD is a split-barrel sampler with a tapered cutting tip and lined with a series of 1-inch-tall brass rings. The SPT sampler and MCD sampler were driven using a 140-pound automatic hammer falling 30 inches to advance the sampler a total depth of 18 inches. The raw blow counts for each 6-inch increment of penetration were recorded on the boring logs. Bulk samples were also collected and logged at select depths for laboratory testing. At the completion of drilling, the borings were backfilled with the native soil cuttings and tamped. Some settlement of the backfill soils may occur over time.

The approximate locations of borings are shown on the Geotechnical Exploration Location Map (Figure 2). Boring logs are presented in Appendix B.

1.4 Field Percolation Testing

Two falling head field percolation tests (I-3 and I-4) were performed in the approximate locations indicated on our Geotechnical Map (Figure 2). Estimation of infiltration rates for the site was accomplished in general accordance with the guidelines set forth by the County of Orange County (2013). A 3-inch diameter perforated PVC pipe with filter sock was placed in the borehole, and the annulus was backfilled with gravel, including placement of approximately 2 inches of gravel at the bottom of the borehole. The infiltration wells were pre-soaked the day prior to testing. During the pre-test, if the water level drops more than 6 inches in 25 minutes for two consecutive readings, the test procedure for coarse-grained soils was followed. If the water level did not drop 6 inches in one or both pre-test readings, the procedure for fine-grained soils was followed. The procedure for coarse-grained soils requires performing the test for one hour and taking one reading every 10 minutes from a fixed reference point. The procedure for fine-grained soils requires performing the test for six hours and taking one reading every 30 minutes from a fixed reference point.

The pre-tests indicated the procedure for the fine-grained soils should be followed. The calculated infiltration is normalized relative to the three-dimensional flow that occurs within the field test to a one-dimensional flow out of the bottom of the boring only (i.e., "Porchet Method"). The measured infiltration rates (for feasibility purposes only) are provided in Table 1 below. Please note that infiltration is discussed in Section 4.8 and field data is provided in Appendix D.

Please note that the values provided in Table 1 do not include reduction factors associated with the test procedure, site variability, and long-term siltation plugging that are used to calculate the design infiltration rate.

TABLE 1
Summary of Field Infiltration Testing

Infiltration Test No.	Approx. Depth Below Existing Grade (ft)	Measured Infiltration Rate* (in./hr.)
I-3	10	0.02
I-4	10	0.01

*Measured Infiltration Rates Do Not Include Factor of Safety.

1.5 Laboratory Testing

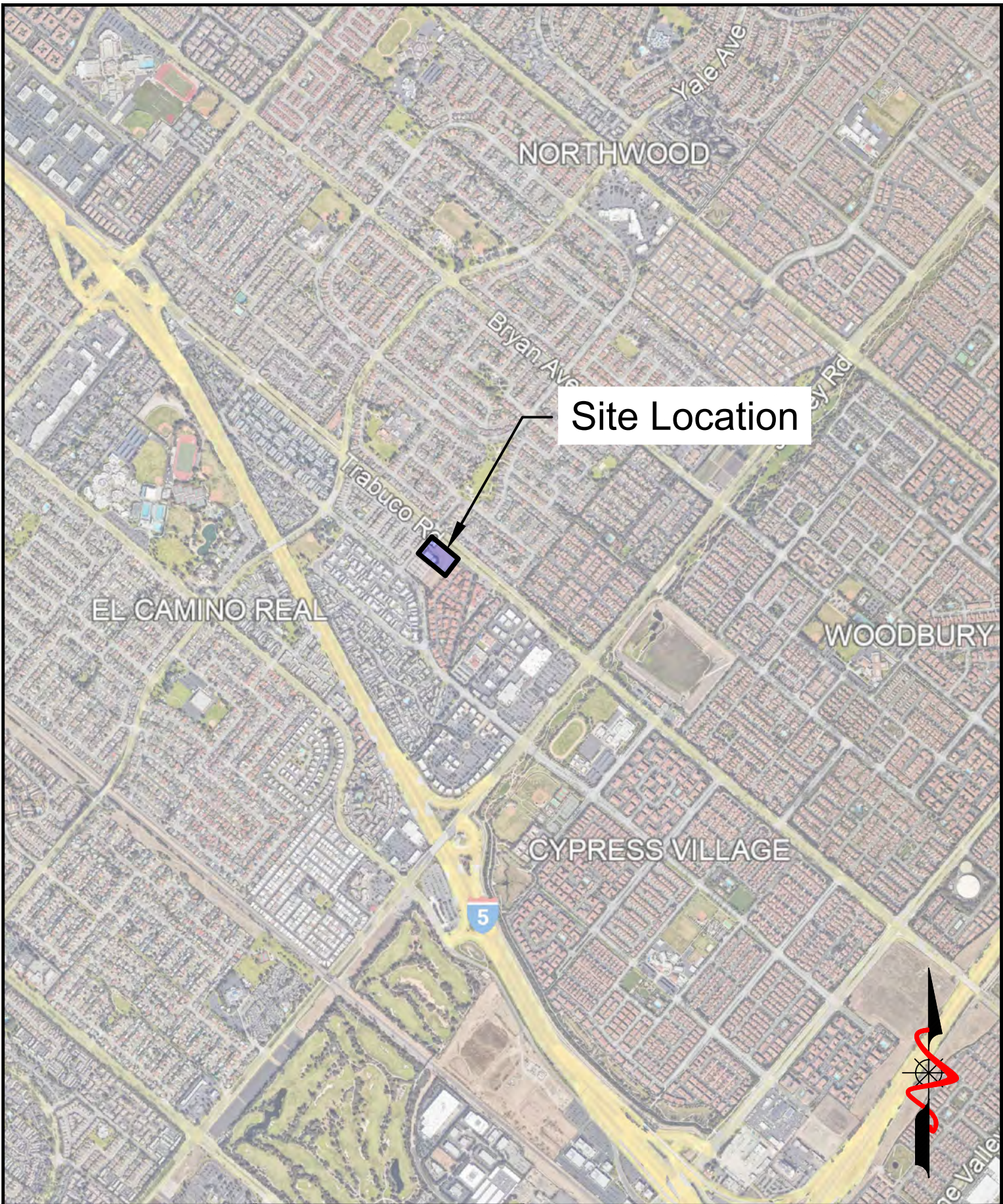
Laboratory testing was performed on representative soil samples obtained from our subsurface evaluation. Laboratory testing included in-situ moisture and density tests, fines content, expansion index, laboratory compaction, collapse and corrosion testing.

The following is a summary of the laboratory test results.

- Dry density of the samples collected ranged from approximately 80 pounds per cubic foot (pcf) to 106 pcf, with an average of approximately 94 pcf. Field moisture contents ranged from approximately 1 percent to 24 percent, with an average of approximately 13 percent.
- Two samples were tested for fines content indicated a fines content (passing No. 200 sieve) ranging from 48 to 68 percent. According to the Unified Soils Classification System (USCS), the tested samples are classified as "coarse" and "fine-grained" soil.
- Two Expansion Index (EI) tests were performed. The result indicated an EI value ranging from 112 to 135, corresponding to "High" to "Very High" expansion potential.
- Two laboratory compaction tests of near surface samples indicated a maximum dry density ranging from 115.0 to 117.5 with an optimum moisture content ranging from 12.5 to 14.0 percent.
- Six swell/collapse tests were performed. The plots are provided in Appendix C.
- Corrosion testing indicated soluble sulfate content of 95 parts per million (ppm), chloride content of 60 ppm, and pH value of 7.90, and minimum resistivity of 720 ohm-cm.

A summary of the results is presented in Appendix C. The moisture and dry density test results

are presented on the boring logs in Appendix B.



Site Location



FIGURE 1
Site Location Map

PROJECT NAME	Our Lady of Peace, Irvine
PROJECT NO.	23174-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	July 2024

2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located along the southeastern margin of the Los Angeles Basin, a large structural depression within the Peninsular Ranges geomorphic province of California. The southeastern portion of Los Angeles Basin includes the Tustin Plain, a shallow alluvial portion of the coastal plain. The site is located in the eastern portion of the Tustin Plain in the Irvine subbasin, generally composed of approximately 200 to 700 feet of unconsolidated to semi-consolidated Pliocene, Quaternary, and Holocene-age alluvial sediments. Soils within this zone consist predominantly of interbedded discontinuous lenses of clay, silt, sand and gravel.

Regional geologic mapping and local topographic expressions do not indicate the presence of large-scale landslides within or adjacent to the project area.

2.2 Site Geology and Generalized Subsurface Conditions

Based on regional mapping (Morton, 2006) and our observations of the site, the subject site is underlain by Young Alluvial Fan Deposits (Qyf). In portions of the site, the young alluvial deposits are overlain by a thin veneer of older artificial fill that was placed during the previous development of the site. The depth of this older artificial fill was found to range from approximately 1 to 2 feet below existing grade during our evaluation but may be found at a deeper depth during construction, especially beneath the footprint of the existing church building. As indicated in our field explorations, site soils generally consisted of medium dense to dense clayey sands/silty sands and stiff to hard sandy clays.

It should be noted that borings are only representative of the location and time where/when they are performed, and varying subsurface conditions may exist outside of the performed locations. In addition, subsurface conditions can change over time. The soil descriptions provided should not be construed to mean that the subsurface profile is uniform, and that soil is homogenous within the project area. Descriptions of the subsurface conditions are presented on the boring and geotechnical trench logs located in Appendix B.

2.3 Groundwater

Groundwater was encountered at a depth of approximately 54 feet below existing grade. Historic high groundwater is estimated to be greater than 40 feet below existing ground surface (CGS, 2001).

In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local seepage or during rainy seasons. Groundwater conditions below the site may be variable, depending on numerous factors including seasonal rainfall, local irrigation, and groundwater pumping, among others.

2.4 Faulting and Seismic Hazards

Prompted by damaging earthquakes in California, State legislation and policies concerning the classification and land-use criteria associated with faults have been developed. Their purpose was to prevent the construction of urban developments across the trace of active faults, resulting in the Alquist-Priolo Earthquake Fault Zoning Act. Earthquake Fault Zones have been delineated along the traces of active faults within California. Where developments for human occupation are proposed within these zones, the State requires detailed fault evaluations be performed so that engineering geologists can mitigate the hazards associated with active faulting by identifying the location of active faults and allowing for a setback from zones of previous ground rupture.

The subject site is not located within an Alquist-Priolo Earthquake Fault Zone and no faults were identified on the site during our site evaluation. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site.

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching, shallow ground rupture, soil liquefaction and dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and causative fault and the onsite geology. Some of the major active nearby faults that could produce these secondary effects include the San Joaquin Hills, Whittier, Elsinore, Newport-Inglewood, among others (CGS, 2018). A discussion of these secondary effects is provided in the following sections.

2.4.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that loose, saturated, near-surface, cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils, and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Furthermore, dynamic settlement of dry sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

Based on our review of the State of California Seismic Hazard Zone for liquefaction potential (CDMG, 2001), the subject site is not located within a liquefaction hazard zone. Based on our evaluation, site soils are generally not susceptible to liquefaction due to the fine-grained nature of the on-site soils and low probability of groundwater in the upper 50 feet. Therefore, liquefaction potential is considered low.

2.4.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the site being relatively flat, low liquefaction potential and the lack of an adjacent “free face” to drive lateral spreading, the potential for lateral spreading is considered very low.

2.5 Seismic Design Criteria

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2022 California Building Code (CBC) and applicable portions of ASCE 7-16 which has been adopted by the CBC. Please note that the following seismic parameters are only applicable for code-based acceleration response spectra and are not applicable for where site-specific ground motion procedures are required by ASCE 7-16. Representative site coordinates of latitude 33.700290 degrees north and longitude -117.768356 degrees west were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 2 on the following page. Since site soils are Site Class D, additional adjustments are required to code acceleration response spectrums as outlined below and provided in ASCE 7-16. The structural designer should contact the geotechnical consultant if structural conditions (e.g., number of stories, seismically isolated structures, etc.) require site-specific ground motions.

TABLE 2
Seismic Design Parameters

Selected Parameters from 2022 CBC, Section 1613 - Earthquake Loads	Seismic Design Values	Notes/Exceptions
Distance to applicable faults classifies the site as a "Near-Fault" site.		Section 11.4.1 of ASCE 7
Site Class	D*	Chapter 20 of ASCE 7
S _s (Risk-Targeted Spectral Acceleration for Short Periods)	1.258g	From SEAOC, 2024
S ₁ (Risk-Targeted Spectral Accelerations for 1-Second Periods)	0.450g	From SEAOC, 2024
F _a (per Table 1613.2.3(1))	1.0	For Simplified Design Procedure of Section 12.14 of ASCE 7, F _a shall be taken as 1.4 (Section 12.14.8.1)
F _v (per Table 1613.2.3(2))	1.850	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S _{MS} for Site Class D [Note: S _{MS} = F _a S _s]	1.258g	-
S _{M1} for Site Class D [Note: S _{M1} = F _v S ₁]	0.833g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S _{DS} for Site Class D [Note: S _{DS} = (2/3)S _{MS}]	0.839g	-
S _{D1} for Site Class D [Note: S _{D1} = (2/3)S _{M1}]	0.555g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
C _{RS} (Mapped Risk Coefficient at 0.2 sec)	0.940	ASCE 7 Chapter 22
C _{R1} (Mapped Risk Coefficient at 1 sec)	0.932	ASCE 7 Chapter 22
*Since site soils are Site Class D and S ₁ is greater than or equal to 0.2, the seismic response coefficient C _s is determined by Eq. 12.8-2 for values of T ≤ 1.5T _s and taken equal to 1.5 times the value calculated in accordance with either Eq. 12.8-3 for T _L ≥ T > T _s , or Eq. 12.8-4 for T > T _L . Refer to ASCE 7-16. Site Class F modified to Site Class D, seismic parameters only applicable for structure period ≤ 0.5 second, refer to discussion above.		

A deaggregation of the PGA based on a 2,475-year average return period (MCE) indicates that an earthquake magnitude of 6.55 at a distance of approximately 14.75 km from the site would contribute the most to this ground motion. A deaggregation of the PGA based on a 475-year average return period (Design Earthquake) indicates that an earthquake magnitude of 6.56 at a distance of approximately 21.37 km from the site would contribute the most to this ground motion (USGS, 2014).

Section 1803.5.12 of the 2022 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for liquefaction potential. The PGA_M for the site is equal to 0.576g (SEAOC, 2024). The design PGA is equal to 0.384g (2/3 of PGA_M).

2.6 Oversized Material

Oversized materials (material larger than 8 inches in maximum dimension) are not anticipated to be encountered during site grading based on our subsurface evaluation. If encountered, recommendations are provided for appropriate handling of oversized materials in Appendix E.

2.7 Expansion Potential

Based on the results of laboratory testing from our evaluation and from nearby sites, finished grade soils are anticipated to have a “High to Very High” expansion potential. Final expansion potential of site soils should be determined at the completion of grading.

2.8 Soils Susceptible to Hydro-Collapse

Soils that are typically susceptible to hydro-collapse (or collapsible soils) are predominately sand and silt held in a loose honeycomb structure. This relatively loose honeycomb structure is held together by small amounts clay or calcium carbonate acting as a temporary (soluble) cementing agent. If the soil remains dry the soil maintains its structure, however the addition of water to the soil will greatly weaken the honeycomb structure and the soil can subsequently experience immediate collapses. This collapse results in rapid soil settlement and potential damage to any improvements which are located without the zone of influence of the collapsible soils.

Laboratory testing for hydro-collapse is typically performed per American Society for Testing and Materials (ASTM) Test Method D5333 or ASTM D 2435. The two most common categorizations of hydro-collapse potential are ASTM D5333 and the Naval Facilities Engineering Command (NFEC, 1986) are shown in Table 3A and 3B below. As indicated in Table 3B soils with collapse potential above 5 percent are considered “trouble”.

TABLE 3A

Classification of Soil Collapsibility per ASTM D 5333

Collapse Index (I_e)	Collapse (%)	Collapse Potential
0	0	None
0.001 - 0.02	0.1 - 2	Slight
0.021 - 0.60	2.1 - 6	Moderate
0.60 - 0.10	6 - 10	Moderately Severe
> 0.10	> 10	Severe

TABLE 3B

Classification of Soil Collapsibility per NFEC, 1986

Collapse Potential (%)	Severity of Problem
0-1	No Problem
1-5	Moderate Trouble
5-10	Trouble
10-20	Severe Trouble
20	Very Severe Trouble

A summary of the onsite soils collapse potential are provided in Table 4 on the following page. The measured collapse potential is up to 7.5 percent, with three samples indicating collapse potential of 5 percent or greater.

TABLE 4

Summary of Hydro-Collapse Laboratory Test Results

Boring	Laboratory Measured Collapse (%)
HS-2 @ 10 feet	7.5
HS-2 @ 15 feet	1.7
HS-3 @ 10 feet	6.2
HS-5 @ 10 feet	5.1

3.0 CONCLUSIONS

Based on the results of our subsurface geotechnical evaluation, it is our opinion that the proposed improvements are feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site development. A summary of our geotechnical conclusions are as follows:

- In general, borings excavated at the subject site indicate primarily native soils consisting of clayey sand, silty sand and sandy clay to the maximum explored depth of approximately 70 feet below existing grade. Native alluvial materials were found locally overlain by a relatively thin veneer of old artificial fill associated with previous development of the site. The near-surface loose and compressible soils are not suitable for the planned improvements in their present condition (refer to Section 4.1).
- Groundwater was encountered at a depth of approximately 54 feet below existing grade. Historic high groundwater is estimated to be greater than 40 feet below existing ground surface (CGS, 2001).
- The subject study area is not located within a mapped State of California Earthquake Fault Zone, and based upon our review of published geologic mapping, no known active or potentially active faults are known to exist within or in the immediate vicinity of the site. Therefore, the potential for ground rupture as a result of faulting is considered very low.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life.
- The site is not located in a mapped liquefaction hazard zone. Based on our evaluation, site soils are generally not susceptible to liquefaction due to the fine-grained nature of the on-site soils and low probability of groundwater in the upper 50 feet. Therefore, liquefaction potential is considered low.
- Based on the results of preliminary laboratory testing, site soils are anticipated to have "High to Very High" expansion potential. Final design expansion potential must be determined at the completion of grading.
- Excavations into the existing site soils should be feasible with heavy construction equipment in good working order. We anticipate that soils generated from the excavations will be generally suitable for re-use as compacted fill, provided they are relatively free of rocks larger than 8 inches in dimension, construction debris, and significant organic material.
- Oversized materials (greater than 8 inches in maximum dimension) are not likely to be encountered during site grading. If encountered, recommendations are provided for appropriate handling of oversized materials in Appendix E.
- Due to their high clay content and expansion potential, the onsite soils are not suitable for backfill of site retaining/basement walls. Therefore, import of sandy soils meeting project recommendations will be required.
- Field testing resulted in a measured infiltration rate ranging from 0.01 to 0.02 inches per hour. The measured infiltration rates do not include a factor of safety. Discussion regarding infiltration is provided in Section 4.8.
- Some of the site soils are susceptible to hydro-collapse. To mitigate this condition, the soils most susceptible to collapse should be temporarily removed and recompacted as fill during the grading operations.

- Pre-soaking of the subgrade for building slabs (and flatwork) will be required due to site expansive soils. The duration and process varies greatly based on the chosen method and is also dependent on factors such as soil type and weather conditions. Time duration for presoaking from completion of rough grading to trenching of foundations should be accounted for in the construction schedule (typically 2 to 3 weeks).

4.0 RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of grading and earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2022 CBC requirements. With regard to the possible occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an “acceptable level.” The “acceptable level” of risk is defined by the California Code of Regulations as “that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project” [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that our recommendations are intended to maintain the structural integrity of the proposed development and structures given the site geotechnical conditions but cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

Rough grading shall include remedial earthwork grading and placement of engineered compacted fill to design grades. Geotechnical recommendations for precise grading and construction of the proposed new improvements will be provided, as necessary.

We recommend that earthwork onsite be performed in accordance with the following recommendations, future grading plan review report(s), the 2022 CBC/City of Irvine requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix E. In case of conflict, the following recommendations shall supersede those included in Appendix E. The following recommendations may be revised within future grading plan review reports or based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading, areas to be developed should undergo complete demolition, removal of all vegetation, and clearing of pavements, existing utilities, foundation and slab elements from the site. Vegetation, debris from previous land use and excessive organic material

should be removed and properly disposed of offsite. Holes resulting from removals of buried obstructions, which extend below proposed remedial and/or finish grades, should be replaced with suitable compacted fill material. If the demolition contractor removes subsurface utilities below the proposed remedial grading depth we recommend the excavations either be left open until grading operations begin or properly compacted to the depth of remedial grading.

If cesspools or septic systems are encountered, they should be removed in their entirety. The resulting excavation should be backfilled with properly compacted fill soils. As an alternative, cesspools can be backfilled with lean sand-cement slurry. Any encountered wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Removal Depths and Limits

In order to provide a relatively uniform bearing condition for the planned improvements, we recommend the near-surface potentially compressible soils and soils highly susceptible to collapse be temporarily removed and recompacted as engineered fill. If any undocumented artificial fill is encountered within the influence of the proposed building pads, the soils should be removed to competent native materials.

In order to promote more uniform soil conditions, soils shall be temporarily removed and recompacted to a minimum depth of approximately 12 feet below existing grade or 3 feet below the bottom of proposed foundations, whichever is deeper. Additionally, existing undocumented fill and unsuitable topsoil encountered within the building footprints should be temporarily removed and recompacted as compacted fill. Where space is available, the envelope for removal and recompaction should extend laterally a minimum distance equal to the depth of removal and recompaction below finish grade or 5 feet beyond the edges of the proposed building improvements, whichever is larger.

Local conditions may be encountered during excavation that could require additional over-excavation beyond the above noted minimum in order to obtain an acceptable subgrade. The actual depths and lateral extents of grading will be determined by the geotechnical consultant, based on subsurface conditions encountered during grading. Removal areas and areas to be over-excavated should be accurately staked in the field by the Project Surveyor.

4.1.3 Temporary Excavations

Temporary excavations should be performed in accordance with project plans, specifications, and applicable Occupational Safety and Health Administration (OSHA) requirements. Excavations should be laid back or shored in accordance with OSHA requirements before personnel or equipment are allowed to enter. Based on our field investigation, the majority of site soils are anticipated to be OSHA Type "B" soils (refer to the attached boring logs). Isolated lenses of sandy soils are present and should be considered susceptible to caving. Soil conditions should be regularly evaluated during construction to verify conditions are as anticipated. The contractor shall be responsible

for providing the “competent person” required by OSHA standards to evaluate soil conditions. Close coordination with the geotechnical consultant should be maintained to facilitate construction while providing safe excavations. Excavation safety is the sole responsibility of the contractor.

Where proposed improvements will be adjacent to property lines, the potential for impacting existing offsite improvements may be reduced by performing “ABC” slot cuts while performing earthwork removal and recompaction. “ABC” slot cuts are defined as excavations perpendicular to sensitive property boundaries that are divided into multiple “slots” of equal width. If slots are labeled A, B, C, A, B, C, etc., then all “A” slots can be excavated at the same time but must be backfilled before all “B” slots can be excavated, etc. Any given slot should be backfilled immediately with properly compacted fill to finish grade prior to excavation of the adjacent two slots. Please note some isolated sand lenses which are potentially susceptible to caving are present at the site. Recommendations for slot cut dimensions should be evaluated during grading. Protection of the existing offsite improvements during grading is the responsibility of the contractor.

Vehicular traffic, stockpiles, and equipment storage should be set back from the perimeter of excavations a minimum distance equivalent to a 1:1(horizontal to vertical) projection from the bottom of the excavation or 5 feet, whichever is greater. Once an excavation has been initiated, it should be backfilled as soon as practical. Prolonged exposure of temporary excavations may result in some localized instability. Excavations should be planned so that they are not initiated without sufficient time to shore/fill them prior to weekends, holidays, or forecasted rain.

It should be noted that any excavation that extends below a 1:1 (horizontal to vertical) projection of an existing foundation will remove existing support of the structure foundation. If requested, temporary shoring parameters will be provided.

4.1.4 Removal Bottoms and Subgrade Preparation

In general, removal bottoms, over-excavation bottoms and areas to receive compacted fill should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition (generally within optimum and 2 percent above optimum moisture content), and re-compacted per project recommendations.

Removal bottoms, over-excavation bottoms and areas to receive fill should be observed and accepted by the geotechnical consultant prior to subsequent fill placement.

4.1.5 Material for Fill

From a geotechnical perspective, the onsite soils are generally considered suitable for use as general compacted fill, provided they are screened of significant organic materials, construction debris and any oversized material (8 inches in greatest dimension).

From a geotechnical viewpoint, import soils for general fill (i.e., non-retaining/basement wall backfill) should consist of clean, granular soils of Medium expansion potential (expansion index 90 or less based on ASTM D4829). Import for retaining/basement wall backfill should meet the criteria outlined in the paragraph below. Source samples should be provided to the geotechnical consultant for laboratory testing a minimum of three working days prior to any planned importation.

Retaining/basement wall backfill should consist of imported sandy soils with a maximum of 35 percent fines (passing the No. 200 sieve) per ASTM Test Method D1140 (or ASTM D6913/D422) and a "Very Low" expansion potential (EI of 20 or less per ASTM D4829). Soils should also be screened of organic materials, construction debris, and any material greater than 3 inches in maximum dimension.

Aggregate base should conform to the requirements of Section 200-2 of the most recent version of the Standard Specifications for Public Works Construction ("Greenbook") for untreated base materials and/or City of Irvine requirements.

The placement of demolition materials in compacted fill is acceptable from a geotechnical viewpoint provided the demolition material is broken up into pieces not larger than typically used for aggregate base (approximately 2 to 4 inches in maximum dimension) and well blended into fill soils with essentially not resulting voids. Demolition material placed in fills must be free of construction debris (wood, organics, etc.) and reinforcing steel. If you elect to incorporate asphalt concrete fragments into the fill materials, approval from an environmental viewpoint and/or local agency may be required and is not the purview of the geotechnical consultant. From our previous experience, we recommend that asphalt concrete fragments be exported or limited to fill areas within planned street or parking areas (i.e., not within building pad areas).

4.1.6 Placement and Compaction of Fills

Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum and 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557). Moisture conditioning of site soils will be required in order to achieve adequate compaction. Drying and/or mixing the very moist soils will be required prior to reusing the materials in compacted fills. Soils are also present that will require additional moisture in order to achieve the required compaction.

The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in compacted thickness. Each lift should be thoroughly compacted and accepted prior to subsequent lifts. Generally, placement and compaction of fill should be performed in accordance with local grading ordinances and with observation and testing by LGC Geotechnical. Oversized material as previously defined should be removed from site fills.

During backfill of excavations, the fill should be properly benched into firm and

competent soils of temporary backcut slopes as it is placed in lifts.

Aggregate base material should be compacted to a minimum of 95 percent relative compaction at or slightly above optimum moisture content per ASTM D1557. Subgrade below aggregate base should be compacted to a minimum of 90 percent relative compaction per ASTM D1557 at near-optimum moisture content (generally within optimum and 2 percent above optimum moisture content).

4.1.7 Trench and Retaining/Basement Wall Backfill and Compaction

The onsite materials may generally be suitable as trench backfill provided the soils are screened of organic matter and rocks greater than 6 inches in diameter. Trench backfill should be compacted in uniform lifts (generally not exceeding 12 inches in compacted thickness) by mechanical means to at least 90 percent relative compaction (per ASTM Test Method D1557). A representative from LGC Geotechnical should observe and test the backfill to verify compliance with the project recommendations.

Some manufacturers have restrictions for the type of soil in contact with pipes. Manufacturer specifications for soils surrounding the pipe should be reviewed and approved by the pipe designer for use prior to construction. The use of open-graded rock as backfill must include means of reducing migration of fines of adjacent materials into the void spaces. This can be done by entirely wrapping the open-graded rock in a filter fabric or introducing an excavatable flowable fill to the rock.

Compactive efforts must be made for all backfill soil types except for flowable fill. There must be room between the trench side walls and the springline of the pipe for mechanical compaction equipment to get adequate compaction of the soil under the haunches of the pipe. If mechanical compaction may result in damage to pipes, clean sand having a Sand Equivalent (SE) greater than or equal to 20 (per California Test Method [CTM] 217) can be used to shade the pipes. Sand backfill should be densified by jetting or flooding and then tamped to ensure adequate compaction. Sand grains should be from a natural source with rounded shape. Manufactured sand from crushed rock or recycled material is not suitable for jetting/flooding as the grains are typically angular in shape and do not densify well enough with these methods.

Retaining/basement wall backfill should consist of approved imported sandy soils as outlined in preceding Section 4.1.5. The onsite soils are not suitable for backfill of site retaining/basement walls based on their fines content and expansion potential. Therefore, import of sandy soils meeting project recommendations will be required. For the lateral limits of select sandy backfill refer to Figures 3 and 4. Retaining/basement wall backfill soils should be compacted in relatively uniform thin lifts to at least 90 percent relative compaction (per ASTM D1557). Jetting or flooding of retaining/basement wall backfill materials should not be permitted.

A representative from LGC Geotechnical should observe, probe, and test the backfill to verify compliance with the project recommendations.

4.1.8 Shrinkage and Subsidence

Allowance in the earthwork volumes budget should be made for an estimated 5 to 15 percent reduction in volume of near-surface (upper approximate 12 feet) soils. It should be stressed that these values are only estimates and that an actual shrinkage factor would be extremely difficult to predetermine. The effective change in volume of onsite soils will depend primarily on the type of compaction equipment, method of compaction used onsite by the contractor, and accuracy of the topographic survey.

Due to the combined variability in topographic surveys, inability to precisely model the removals and variability of on-site near-surface conditions, it is our opinion that the site will not balance at the end of grading. If importing/exporting a large volume of soils is not considered feasible or economical, we recommend a balance area be designated onsite that can fluctuate up or down based on the actual volume of soil. We recommend a "balance" area that can accommodate on the order of 5 percent (plus or minus) of the total grading volume be considered.

4.2 Preliminary Foundation Recommendations

Provided that the remedial grading recommendations provided herein are implemented, the site may be considered suitable for the support of the proposed structures using either a post-tensioned foundation or alternative rigid foundation system designed to resist the impacts of expansive soils. Site soils are anticipated to be of High to Very High expansion potential (EI of greater than 90 per ASTM D4829). This must be verified based on as-graded conditions. Please note that the following foundation recommendations are preliminary and must be confirmed by LGC Geotechnical at the completion of project plans (i.e., foundation, grading and site layout plans) as well as completion of earthwork. Recommended soil bearing and estimated static settlement are provided in Section 4.3.

4.2.1 Provisional Post-Tensioned Foundation Design Parameters

The geotechnical parameters provided herein may be used for post-tensioned slab foundations with a deepened perimeter footing or a post-tensioned mat slab. These parameters have been determined in general accordance with the Post-Tensioning Institute (PTI) Standard Requirements for Design of Shallow Post-Tensioned Concrete Foundations on Expansive Soils, referenced in Chapter 18 of the 2022 CBC. In utilizing these parameters, the foundation engineer should design the foundation system in accordance with the allowable deflection criteria of applicable codes and the requirements of the structural designer/architect. Other types of stiff slabs may be used in place of the CBC post-tensioned slab design provided that, in the opinion of the foundation structural designer, the alternative type of slab is at least as stiff and strong as that designed by the CBC/PTI method.

Our design parameters are based on our experience with similar projects, test results onsite, and the anticipated nature of the soil (with respect to expansion potential).

Please note that implementation of our recommendations will not eliminate foundation movement (and related distress) should the moisture content of the subgrade soils fluctuate. It is the intent of these recommendations to help maintain the integrity of the proposed structures and reduce (not eliminate) movement, based upon the anticipated site soil conditions. Should future owners and/or property maintenance personnel not properly maintain the areas surrounding the foundation, for example by overwatering, then we anticipate for highly expansive soils the maximum differential movement of the perimeter of the foundation to the center of the foundation to be on the order of a couple of inches. Soils of lower expansion potential are anticipated to show less movement.

TABLE 5

Preliminary Post-Tensioned Foundation Design Parameters

Parameter	PT Slab with Perimeter Footing	PT Mat with Thicken ed Edge
Expansion Potential	Very High	Very High
Thornthwaite Moisture Index	-20	-20
Constant Soil Suction	PF 3.9	PF 3.9
Center Lift Edge moisture variation distance, e_m Center lift, y_m	6.1 feet 1.0 inch	6.1 feet 1.2 inch
Edge Lift Edge moisture variation distance, e_m Edge lift, y_m	3.4 feet 2.5 inches	3.4 feet 2.5 inches
Modulus of Subgrade Reaction, k (assuming presoaking as indicated below)	100 pci	100 pci
Minimum perimeter footing/thickened edge embedment below finish grade	30 inches	6 inches
Minimum Slab Thickness	6 inches ²	10 inches ²
Presoak	140% of Opt. 30 inches	140% of Opt. 30 inches
1. Expansion index is for preliminary design purposes. Further evaluation is needed at the completion of grading. 2. Recommendations for foundation reinforcement and slab thickness are ultimately the purview of the foundation engineer/structural engineer based upon geotechnical criteria and structural engineering considerations. 3. Recommendations for vapor retarders below slabs are also the purview of the foundation engineer/structural engineer and should be provided in accordance with applicable code requirements.		

4.2.2 Provisional Conventional Foundation Design Parameters

Conventional foundations may be designed in accordance with the Wire Reinforcement Institute (WRI) procedure for slab-on-ground foundations per Section 1808 of the 2022 CBC to resist expansive soils. The following preliminary soil parameters may be used:

- Effective Plasticity Index: 45
- Climatic Rating: $C_w = 15$
- Reinforcement: Per structural designer
- Minimum Footing Depth: 30 inches below lowest adjacent grade.
- Moisture-condition (presoak) slab subgrade to 140% of optimum moisture content to a minimum depth of 30 inches prior to trenching.

The recommended moisture content should be maintained up to the time of concrete placement.

4.2.3 Shallow Foundation Maintenance

The geotechnical parameters provided herein assume that if the areas adjacent to the foundation are planted and irrigated, these areas will be designed with proper drainage and adequately maintained so that ponding, which causes significant moisture changes below the foundation, does not occur. Our recommendations do not account for excessive irrigation and/or incorrect landscape design. Plants should only be provided with sufficient irrigation for life and not overwatered to saturate subgrade soils. Sunken planters placed adjacent to the foundation should either be designed with an efficient drainage system or liners to prevent moisture infiltration below the foundation or into the basement. Some lifting of the perimeter foundation beam should be expected even with properly constructed planters.

In addition to the factors mentioned above, future owners/property management personnel should be made aware of the potential negative influences of trees and/or other large vegetation. Roots that extend near the vicinity of foundations can cause distress to foundations. Future owners (and the owner's landscape architect) should not plant trees/large shrubs closer to the foundations than a distance equal to half the mature height of the tree or 20 feet, whichever is more conservative unless specifically provided with root barriers to prevent root growth below the building foundation.

It is the owner's responsibility to perform periodic maintenance during hot and dry periods to ensure that adequate watering has been provided to keep soil from separating or pulling back from the foundation. Future owners and property management personnel should be informed and educated regarding the importance of maintaining a constant level of soil-moisture. The owners should be made aware of the potential negative consequences of both excessive watering, as well as allowing potentially expansive soils to become too dry. Expansive soils can undergo shrinkage during drying, and swelling during the rainy winter season, or when irrigation is resumed. This can result in distress to building structures and hardscape improvements. The builder should provide these recommendations to future owners

and property management personnel.

4.2.4 Slab Underlayment Guidelines

The following is for informational purposes only since slab underlayment (e.g., moisture retarder, sand or gravel layers for concrete curing and/or capillary break) is unrelated to the geotechnical performance of the foundation and thereby not the purview of the geotechnical consultant. Post-construction moisture migration should be expected below the foundation. The foundation engineer/architect should determine whether the use of a capillary break (sand or gravel layer), in conjunction with the vapor retarder, is necessary or required by code. Sand layer thickness and location (above and/or below vapor retarder) should also be determined by the foundation engineer/architect.

4.3 Soil Bearing and Lateral Resistance

Subterranean Basement at least 9 feet below Grade: Provided our earthwork recommendations are implemented, an allowable soil bearing pressure of 3,000 pounds per square foot (psf) may be used for the design of footings having a minimum width of 18 inches and minimum embedment of 18 inches below the lowest adjacent ground surface. This value may be increased by 300 psf for each additional foot of embedment and 150 psf for each additional foot of foundation width to a maximum of 4,000 psf.

At-Grade Structures: Provided our earthwork recommendations are implemented, an allowable soil bearing pressure of 1,500 pounds per square foot (psf) may be used for the design of footings having a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent ground surface. This value may be increased by 300 psf for each additional foot of embedment and 150 psf for each additional foot of foundation width to a maximum value of 2,500 psf.

A mat foundation a minimum of 6 inches below lowest adjacent grade may be designed for an allowable soil bearing pressure of 1,200 psf. These allowable bearing pressures are applicable for level (ground slope equal to or flatter than 5H:1V) conditions only. Bearing values indicated are for total dead loads and frequently applied live loads and may be increased by $\frac{1}{3}$ for short duration loading (i.e., wind or seismic loads).

In utilizing the above-mentioned allowable bearing capacity and provided our earthwork recommendations are implemented, foundation settlement due to structural loads is anticipated to be 1-inch or less. Differential settlement may be taken as half of the total settlement (i.e., $\frac{1}{2}$ -inch over a horizontal span of 40 feet).

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. For concrete/soil frictional resistance, an allowable coefficient of friction of 0.25 may be assumed with dead-load forces. An allowable passive lateral earth pressure of 200 psf per foot of depth (or pcf) to a maximum of 2,000 psf may be used for the sides of footings poured against properly compacted fill. Allowable passive pressure may be increased to 265 pcf (maximum of 2,650 psf) for short duration seismic loading. This passive pressure is applicable

for level (ground slope equal to or flatter than 5H:1V) conditions only. Frictional resistance and passive pressure may be used in combination without reduction. We recommend that the upper foot of passive resistance be neglected if finished grade will not be covered with concrete or asphalt. The provided allowable passive pressures are based on a factor of safety of 1.5 and 1.1 for static and seismic loading conditions, respectively. The structural designer should incorporate appropriate factors of safety and/or load factors in their design.

4.4 Lateral Earth Pressures and Retaining/Basement Wall Design Considerations

The following may be used for design of site retaining/basement walls. It is our understanding that basement walls up to approximately 9 feet are proposed beneath the church building. Lateral earth pressures are provided as equivalent fluid unit weights, in psf per foot of depth (or pcf). These values do not contain an appreciable factor of safety, so the retaining/basement wall designer should apply the applicable factors of safety and/or load factors during design. A soil unit weight of 120 pcf may be assumed for calculating the actual weight of soil over the wall footing.

The following lateral earth pressures are presented in Table 6 below, for approved imported free draining, clean granular (sandy) soils with a maximum of 35 percent fines (passing the No. 200 sieve per ASTM D-421/422) and a “Very Low” expansion potential (EI of 20 or less per ASTM D4829). The site soils are not suitable for retaining/basement wall backfill due to their fines content and expansion index. Import of soils meeting the criteria outlined above will need to be used for retaining/basement wall backfill soil. The wall designer should clearly indicate on the retaining/basement wall plans the required imported sandy soil backfill criteria. These preliminary findings should be confirmed during grading.

TABLE 6

Lateral Earth Pressures – Approved Imported Sandy Soils

Conditions	Equivalent Fluid Unit Weight (pcf)	Equivalent Fluid Unit Weight (pcf)
	Level Backfill	2:1 Sloped Backfill
	Approved Sandy Soils	Approved Sandy Soils
Active	35	55
At-Rest	55	70

If the wall can yield enough to mobilize the full shear strength of the soil, it can be designed for “active” pressure. If the wall cannot yield under the applied load, the earth pressure will be higher. This would include basement walls and 90-degree corners of retaining walls. Such walls should be designed for “at-rest.” The equivalent fluid pressure values assume free-draining conditions and a drainage system will be installed and maintained to prevent the build-up of hydrostatic pressures. If conditions other than those assumed above are anticipated, the equivalent fluid pressure values should be provided on an individual-case basis by the

geotechnical engineer.

Retaining/basement wall structures should be provided with appropriate drainage and appropriately waterproofed. To reduce, but not eliminate, subsurface water issues for soils in front of the retaining or potential water intrusion into the basement, the perforated subdrain pipe should be located as low as possible behind the retaining/basement wall. The outlet pipe should be sloped to drain to a suitable outlet. In general, we do not recommend retaining/basement wall outlet pipes be connected to area drains. If subdrains are connected to area drains, special care should be taken to maintain these drains. Typical conventional retaining/basement wall drainage is shown on Figures 3 and 4, respectively. It should be noted that the recommended subdrain does not provide protection against seepage through the face of the wall and/or efflorescence. Waterproofing and subdrain outlet systems are not the purview of the geotechnical consultant.

Surcharge loading effects from any adjacent structures should be evaluated by the retaining/basement wall designer. In general, structural loads within a 1:1 (horizontal to vertical) upward projection from the bottom of the proposed retaining/basement wall footing will surcharge the proposed retaining/basement wall. In addition to the recommended earth pressure, retaining/basement walls adjacent to streets should be designed to resist a uniform lateral pressure of 85 pounds per square foot (psf) due to normal street vehicle traffic, if applicable. Uniform lateral surcharges may be estimated using the applicable coefficient of lateral earth pressure using a rectangular distribution. A factor of 0.45 and 0.3 may be used for at-rest and active conditions, respectively. The retaining/basement wall designer should contact the geotechnical consultant for any required geotechnical input in estimating surcharge loads.

The retaining wall/basement wall designer may use a seismic lateral earth pressure increment of 10 pcf. This increment should be applied in addition to the provide static lateral earth pressure using a triangular distribution with the resultant acting at $H/3$ in relation to the base of the retaining structure (where H is the retained height). Per Section 1803.5.12 of the 2022 CBC, the seismic lateral earth pressure is applicable to structures assigned to Seismic Design Category D through F for retaining wall structures supporting more than 6 feet of backfill height. This seismic lateral earth pressure is estimated using the procedure outlined by the Structural Engineers Association of California and the Naval Civil Engineering Laboratory (Lew, et al, 2010 & NCEL, 1993).

Soil bearing and lateral resistance (friction coefficient and passive resistance) are provided in Section 4.3. Earthwork considerations (temporary backcuts, backfill, compaction, etc.) for retaining/basement walls are provided in Section 4.1 (Site Earthwork) and the subsequent earthwork related sub-sections.

4.5 Corrosivity to Concrete and Metal

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. We therefore present the results of our testing with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Corrosion testing of near-surface bulk samples indicated a soluble sulfate content value of 95 ppm (less than 0.01 percent), a chloride content of 60 ppm, pH of 7.90, and a minimum resistivity of 720 ohm-centimeters. Based on Caltrans Corrosion Guidelines (2021), soils are considered corrosive if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater. Based on the test results, soils are not considered corrosive using Caltrans criteria. Note that based on minimum resistivity the soils are considered severely corrosive to metallic improvements. If improvements that may be susceptible to corrosion are proposed, it is recommended that further evaluation by a corrosion engineer be performed.

Based on our laboratory test results of representative site soil samples and our experience, onsite soils should be considered as having a severity categorization of “moderate” and are designated class “S1” per ACI 318, Table 19.3.1.1 with respect to sulfates. Concrete in direct contact with the onsite soils can be designed according to ACI 318, Table 19.3.2.1 using the “S1” sulfate classification.

Laboratory testing may need to be performed at the completion of grading by the project corrosion engineer to further evaluate the as-graded soil corrosivity characteristics. Accordingly, revision of the corrosion potential may be needed, should future test results differ substantially from the conditions reported herein. The client and/or other members of the development team should consider this during the design and planning phase of the project and formulate an appropriate course of action.

4.6 Preliminary Asphalt Concrete Pavement Sections

For the purposes of these preliminary recommendations, we have selected a preliminary design R-value of 5 and calculated pavement sections for Traffic Indices of 5.0, 5.5 and 6.0. R-value testing of the street subgrade will need to be performed to confirm our preliminary testing results/assumptions once the streets have been graded to finish subgrade elevations and the final Traffic Index is determined by the Civil Engineer or City Engineer. We are not responsible for selecting a design Traffic Index. It is our understanding that the City of Irvine requires a minimum pavement section of 4.2 inches of asphalt over 6 inches of base.

TABLE 7

Preliminary Pavement Sections

Assumed Traffic Index	5.0	5.5	6.0
R -Value Subgrade	5	5	5
AC Thickness	4.2	4.2 inches	4.2 inches
AB Thickness	8.0 inches	10.0 inches	12.5 inches

Due to anticipated construction traffic prior to the completion of the project, we recommend that the total thickness (base course and capping course) of AC be placed at essentially the

same time. Construction traffic loading on only the base course of the AC will increase the potential for pavement distress. It should be noted that construction traffic such as concrete trucks will likely exceed traffic loading after completion of construction.

Increasing the thickness of asphalt or adding additional base material will reduce the likelihood of the pavement experiencing distress during its service life. The above recommendations are based on the assumption that proper maintenance and irrigation of the areas adjacent to the roadway will occur through the design life of the pavement. Failure to maintain a proper maintenance and/or irrigation program may jeopardize the integrity of the pavement.

Earthwork recommendations regarding aggregate base and subgrade are provided in the previous Section "Site Earthwork" and the related sub-sections of this report.

4.7 Nonstructural Concrete Flatwork

Nonstructural concrete flatwork (such as walkways, private drives, patio slabs, etc.) has a potential for cracking due to changes in soil volume related to soil-moisture fluctuations. To reduce the potential for excessive cracking and lifting, concrete may be designed in accordance with the minimum guidelines outlined in Table 8 on the following page. These guidelines will reduce the potential for irregular cracking and promote cracking along construction joints but will not eliminate all cracking or lifting. Thickening the concrete and/or adding additional reinforcement will further reduce cosmetic distress.

TABLE 8

Nonstructural Concrete Flatwork Guidelines

	Sidewalks (≤6 feet wide)	Patios/Entryways / Walkways (adjacent to Buildings or flatwork >6 feet wide)	City Sidewalk Curb and Gutters
Minimum Thickness (in.)	4 (nominal)	5 (full)	City/Agency Standard
Presaturation	140% of optimum m/c to 12 inches	140% of optimum m/c to 24 inches	City/Agency Standard
Reinforcement	—	No. 3 at 24 inches on centers	City/Agency Standard
Thickened Edge (in.)	—	—	City/Agency Standard
Crack Control Joints	Saw cut or deep open tool joint to a minimum of 1/3 the concrete thickness	Saw cut or deep open tool joint to a minimum of 1/3 the concrete thickness	City/Agency Standard
Maximum Joint Spacing	5 feet	6 feet	City/Agency Standard

4.8 Subsurface Water Infiltration

Recent regulatory changes have occurred that mandate that storm water be infiltrated below grade into subsurface soils rather than collected in a conventional storm drain system. Typically, a combination of methods are implemented to reduce surface water runoff and increase infiltration including; permeable pavements/pavers for roadways and walkways, directing surface water runoff to grass-lined swales, retention areas, and/or drywells, etc.

It should be noted that collecting and concentrating surface water for the purpose of intentionally infiltrating below grade, conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, the vast majority of geotechnical distress issues are directly related to improper drainage. In general, distress in the form of movement of improvements could occur as a result of soil saturation and loss of soil support, expansion, internal soil erosion, collapse and/or settlement.

The results of our field infiltration testing indicate the observed 1-D infiltration rate for I-1 and I-2 (not including required factors of safety for design) was 0.01 to 0.02 inches per hour. The design infiltration rate is thereby equal to the Observed Infiltration Rate provided in Table 1 (inches per hour) divided by the design factor of safety. The design factor of safety must be a minimum of 2.0 but may be increased at the discretion of the design engineer (County of Orange, 2013). Per the County of Orange infiltration guidelines (2013), infiltration of stormwater is not required when the factored infiltration rate (measured infiltration rate with safety factors applied) is less than 0.3 inches per hour in the vicinity of the BMPs.

Based on the results of field infiltration testing indicating essentially zero infiltration and soils with high fines content (silts and clays), we strongly recommend against the intentional infiltration of stormwater into the subsurface soils.

4.9 Control of Surface Water and Drainage Control

From a geotechnical perspective, we recommend that compacted finished grade soils adjacent to proposed structures be sloped away from the proposed structures and towards an approved drainage device or unobstructed swale. Where possible, we recommend concrete or asphalt be placed around the outer 5-10 feet of the buildings. Drainage swales, wherever feasible, should not be constructed within 5 feet of buildings. Where lot and building geometry necessitates that drainage swales be routed closer than 5 feet to structural foundations, we recommend the use of area drains together with drainage swales. Drainage swales used in conjunction with area drains should be designed by the project civil engineer so that a properly constructed and maintained system will prevent ponding within 5 feet of the foundation. Code compliance of grades is not the purview of the geotechnical consultant.

Planters with open bottoms adjacent to buildings should be avoided. Planters should not be designed adjacent to buildings unless provisions for drainage, such as catch basins, liners, and/or area drains, are made. Overwatering must be avoided.

4.10 Geotechnical Plan Review

Project plans (grading, foundation, retaining/basement wall, etc.) should be reviewed by this office prior to construction to verify that our geotechnical recommendations have been incorporated. Additional or modified geotechnical recommendations may be required based on the proposed layout.

4.11 Geotechnical Observation and Testing

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing is required per Section 1705 of the 2022 California Building Code (CBC).

Geotechnical observation and/or testing should be performed by LGC Geotechnical at the

following stages:

- During grading (removal bottoms, fill placement, etc.);
- During retaining/basement wall backfill and compaction;
- During utility trench backfill and compaction;
- After presoaking building pad and other concrete-flatwork subgrades, and prior to placement of aggregate base or concrete;
- Preparation of pavement subgrade and placement of aggregate base;
- After building and wall footing excavation and prior to placement of steel reinforcement and/or concrete; and
- When any unusual soil conditions are encountered during any construction operation subsequent to issuance of this report.

5.0 LIMITATIONS

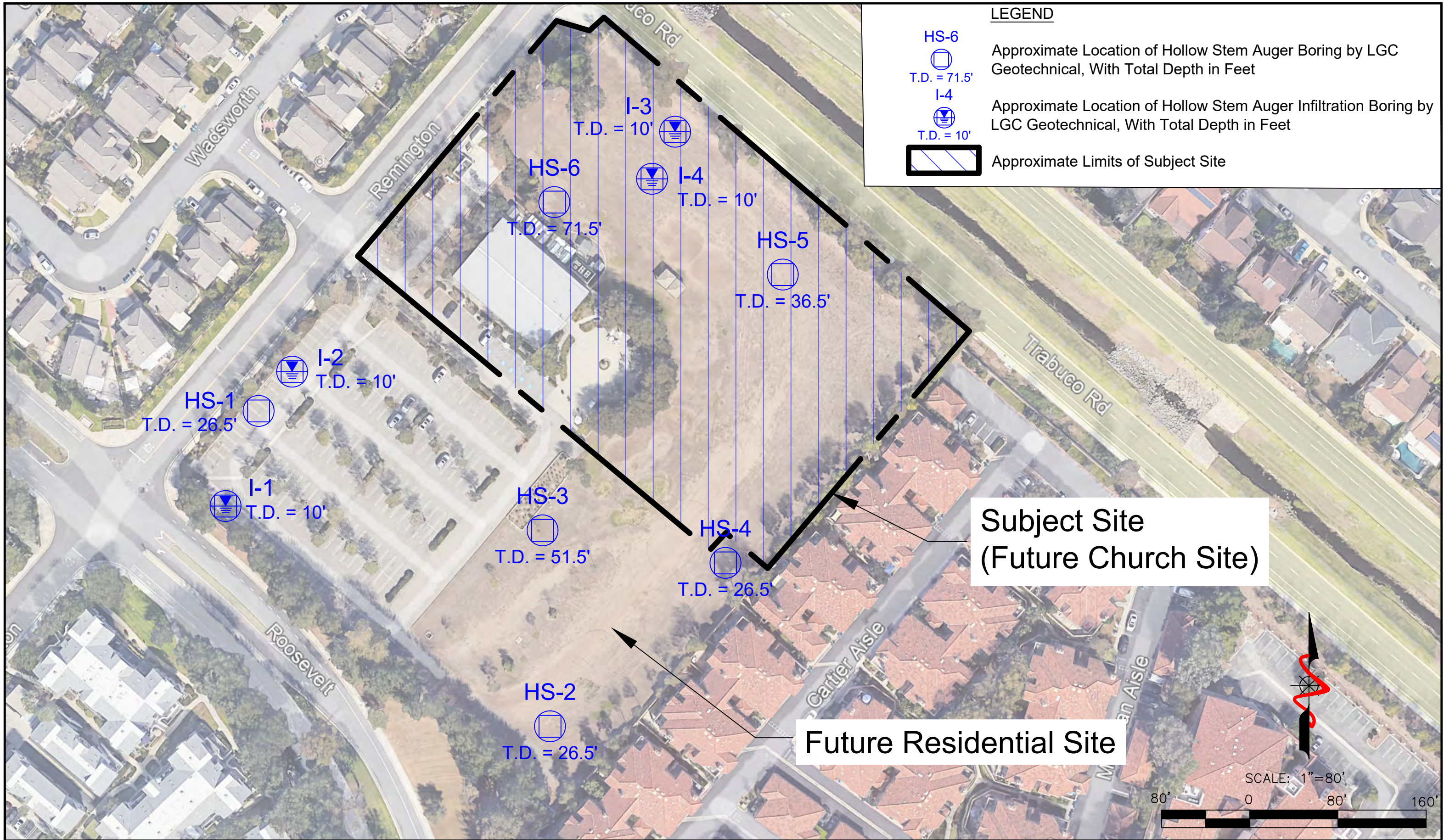
Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

This report is based on data obtained from limited observations of the site, which have been extrapolated to characterize the site. While the scope of services performed is considered suitable to adequately characterize the site geotechnical conditions relative to the proposed development, no practical evaluation can completely eliminate uncertainty regarding the anticipated geotechnical conditions in connection with a subject site. Variations may exist and conditions not observed or described in this report may be encountered during grading and construction.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the other consultants (at a minimum the civil engineer, structural engineer, landscape architect) and incorporated into their plans. The contractor should properly implement the recommendations during construction and notify the owner if they consider any of the recommendations presented herein to be unsafe, or unsuitable.

The findings of this report are valid as of the present date. However, changes in the conditions of a site can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. The findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site. This report is intended exclusively for use by the client, any use of or reliance on this report by a third party shall be at such party's sole risk.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification.



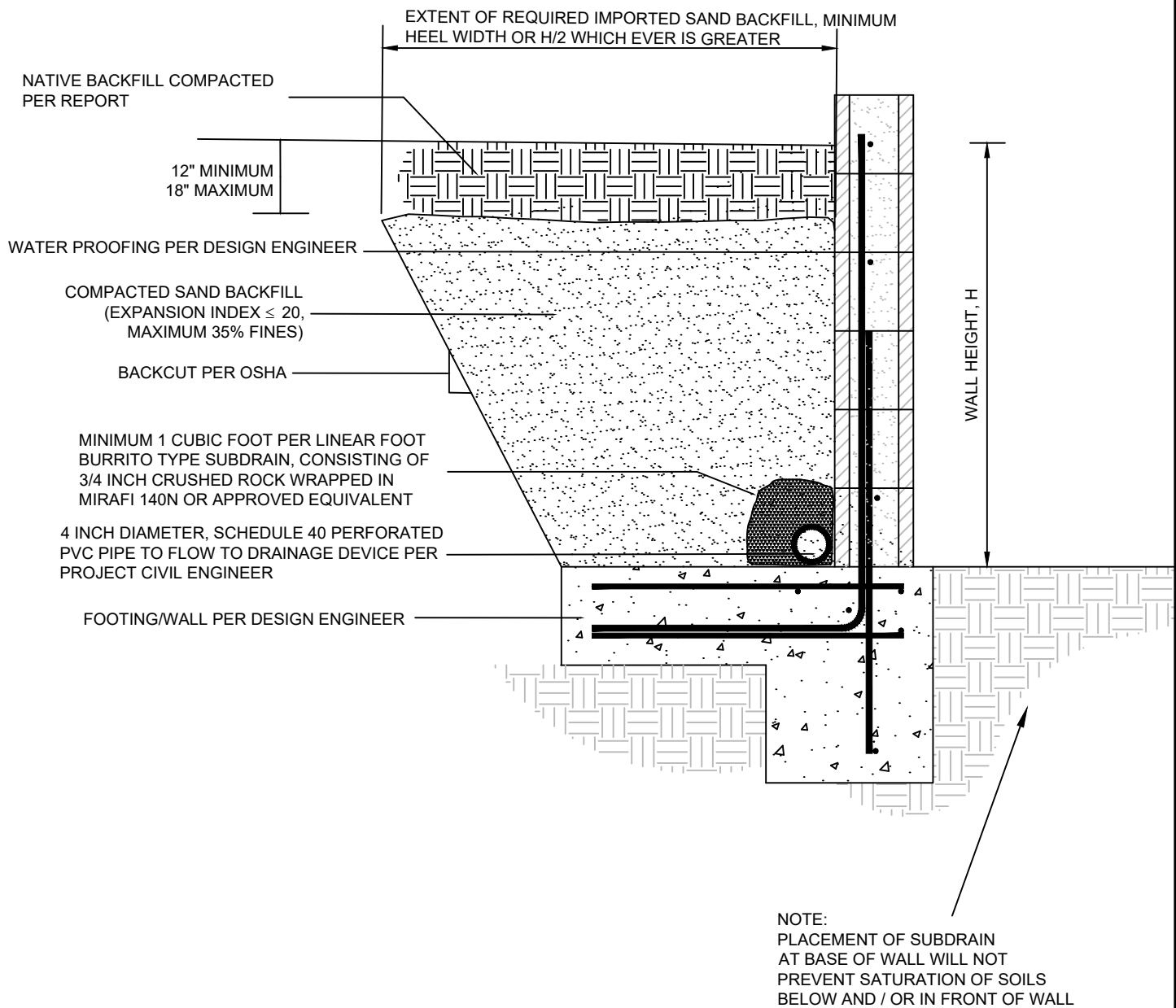
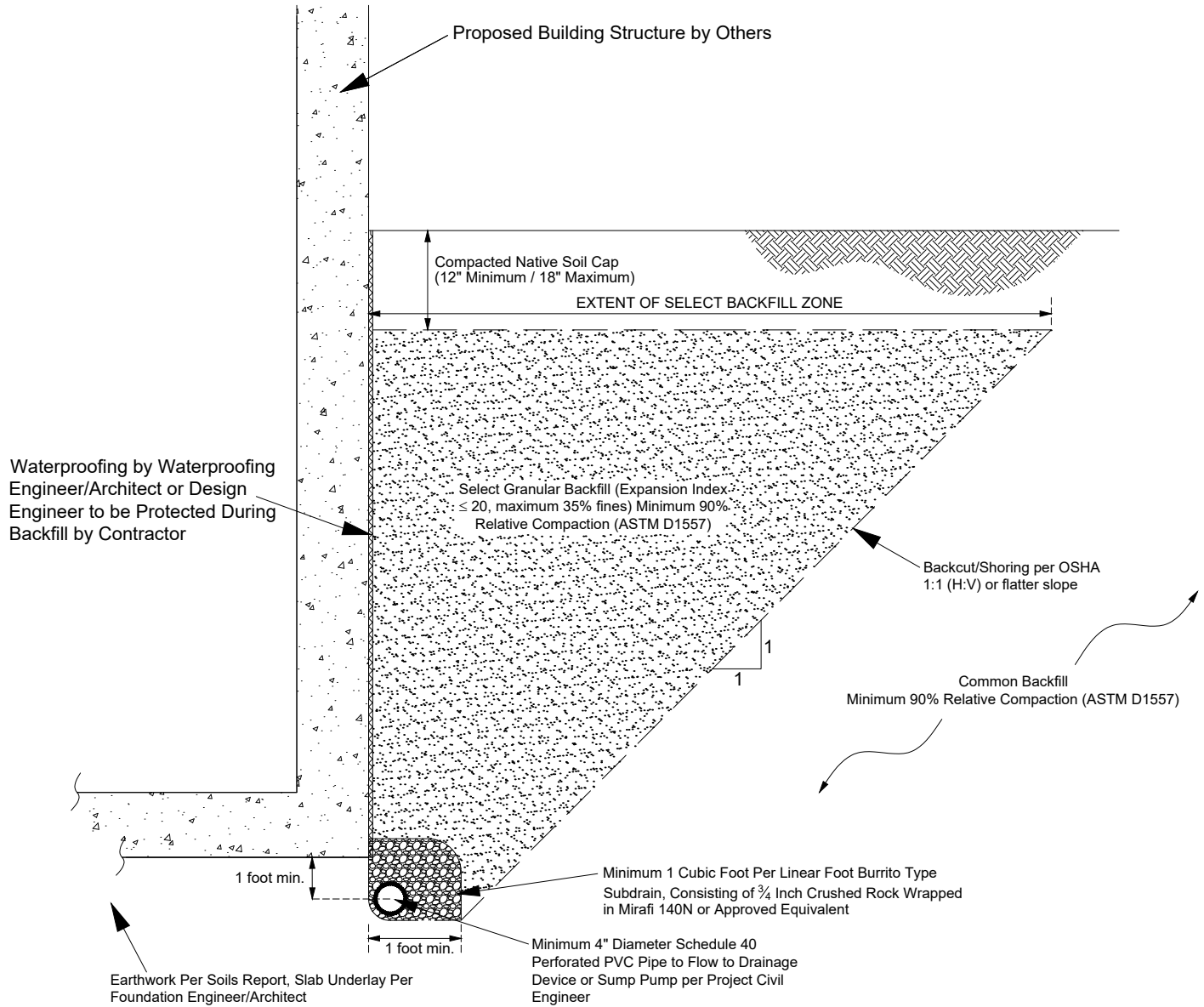


FIGURE 3
Retaining Wall
Backfill Detail

PROJECT NAME	Our Lady of Peace, Irvine
PROJECT NO.	23174-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	July 2024



NOTE : Granular backfill may be substituted with 3/4 inch crushed rock wrapped in filter fabric. Crushed rock must be compacted in lifts. Geotechnical drainage detail will not prevent water seepage into structure, it is only to prevent build up of water pressure against wall.



FIGURE 4
Basement Subterranean
Structure Backfill/Subdrain
Detail

PROJECT NAME	Our Lady of Peace, Irvine
PROJECT NO.	23174-01
ENG. / GEOL.	DJB / BPG
SCALE	Not to Scale
DATE	July 2024

Appendix A

References

APPENDIX A

References

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Appendix B

Boring Logs

Geotechnical Boring Log Borehole HS-5

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 6"
Elevation of Top of Hole: 161' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
160	0							@0' - Grass	
								Young Axial Channel Deposits (Qya):	
			R-1	4 13 31	100.4	20.9	CL	@ 2.5' - Sandy CLAY: dark brown, very moist, hard, traces of roots	
155	5		R-2	11 11 11	79.5	9.3	SM	@ 5' - Silty SAND: pale brown, moist, medium dense	
			R-3	13 21 24	118.6	9.8	SC	@ 7.5' - Clayey SAND: brown, moist, dense	
150	10		R-4	13 12 10	81.6	9.8	CL-ML	@ 10' - Silty CLAY: olive brown, slightly moist, very stiff	CO
145	15		SPT-1	4 4 4		7.9	SM	@ 15' - Silty SAND: brown, moist, medium dense	
140	20		R-5	8 17 18	120.1	11.8	SC	@ 20' - Clayey SAND: dark brown, moist, medium dense	
135	25		SPT-2	3 5 7		28.0	CL	@ 25' - Sandy CLAY: dark brown, very moist, very stiff	
	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-5

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 6"
Elevation of Top of Hole: ~161' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
130	30		R-6	8 13 18	108.8	5.4	SC	@ 30' - Clayey SAND: brown, slightly moist, medium dense	
125	35		SPT-3	4 6 7		12.1		@ 35' - Clayey SAND: brown, moist, medium dense	
120	40							Total Depth = 36.5' No Groundwater Encountered Backfilled with Cuttings on 2/23/24	
115	45								
110	50								
105	55								
100	60								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

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G GRAB SAMPLE
SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

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MD MAXIMUM DENSITY
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S&H SIEVE AND HYDROMETER
EI EXPANSION INDEX
CN CONSOLIDATION
CR CORROSION
AL ATTERBERG LIMITS
CO COLLAPSE/SWELL
RV R-VALUE
#200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-6

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 6"
Elevation of Top of Hole: 158' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 3

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0							@0' - Grass	MD EI
								Young Axial Channel Deposits (Qya):	
								@ 2.5' - Sandy CLAY: brown, very moist, very stiff, scattered rootlets	
150	5		R-1	7 10 11	97.5	24.2	CL	@ 5' - Sandy CLAY: brown, very moist, very stiff	
			R-2	6 11 18	109.1	19.1			
			R-3	5 12 17	89.3	18.6	SC	@ 7.5' - Clayey SAND: brown, very moist, medium dense	
145	10		R-4	12 14 16	112.9	15.7	CL	@ 10' - Sandy CLAY: brown, moist, very stiff	
140	15		SPT-1	3 5 6		12.6	SC	@ 15' - Clayey SAND: reddish brown, moist, medium dense	
135	20		R-5	11 16 26	108.9	3.9	SM-CL	@ 20' - Silty SAND to Sandy CLAY: brown, slightly moist, dense/hard, traces of gravel	
130	25		SPT-2	4 4 6		13.4	SC	@ 25' - Clayey SAND: brown, moist, medium dense	
30									



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
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 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-6

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 6"
Elevation of Top of Hole: ~158' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 3

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
125	30		R-6	8 8 10	88.3	19.7	ML	@ 30' - Sandy SILT: pale brown, very moist, medium dense	
120	35		SPT-3	4 5 6		9.6	SC	@ 35' - Clayey SAND: brown, moist, medium dense	
115	40		R-7	7 12 20	109.4	13.3		@ 40' - Clayey SAND: brown, moist, medium dense	
110	45		SPT-4	5 7 6		12.9		@ 45' - Clayey SAND: brown, moist, medium dense	
105	50		R-8	6 7 12	89.9	30.7	CL	@ 50' - Sandy CLAY: brown, very moist, very stiff	
100	55		SPT-5	2 2 5		22.0		@ 55' - Sandy CLAY: brown, wet, stiff	
60									



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

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 B BULK SAMPLE
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 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
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 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-6

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 6"
Elevation of Top of Hole: ~158' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 3 of 3

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
60			R-9	8 13 15	92.7	31.3	CL	@ 60' - Sandy CLAY: brown, wet, very stiff	
95									
65			SPT-6	2 3 6		21.8		@ 65' - Sandy CLAY: brown, wet, stiff	
90									
70			R-10	9 13 22	102.2	24.0		@ 70' - Sandy CLAY: brown, wet, very stiff	
85								Total Depth = 71.5'	
								Groundwater encountered at 54'	
								Backfilled with Cuttings on 2/23/24	
75									
80									
80									
75									
85									
70									
90									



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-3

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~160' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0		R-1	6 19 19	87.2	14.4	SC	@0' - Grass Young Axial Channel Deposits (Qya): @ 2.5' - Clayey SAND: brown, very moist, dense, traces of roots	
155	5		R-2	11 18 23	87.5	13.8		@ 5' - Clayey SAND: pale brown, very moist, dense	
150	10		R-3	9 12 17	88.1	11.7	CL	@ 8.5' - Sandy CLAY: brown, moist, very stiff	#200
145	15							Total Depth = 10' No Groundwater Encountered 3" Perforated Pipe with Filter Sock and Gravel Installed Pipe Removed and Backfilled with Cuttings on 2/26/2024	
140	20								
135	25								
130	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE



TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-4

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~159' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0		R-1	6 9 13	103.9	15.0	CL	@0' - Grass Young Axial Channel Deposits (Qya): @ 2.5' - Sandy CLAY: dark brown, moist, very stiff, traces of roots.	
150	5		R-2	12 14 14	74.6	14.6	SC	@ 5' - Clayey SAND: pale brown, very moist, medium dense.	
145	10		R-3	19 32 41	118.6	12.4	CL	@ 8.5' - Sandy CLAY: dark brown, moist, hard.	
140	15							Total Depth = 10' No Groundwater Encountered 3" Perforated Pipe with Filter Sock and Gravel Installed Pipe Removed and Backfilled with Cuttings on 2/26/2024	
135	20								
130	25								
	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE



TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Appendix C
Laboratory Test Results

APPENDIX C

Laboratory Testing Procedures and Test Results

The laboratory testing program was formulated towards providing data relating to the relevant engineering properties of the soils with respect to residential construction. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve and dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	Description	% Passing # 200 Sieve
I-1 @ 8.5 feet	Clayey Sand	48
I-3 @ 8.5 feet	Sandy Clay	68

Expansion Index: The expansion potential of selected samples was evaluated by the Expansion Index Test, Standard ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch-thick by 4-inch-diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
HS-3 @ 1-5 feet	112	High
HS-6 @ 1-5 feet	135	Very High

* ASTM D4829

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

APPENDIX C (Cont'd)

Laboratory Testing Procedures and Test Results

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-3 @ 1-5 feet	Dark Grayish Brown Clay	117.5	12.5
HS-6 @ 1-5 feet	Dark Brown Sandy Clay	115.0	14.0

Collapse/Swell Potential: Six collapse tests were performed per ASTM D4546. A sample (2.4 inches in diameter and 1-inch in height) was placed in a consolidometer and loaded to the approximate in-situ effective stress. The curve is presented in this Appendix.

Chloride Content: Chloride content was tested in accordance with Caltrans Test Method (CTM) 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @ 1-5 feet	60

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below.

Sample Location	Sulfate Content (ppm)	Sulfate Exposure Class *
HS-3 @ 1-5 feet	95	S0

*Based on ACI 318R-14, Table 19.3.1.1

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @ 1-5 feet	7.90	720

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-1
 Sample No.: R-4
 Sample Description: Brown lean clay (CL)

Tested By: G. Bathala Date: 05/20/24
 Checked By: J. Ward Date: 05/22/24
 Sample Type: Ring
 Depth (ft.): 10.0

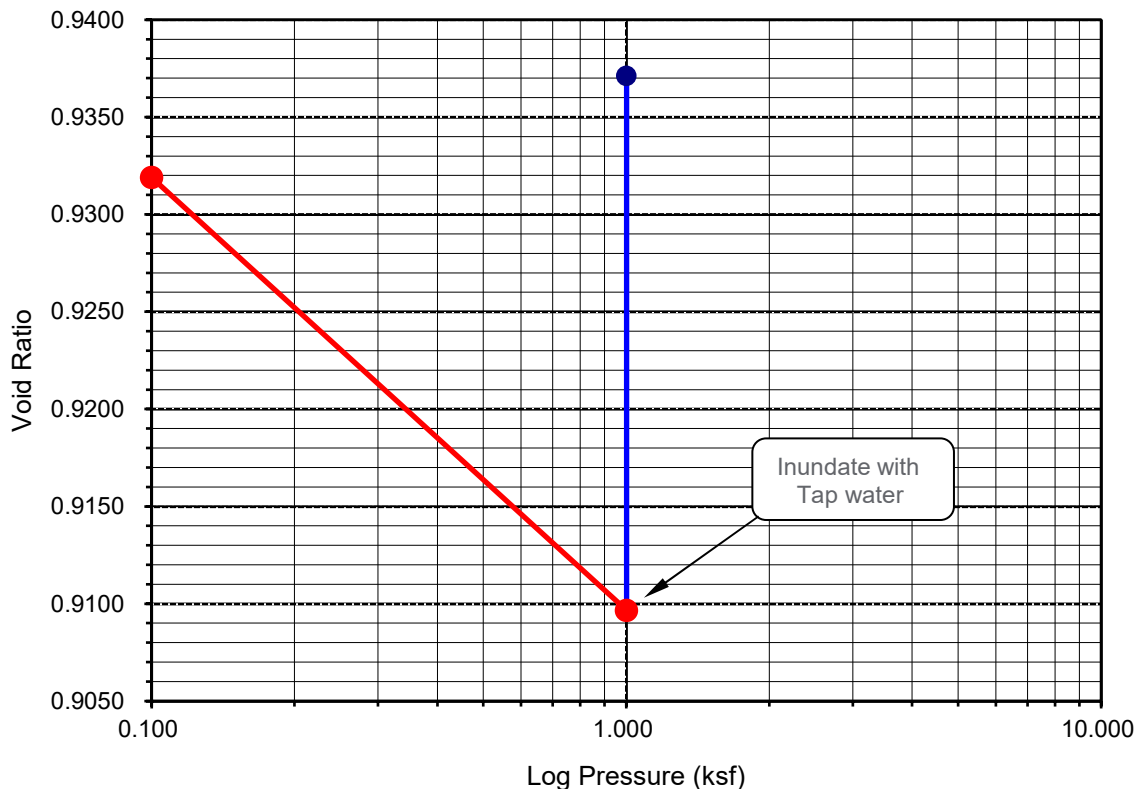
Initial Dry Density (pcf):	87.2
Initial Moisture (%):	22.94
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1187
Diameter(in):	2.415

Final Dry Density (pcf):	87.3
Final Moisture (%) :	31.6
Initial Void ratio:	0.9335
Specific Gravity(assumed):	2.70
Initial Saturation (%)	66.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1195	0.9992	0.00	-0.08	0.9319	-0.08
1.000	0.1325	0.9862	0.15	-1.38	0.9097	-1.23
H2O	0.1183	1.0004	0.15	0.04	0.9371	0.19

Percent Swell (+) / Settlement (-) After Inundation = 1.44

Void Ratio - Log Pressure Curve





ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine

Project No.: 23174-01

Boring No.: HS-2

Sample No.: R-4

Sample Description: Brown silty clay (CL-ML)

Tested By: G. Bathala

Date: 05/21/24

Checked By: J. Ward

Date: 05/23/24

Sample Type: Ring

Depth (ft.): 10.0

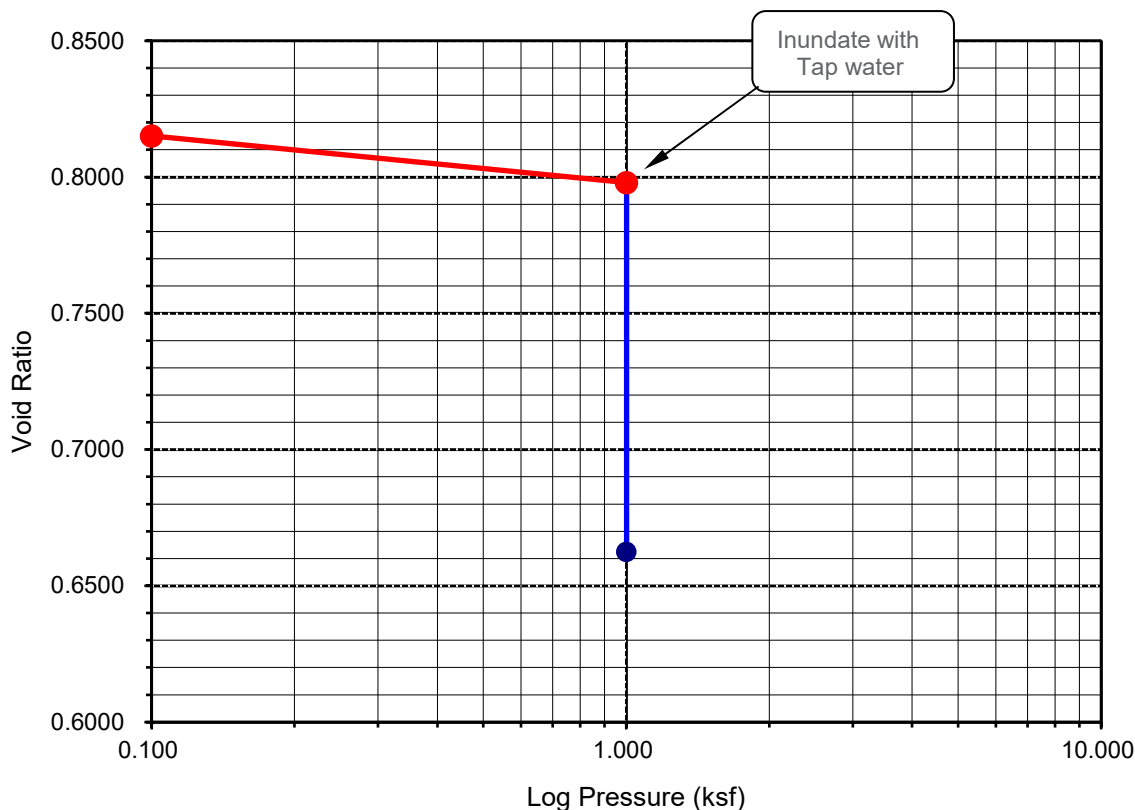
Initial Dry Density (pcf):	92.3
Initial Moisture (%):	7.54
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1122
Diameter(in):	2.415

Final Dry Density (pcf):	101.7
Final Moisture (%) :	20.8
Initial Void ratio:	0.8270
Specific Gravity(assumed):	2.70
Initial Saturation (%)	24.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1187	0.9935	0.00	-0.65	0.8151	-0.65
1.000	0.1296	0.9826	0.15	-1.74	0.7980	-1.59
H2O	0.2038	0.9084	0.15	-9.16	0.6624	-9.01

Percent Swell (+) / Settlement (-) After Inundation = **-7.54**

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-2
 Sample No.: R-5
 Sample Description: Brown silty sand (SM)

Tested By: G. Bathala Date: 03/13/24
 Checked By: J. Ward Date: 03/21/24
 Sample Type: Ring
 Depth (ft.): 15.0

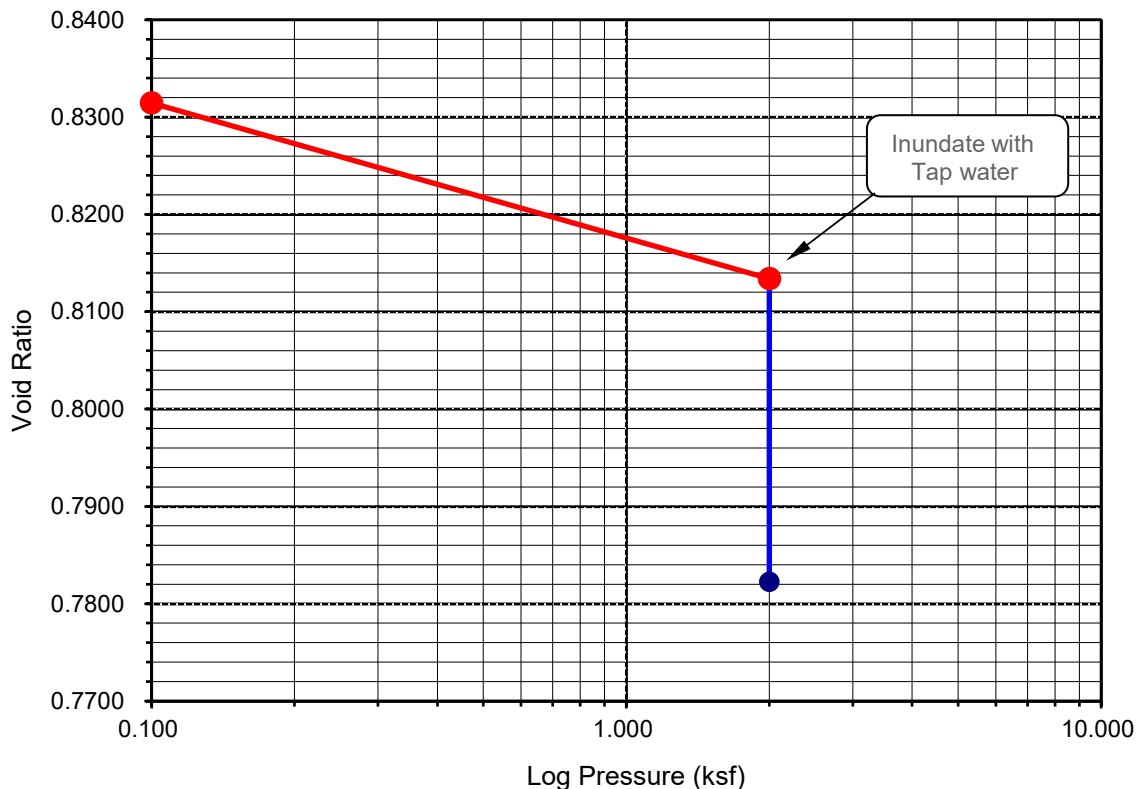
Initial Dry Density (pcf):	92.0
Initial Moisture (%):	8.87
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0680
Diameter(in):	2.415

Final Dry Density (pcf):	95.9
Final Moisture (%) :	22.0
Initial Void ratio:	0.8325
Specific Gravity(assumed):	2.70
Initial Saturation (%)	28.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.06855	0.9995	0.00	-0.06	0.8315	-0.06
2.000	0.0849	0.9831	0.65	-1.69	0.8134	-1.04
H2O	0.1019	0.9661	0.65	-3.39	0.7823	-2.74

Percent Swell (+) / Settlement (-) After Inundation = -1.72

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-3
 Sample No.: R-4
 Sample Description: Brown lean clay with sand (CL)s

Tested By: G. Bathala Date: 05/20/24
 Checked By: J. Ward Date: 05/22/24
 Sample Type: Ring
 Depth (ft.): 10.0

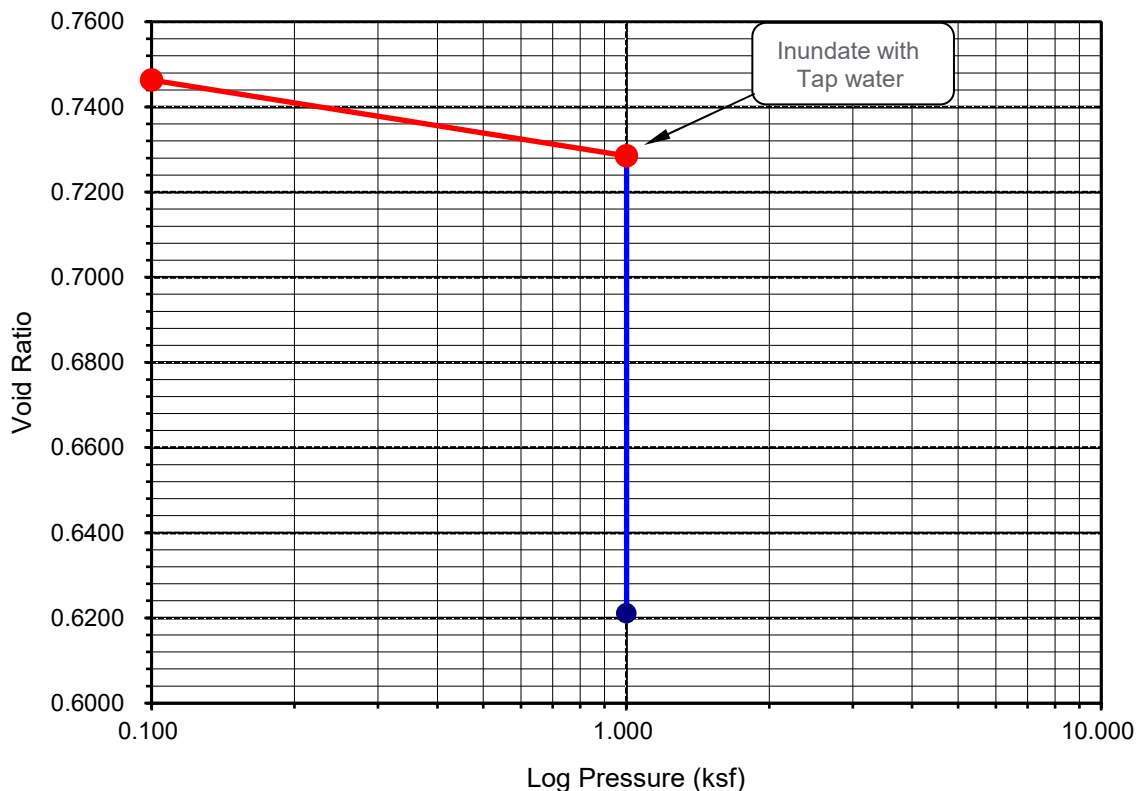
Initial Dry Density (pcf):	96.5
Initial Moisture (%):	5.37
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0967
Diameter(in):	2.415

Final Dry Density (pcf):	104.3
Final Moisture (%) :	19.1
Initial Void ratio:	0.7469
Specific Gravity(assumed):	2.70
Initial Saturation (%)	19.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0970	0.9997	0.00	-0.03	0.7464	-0.03
1.000	0.1087	0.9880	0.15	-1.20	0.7285	-1.05
H2O	0.1702	0.9265	0.15	-7.35	0.6211	-7.20

Percent Swell (+) / Settlement (-) After Inundation = -6.22

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-4
 Sample No.: R-4
 Sample Description: Brown lean clay (CL)

Tested By: G. Bathala Date: 05/21/24
 Checked By: J. Ward Date: 05/23/24
 Sample Type: Ring
 Depth (ft.): 10.0

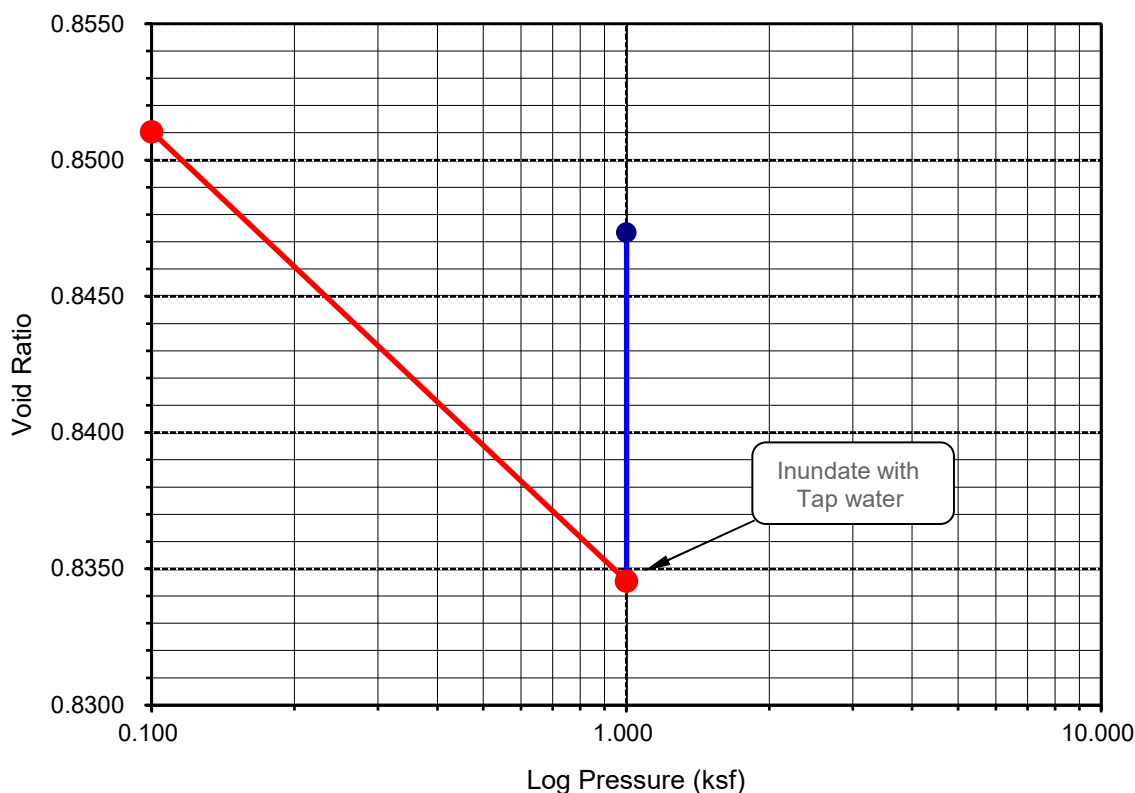
Initial Dry Density (pcf):	91.0
Initial Moisture (%):	13.63
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0961
Diameter(in):	2.415

Final Dry Density (pcf):	91.5
Final Moisture (%) :	24.3
Initial Void ratio:	0.8522
Specific Gravity(assumed):	2.70
Initial Saturation (%)	43.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0967	0.9994	0.00	-0.06	0.8510	-0.06
1.000	0.1071	0.9890	0.15	-1.10	0.8346	-0.95
H2O	0.1002	0.9959	0.15	-0.41	0.8473	-0.26

Percent Swell (+) / Settlement (-) After Inundation = 0.70

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-5
 Sample No.: R-4
 Sample Description: Olive brown silty clay (CL-ML)

Tested By: G. Bathala Date: 03/13/24
 Checked By: J. Ward Date: 03/21/24
 Sample Type: Ring
 Depth (ft.): 10.0

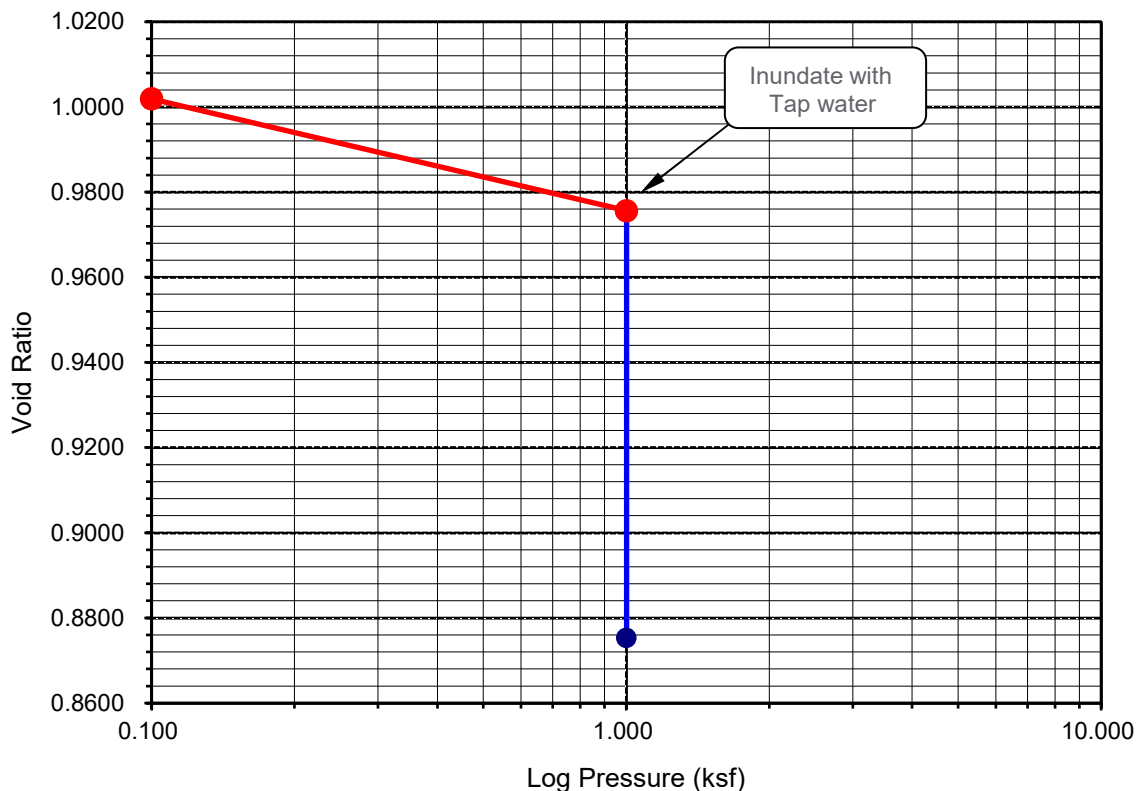
Initial Dry Density (pcf):	84.2
Initial Moisture (%):	12.07
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1519
Diameter(in):	2.415

Final Dry Density (pcf):	90.2
Final Moisture (%) :	25.5
Initial Void ratio:	1.0029
Specific Gravity(assumed):	2.70
Initial Saturation (%)	32.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1524	0.9995	0.00	-0.05	1.0019	-0.05
1.000	0.1670	0.9849	0.15	-1.51	0.9757	-1.36
H2O	0.2171	0.9348	0.15	-6.52	0.8753	-6.37

Percent Swell (+) / Settlement (-) After Inundation = -5.08

Void Ratio - Log Pressure Curve



Appendix D
Infiltration Test Data

Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Shea - Our Lady of Peace, Irvine
Project Number: 23174-01
Date: 2/26/2024
Boring Number: I-3

Test hole dimensions (if circular)

Boring Depth (feet)*: 10
Boring Diameter (inches): 8
Pipe Diameter (inches): 3

*measured at time of test

Test pit dimensions (if rectangular)

Pit Depth (feet): _____
Pit Length (feet): _____
Pit Breadth (feet): _____

Minimum test Head (D_o):

(What the sounder tape should read)

Boring Depth - (5 x Boring Radius) 8.4 ft

(Shallow) The value on the sounder tape should be close to this value during testing for **DEEP** testing fill to 4 feet below top of hole

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:15	7:40	25.0	6.88	6.91	0.03	Yes
2	7:42	8:07	25.0	6.81	6.84	0.03	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	8:04	8:34	30.0	6.84	6.87	0.03	0.04
2	8:36	9:06	30.0	6.87	6.89	0.02	0.02
3	9:08	9:38	30.0	6.85	6.87	0.02	0.02
4	9:40	10:10	30.0	6.87	6.9	0.03	0.04
5	10:12	10:42	30.0	6.91	6.94	0.03	0.04
6	10:45	11:15	30.0	6.82	6.85	0.03	0.04
7	11:18	11:48	30.0	6.85	6.87	0.02	0.02
8	11:50	12:20	30.0	6.87	6.89	0.02	0.02
9	12:22	12:52	30.0	6.86	6.88	0.02	0.02
10	12:54	13:24	30.0	6.84	6.86	0.02	0.02
11	13:26	13:56	30.0	6.86	6.88	0.02	0.02
12	13:58	14:28	30.0	6.88	6.90	0.02	0.02
Measured Infiltration Rate (No Factor of Safety)							0.02

Sketch:

Notes:

Based on Guidelines from: South Orange County 9/28/2017

Spreadsheet Revised on: 10/30/2019



Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Shea - Our Lady of Peace, Irvine
Project Number: 23174-01
Date: 2/26/2024
Boring Number: I-4

Test hole dimensions (if circular)

Boring Depth (feet)*: 10
Boring Diameter (inches): 8
Pipe Diameter (inches): 3

*measured at time of test

Test pit dimensions (if rectangular)

Pit Depth (feet): _____
Pit Length (feet): _____
Pit Breadth (feet): _____

Minimum test Head (D_o):

(What the sounder tape should read)

Boring Depth - (5 x Boring Radius) 8.4 ft

(Shallow) The value on the sounder tape should be close to this value during testing for **DEEP** testing fill to 4 feet below top of hole

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:17	7:42	25.0	7.04	7.06	0.02	Yes
2	7:44	8:09	25.0	7.06	7.08	0.02	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	8:11	8:41	30.0	7.05	7.08	0.03	0.04
2	8:43	9:13	30.0	7.01	7.03	0.02	0.03
3	9:15	9:45	30.0	7.03	7.05	0.02	0.03
4	9:47	10:17	30.0	7.02	7.03	0.01	0.01
5	10:10	10:49	39.0	7.03	7.05	0.02	0.02
6	10:51	11:21	30.0	7.05	7.07	0.02	0.03
7	11:23	11:53	30.0	7.00	7.02	0.02	0.03
8	11:55	12:25	30.0	7.02	7.03	0.01	0.01
9	12:28	12:58	30.0	7.03	7.05	0.02	0.03
10	13:00	13:30	30.0	7.05	7.06	0.01	0.01
11	13:32	14:02	30.0	7.05	7.06	0.01	0.01
12	14:04	14:34	30.0	7.06	7.07	0.01	0.01
Measured Infiltration Rate (No Factor of Safety)							0.01

Sketch:

Notes:

Based on Guidelines from: South Orange County 9/28/2017

Spreadsheet Revised on: 10/30/2019



Appendix E
General Earthwork and Grading
Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "equipment" of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

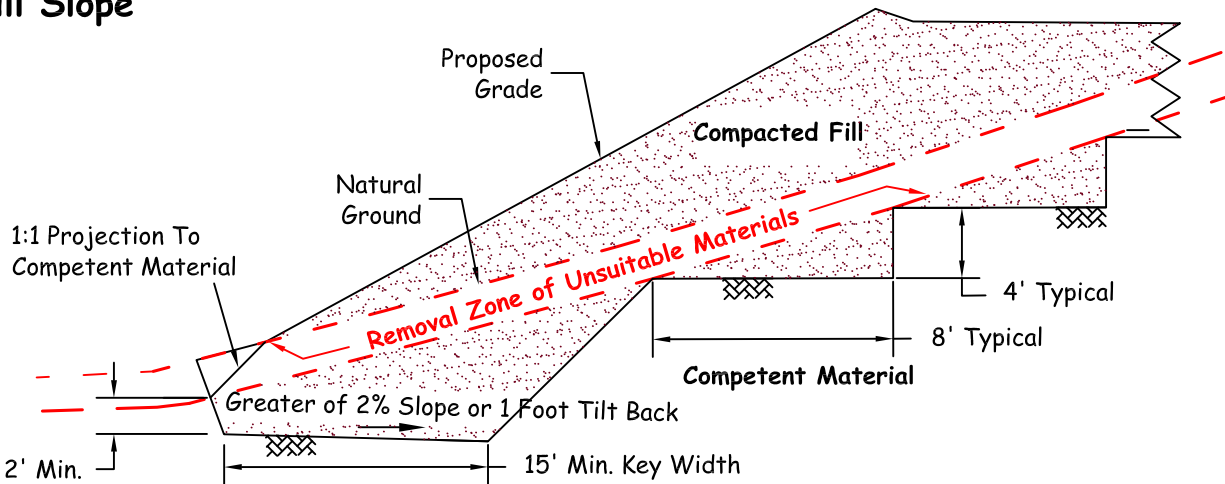
7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

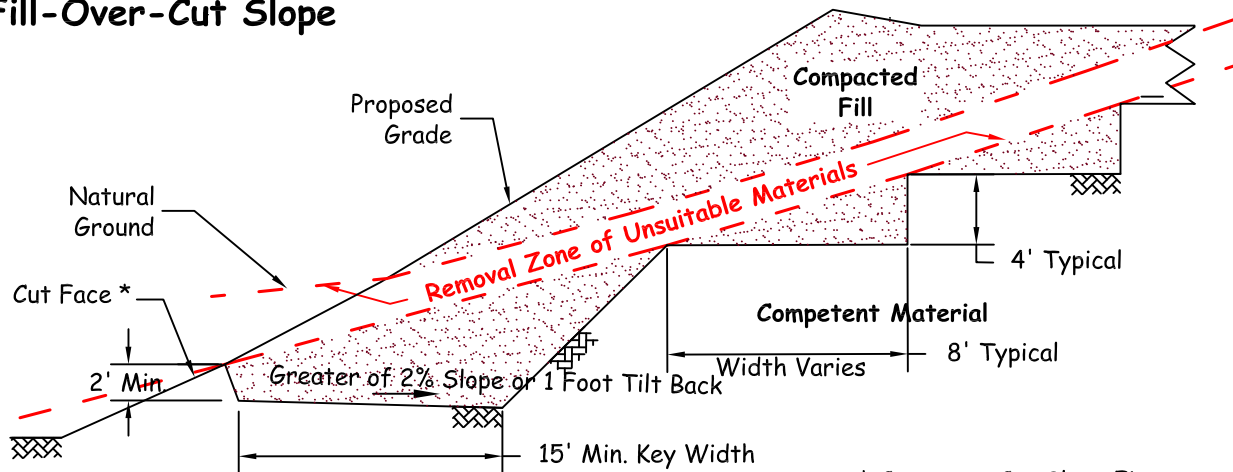
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

- 7.3** The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.
- 7.4** The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.
- 7.5** Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

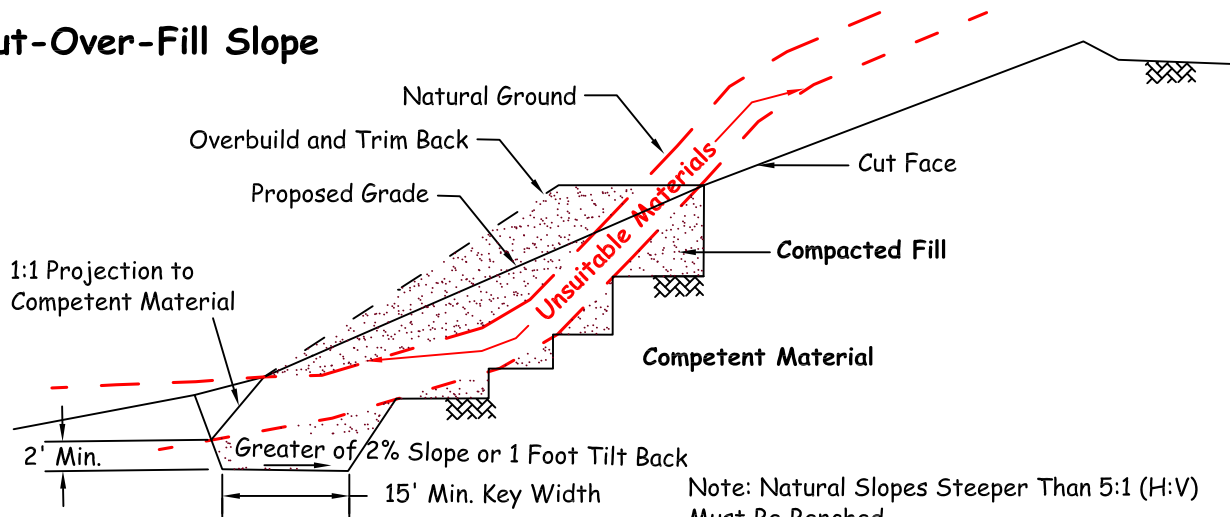


Fill-Over-Cut Slope

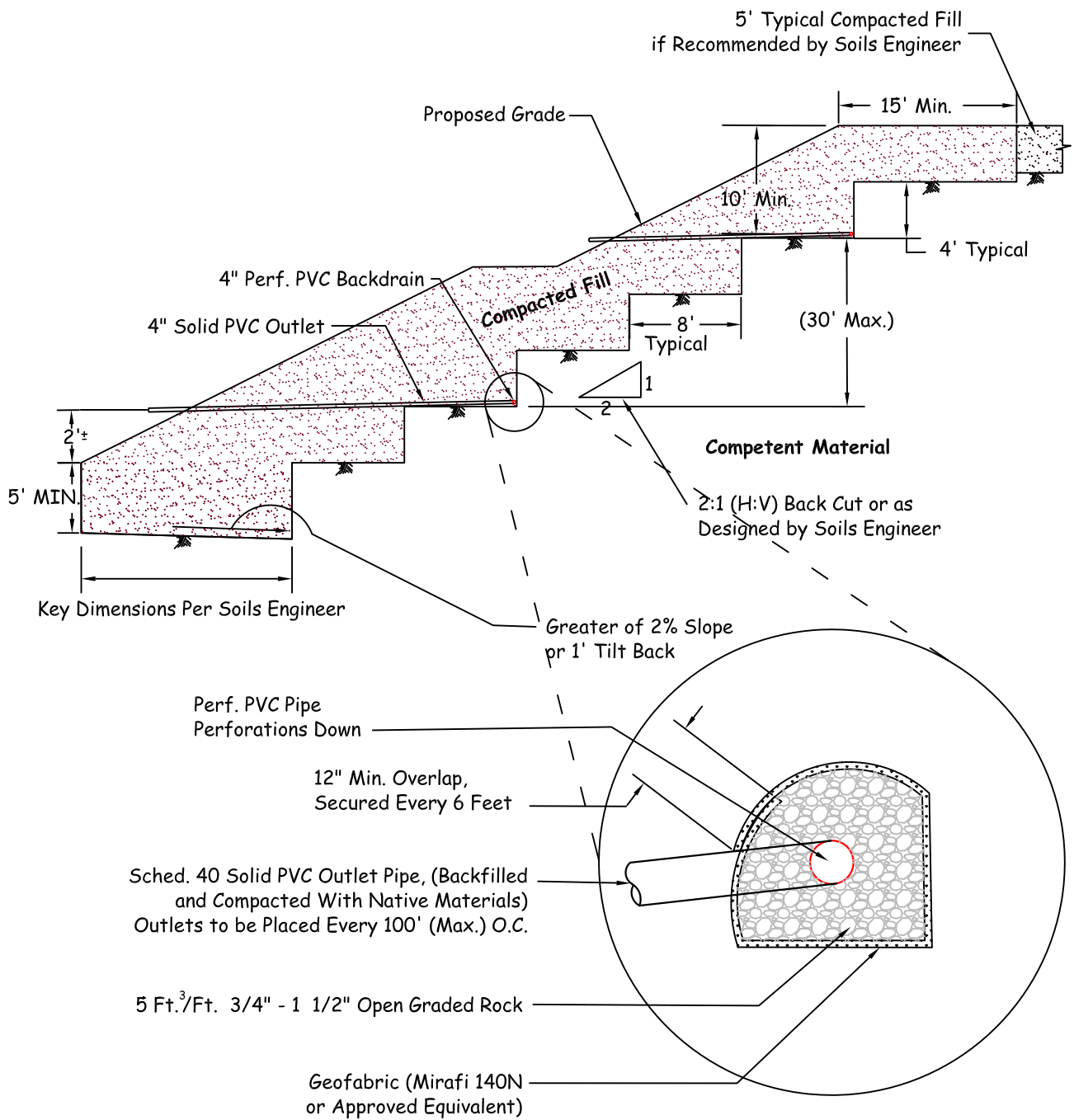


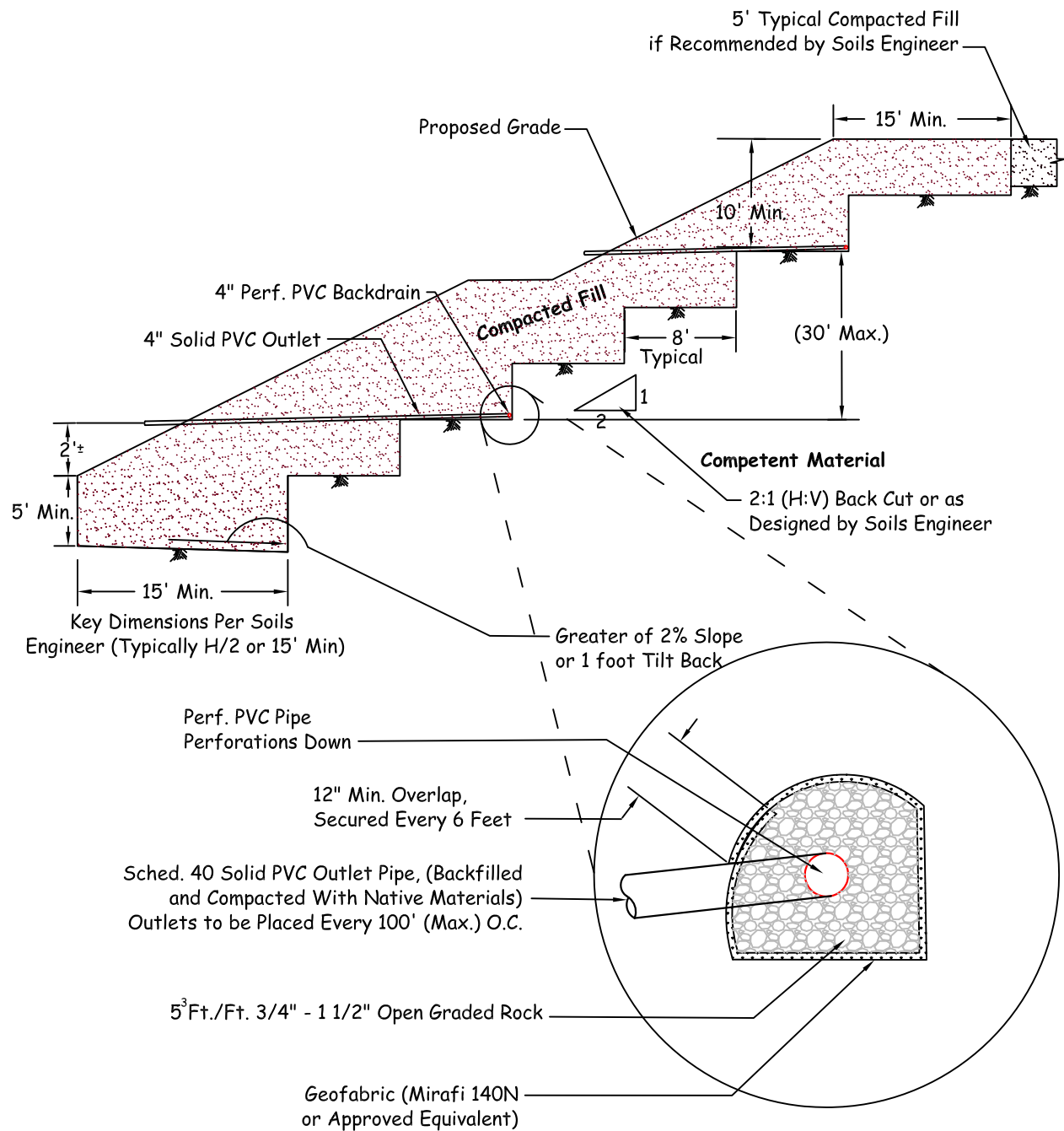
* Construct Cut Slope First

Cut-Over-Fill Slope

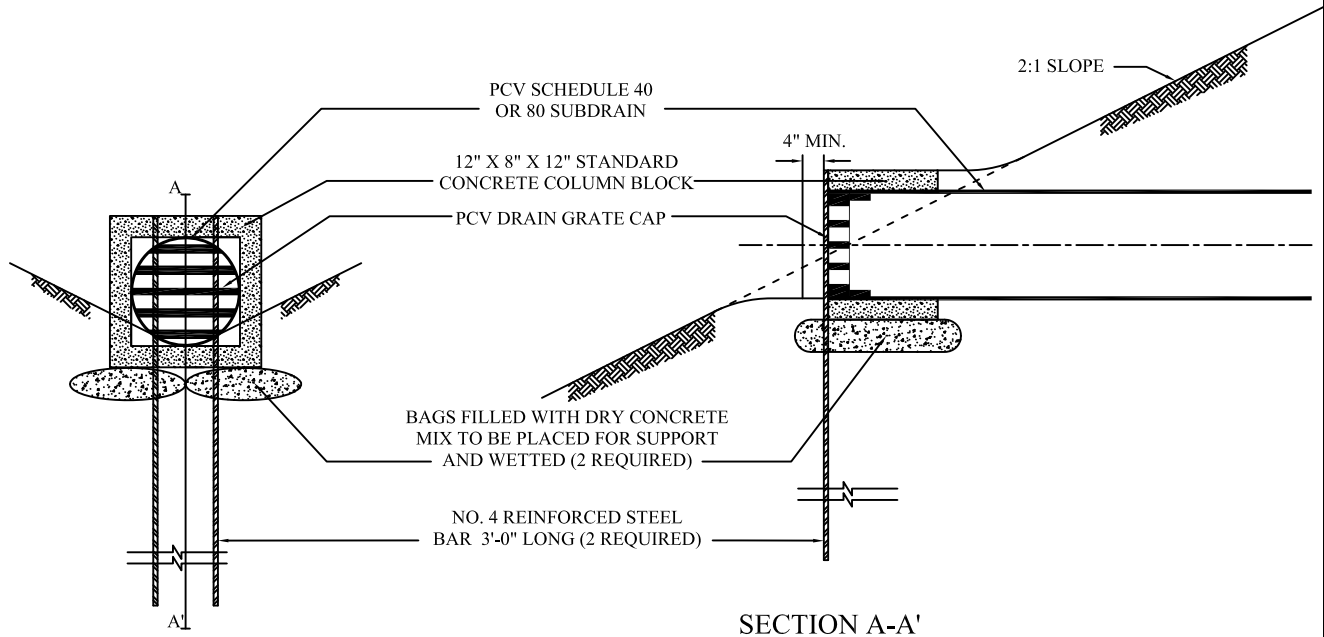


Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

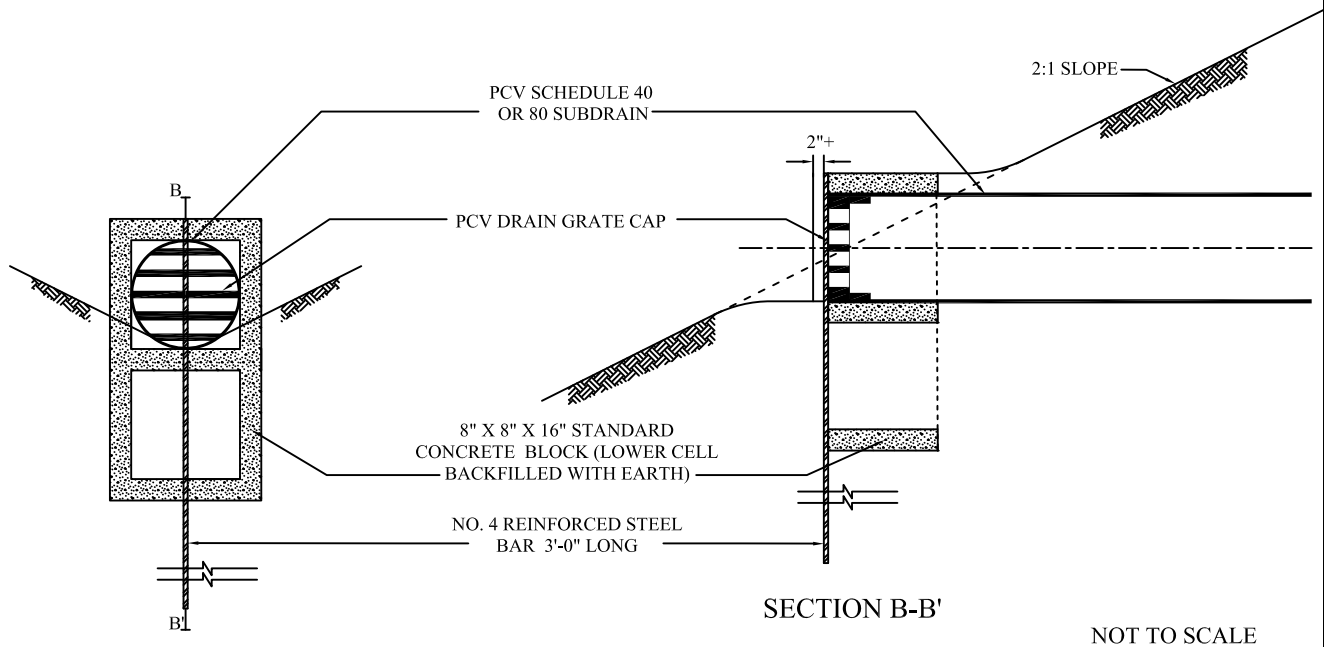




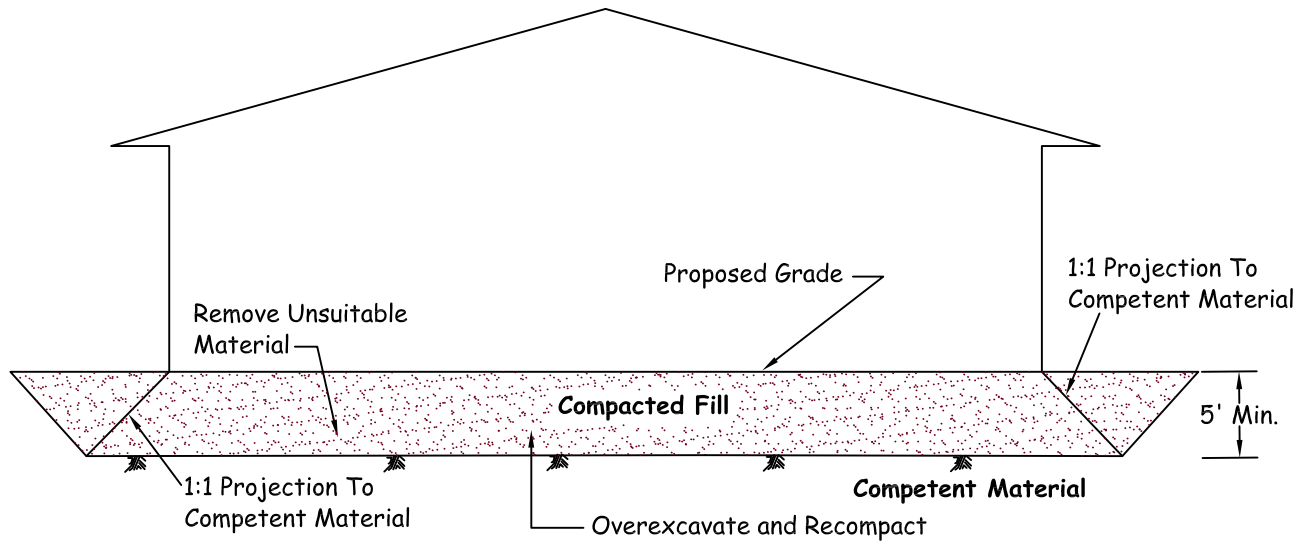
SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SUBDRAIN OUTLET MARKER -4" PIPE



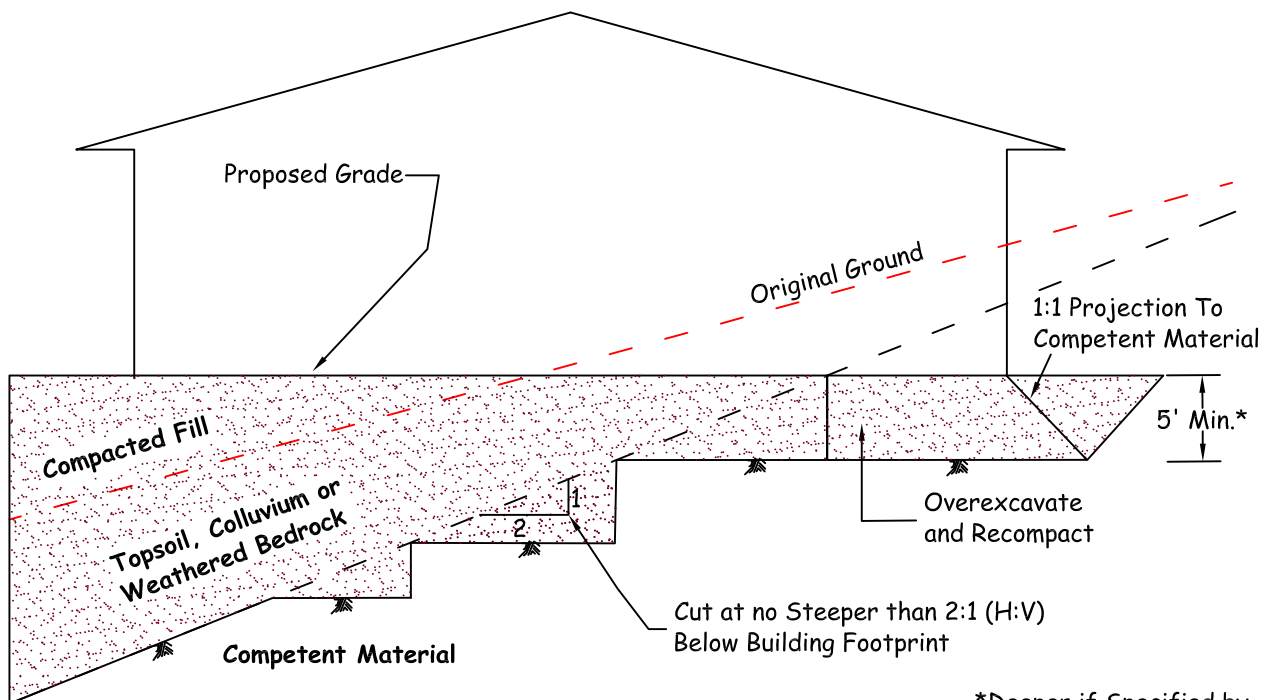
Cut Lot (Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

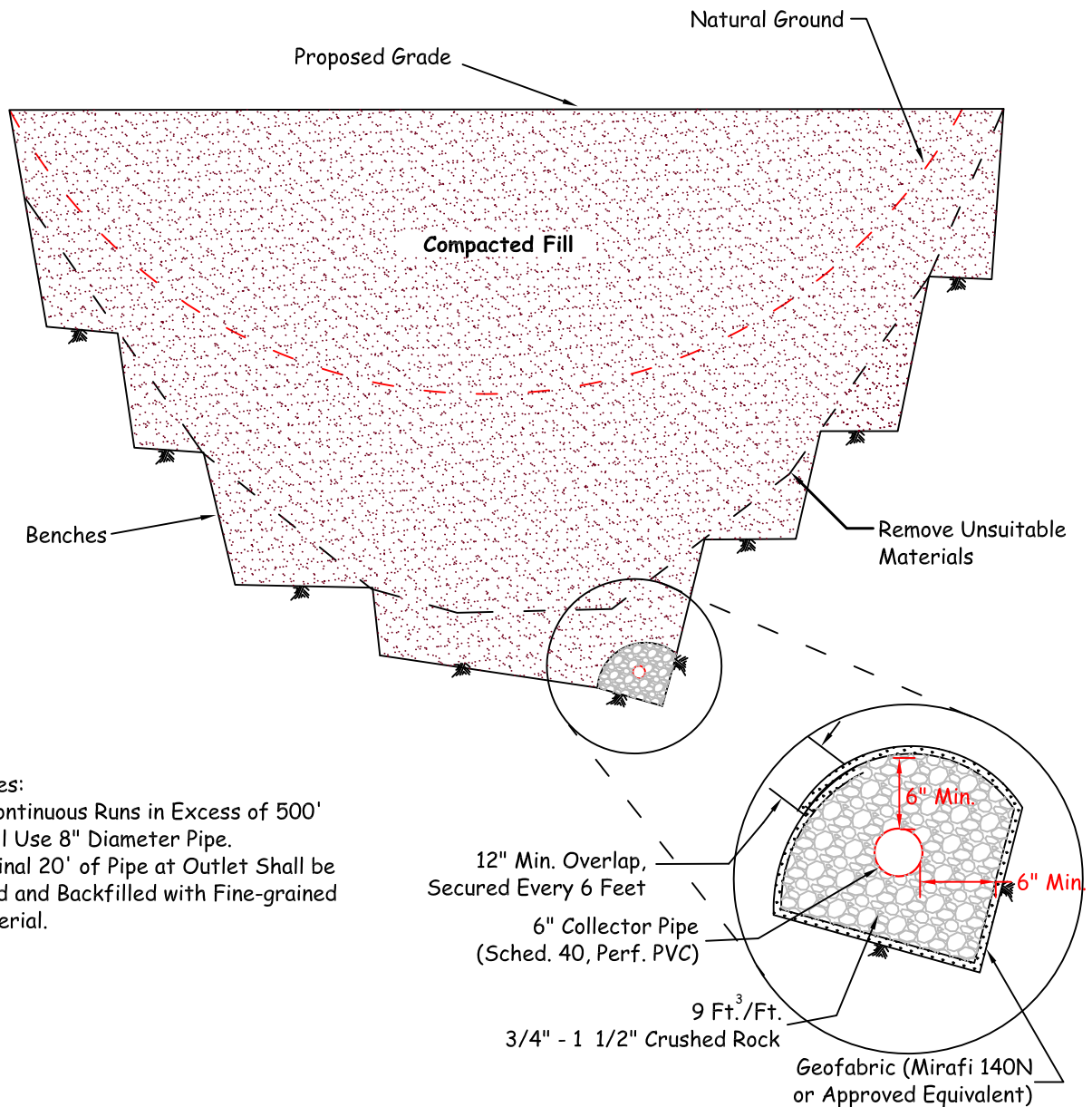
Cut/Fill Transition Lot



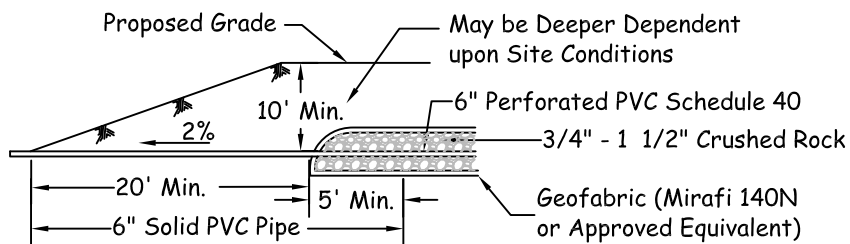
*Deeper if Specified by Soils Engineer

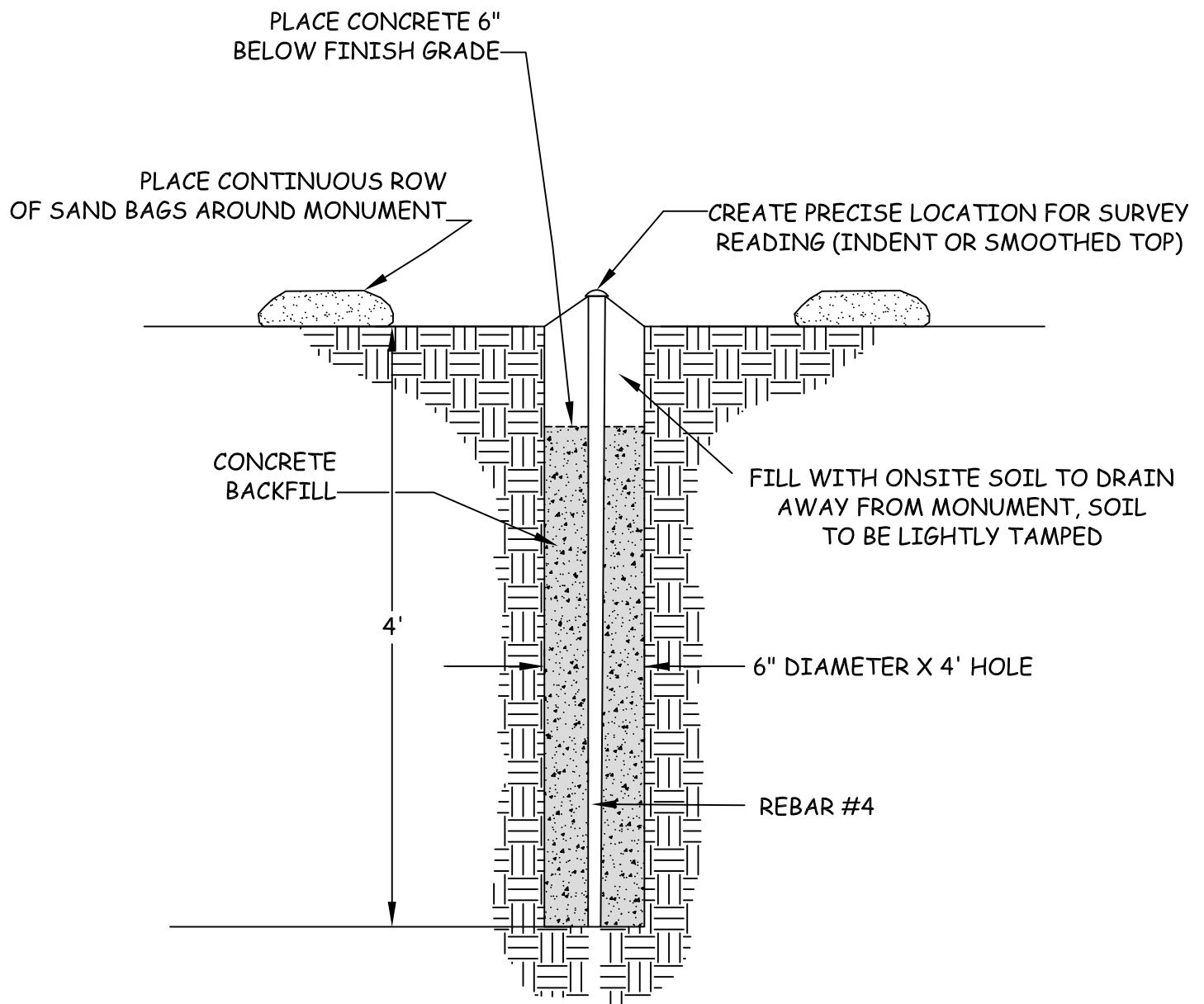


CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



Proposed Outlet Detail

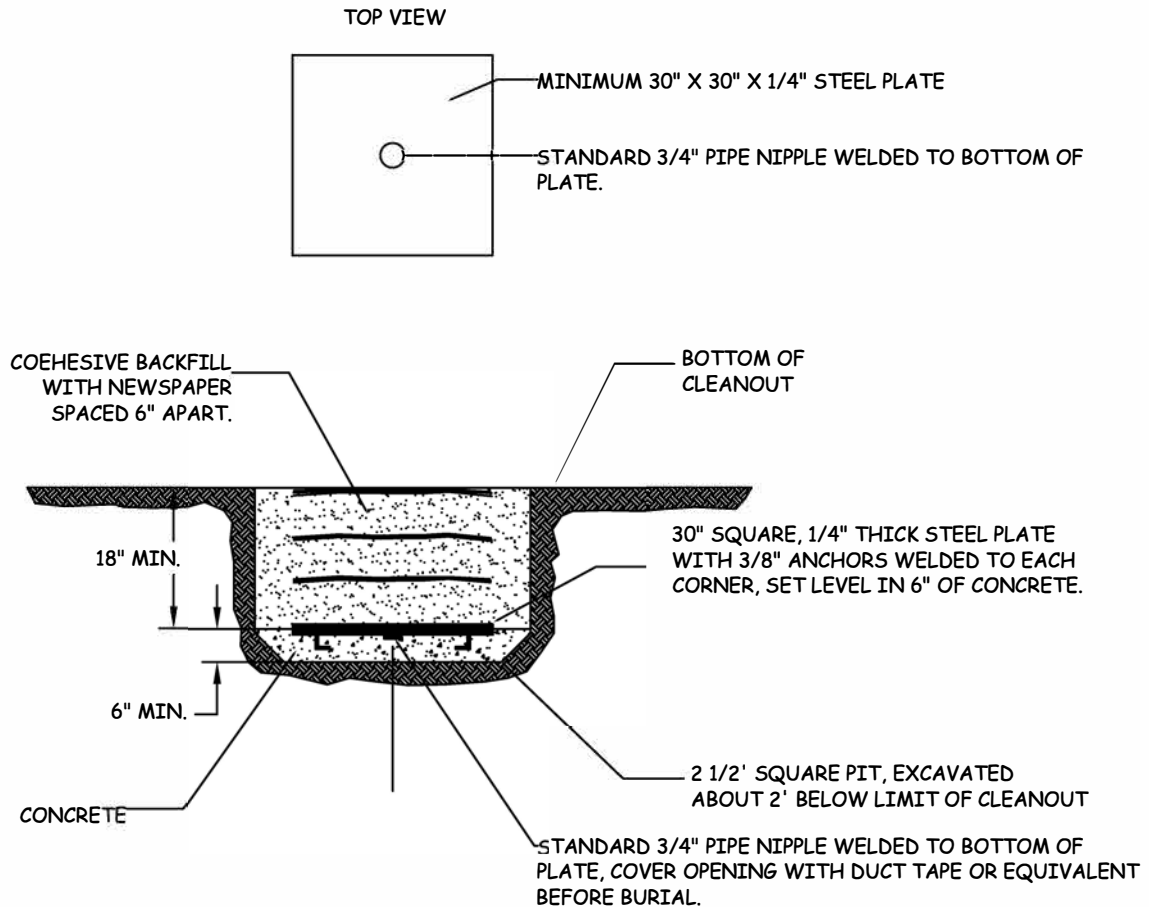




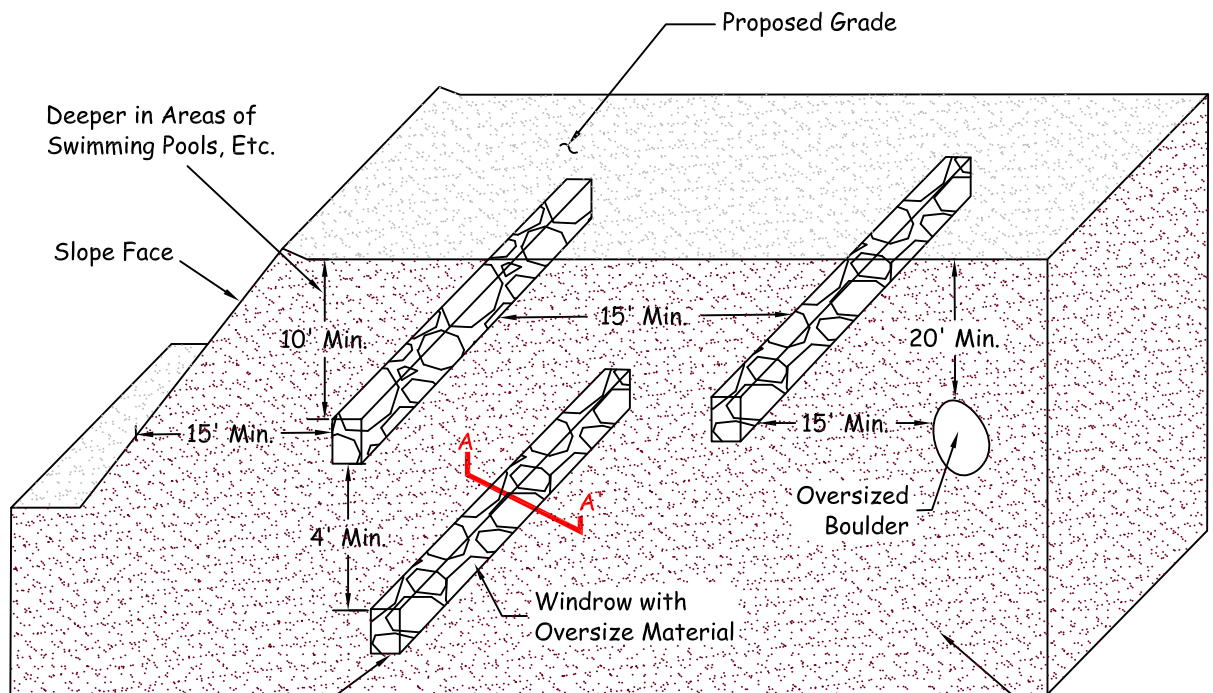
NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS



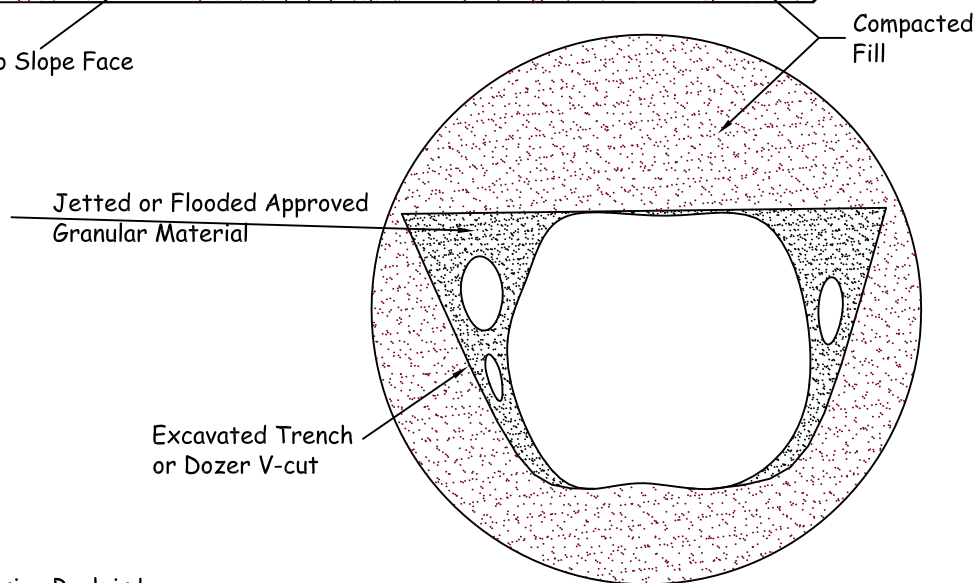
TYPICAL SURFACE SETTLEMENT MONUMENT



1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITLY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.



Windrow Parallel to Slope Face



Note: Oversize Rock is Larger than 8" in Maximum Dimension.

Section A-A'

APPENDIX D-2

PRELIMINARY GEOTECHNICAL SUBSURFACE EVALUATION

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May 28, 2024

Project No. 23174-01

Roman Catholic Bishop of Orange
13280 Chapman Avenue
Garden Grove, CA 92840

Subject: Preliminary Geotechnical Subsurface Evaluation, Proposed Residential Development, 14010 Remington, Irvine, California

In accordance with your request, LGC Geotechnical, Inc. has performed a geotechnical subsurface evaluation for the proposed residential development located at 14010 Remington in the City of Irvine, California. This report summarizes the results of our background review, subsurface exploration, and geotechnical analyses of the data collected, and presents our findings, conclusions, and preliminary recommendations for the proposed residential project.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully,

LGC Geotechnical, Inc.



Barry Graham, CEG 2749
Project Geologist



Dennis Boratynec, GE 2770
Vice President



Branden Petersen, EIT
Senior Staff Engineer

DJB/BPP/amm

Distribution: (1) Addressee (electronic copy, wet signed copies can be provided upon request)

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Appendix E – General Earthwork and Grading Specifications for Rough Grading

1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents the results of our geotechnical subsurface evaluation for the proposed residential development located at 14010 Remington in the City of Irvine, California (see Site Location Map, Figure 1). The purpose of our work was to collect subsurface data in order to confirm that the site can be developed from a geotechnical perspective. Our scope of services included:

- Review of pertinent readily available geotechnical information and geologic maps (Appendix A).
- Subsurface evaluation including excavation, sampling, and logging of six small-diameter hollow stem borings.
- Infiltration testing at two of the small-diameter hollow-stem borings.
- Laboratory testing of representative samples obtained during our subsurface evaluation (Appendix C).
- Geotechnical analysis and evaluation of the data obtained, including:
 - Suitability of the site for the proposed development from a geotechnical standpoint;
 - Description of the site geology, and subsurface soil and groundwater conditions;
 - Evaluation of the seismic conditions at the site, including seismic design criteria based on the 2022 California Building Code (CBC); and
 - Recommendations for remedial grading operations and site preparation.
- Preparation of this report presenting our findings, conclusions and recommendations with respect to the proposed site development.

1.2 Background/Project Description

The approximately 2.9-acre site is bound to the north by an existing church, to the west by Remington, to the south by Roosevelt and east by a residential development. Review of historical aerial photographs suggests the site was undeveloped farmland prior to 1980. By 1985, Roosevelt was constructed but the site remained undeveloped until 2000. The church and associated parking lot was completed by 2002. The site has essentially remained unchanged since then.

The proposed development will consist of 68 multi-family residential units with associated improvements. We expect the proposed residential development will be at-grade with relatively light building loads (column and wall loads assumed to be a maximum of approximately 30 kips and 3 kips per lineal foot, respectively). At this time we do not have any design cut/fill information but we assume design cuts and fills will be less than 5 feet.

The recommendations provided herein are based upon the estimated structural loading, potential grade changes, and expected layout information above. We understand that the project plans are currently being developed at this time; LGC Geotechnical should be provided with updated project plans (including grading, foundation, retaining walls, etc.) and any changes to the assumed structural loads when they become available, in order to either confirm or modify the recommendations provided herein.

Note that an evaluation of the adjacent proposed church site was conducted simultaneously to the proposed residential site. The limits of these sites can be found in Figure 2 - Boring Location Map. The laboratory test results from the church evaluation were also included within this report.

1.3 Subsurface Evaluation

LGC Geotechnical performed a subsurface geotechnical evaluation of the site consisting of the excavation of 6 hollow-stem auger borings.

Six hollow-stem borings (HS-1 through HS-4, I-1, and I-2) were drilled to depths ranging from approximately 10 to 50 feet below existing grade. An LGC Geotechnical representative observed the drilling operations, logged the borings, and collected soil samples for laboratory testing. The borings were excavated using a track-mounted drill rig equipped with 8-inch-diameter hollow-stem augers. Driven soil samples were collected by means of the Standard Penetration Test (SPT) and Modified California Drive (MCD) sampler generally obtained at 2.5 to 5-foot vertical increments. The MCD is a split-barrel sampler with a tapered cutting tip and lined with a series of 1-inch-tall brass rings. The SPT sampler and MCD sampler were driven using a 140-pound automatic hammer falling 30 inches to advance the sampler a total depth of 18 inches. The raw blow counts for each 6-inch increment of penetration were recorded on the boring logs. Bulk samples were also collected and logged at select depths for laboratory testing. At the completion of drilling, the borings were backfilled with the native soil cuttings and tamped. Some settlement of the backfill soils may occur over time.

The approximate locations of borings are shown on the Geotechnical Exploration Location Map (Figure 2). Boring logs are presented in Appendix B.

1.4 Field Percolation Testing

Two falling head field percolation tests (I-1 and I-2) were performed in the approximate locations indicated on our Geotechnical Map (Figure 2). Estimation of infiltration rates for the site was accomplished in general accordance with the guidelines set forth by the County of Orange County (2013). A 3-inch diameter perforated PVC pipe with filter sock was placed in the borehole, and the annulus was backfilled with gravel, including placement of approximately 2 inches of gravel at the bottom of the borehole. The infiltration wells were pre-soaked the day prior to testing. During the pre-test, if the water level drops more than 6 inches in 25 minutes for two consecutive readings, the test procedure for coarse-grained soils was followed. If the water level did not drop 6 inches in one or both pre-test readings, the procedure for fine-grained soils was followed. The procedure for coarse-grained soils requires performing the test for one hour and taking one reading every 10 minutes from a fixed reference point. The procedure for fine-grained soils requires performing the test for six hours and taking one reading every 30 minutes from a fixed reference point.

The pre-tests indicated the procedure for the fine-grained soils should be followed. The calculated infiltration is normalized relative to the three-dimensional flow that occurs within the field test to a one-dimensional flow out of the bottom of the boring only (i.e., "Porchet

Method”). The measured infiltration rates (for feasibility purposes only) are provided in Table 1 below. Please note that infiltration is discussed in Section 4.8 and field data is provided in Appendix D.

Please note that the values provided in Table 1 do not include reduction factors associated with the test procedure, site variability, and long-term siltation plugging that are used to calculate the design infiltration rate.

TABLE 1
Summary of Field Infiltration Testing

Infiltration Test No.	Approx. Depth Below Existing Grade (ft)	Measured Infiltration Rate* (in./hr.)
I-1	10	0.03
I-2	10	0.01

*Measured Infiltration Rates Do Not Include Factor of Safety.

1.5 Laboratory Testing

Laboratory testing was performed on representative soil samples obtained from our subsurface evaluation. Laboratory testing included in-situ moisture and density tests, expansion index, laboratory compaction, collapse and corrosion testing.

The following is a summary of the laboratory test results.

- Dry density of the samples collected ranged from approximately 80 pounds per cubic foot (pcf) to 106 pcf, with an average of approximately 94 pcf. Field moisture contents ranged from approximately 1 percent to 24 percent, with an average of approximately 13 percent.
- Two samples were tested for fines content indicated a fines content (passing No. 200 sieve) ranging from 48 to 68 percent. According to the Unified Soils Classification System (USCS), the tested samples are classified as both “coarse and fine-grained” soil.
- Two Expansion Index (EI) tests were performed. The result indicated an EI value ranging from 112 to 135, corresponding to “High” to “Very High” expansion potential.
- Two laboratory compaction tests of near surface samples indicated a maximum dry density ranging from 115.0 to 117.5 with an optimum moisture content ranging from 12.5 to 14.0 percent.
- Six swell/collapse tests were performed. The plots are provided in Appendix C.
- Corrosion testing indicated soluble sulfate content of 95 parts per million (ppm), chloride content of 60 ppm, and pH value of 7.90, and minimum resistivity of 720 ohm-cm.

A summary of the results is presented in Appendix C. The moisture and dry density test results are presented on the boring logs in Appendix B.

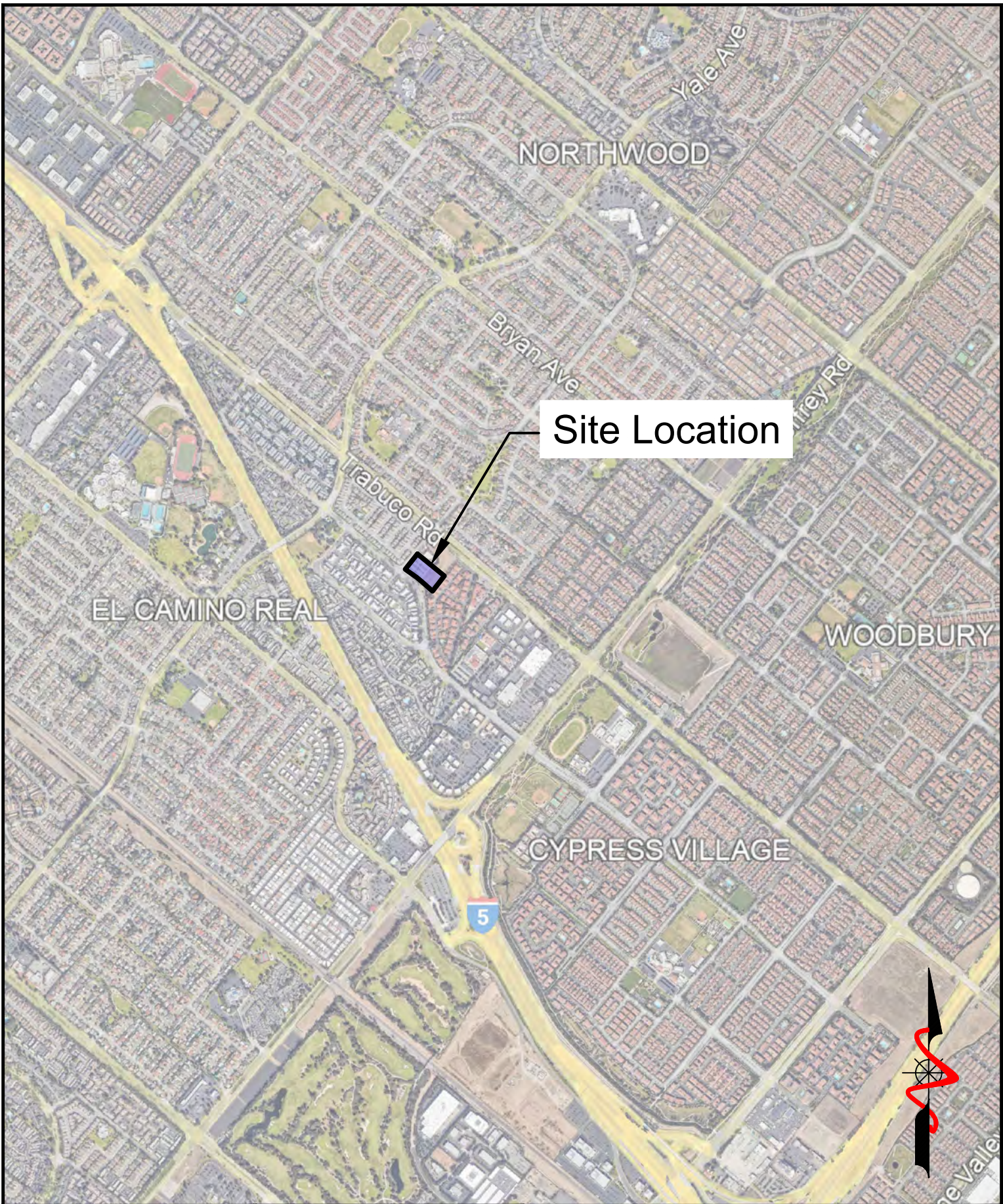


FIGURE 1
Site Location Map

PROJECT NAME	Our Lady of Peace, Irvine
PROJECT NO.	23174-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	May 2024

2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located along the southeastern margin of the Los Angeles Basin, a large structural depression within the Peninsular Ranges geomorphic province of California. The southeastern portion of Los Angeles Basin includes the Tustin Plain, a shallow alluvial portion of the coastal plain. The site is located in the eastern portion of the Tustin Plain in the Irvine subbasin, generally composed of approximately 200 to 700 feet of unconsolidated to semi-consolidated Pliocene, Quaternary, and Holocene-age alluvial sediments. Soils within this zone consist predominantly of interbedded discontinuous lenses of clay, silt, sand and gravel.

Regional geologic mapping and local topographic expressions do not indicate the presence of large-scale landslides within or adjacent to the project area.

2.2 Site Geology and Generalized Subsurface Conditions

Based on regional mapping (Morton, 2006) and our observations of the site, the subject site is underlain by Young Alluvial Fan Deposits (Qyf). In portions of the site, the young alluvial deposits are overlain by a thin veneer of older artificial fill that was placed during the development of the existing development. The depth of this older artificial fill was found to range from approximately 1 to 2 feet below existing grade during our evaluation but may be found at a deeper depth during construction. As indicated in our field explorations, site soils generally consisted of medium dense to dense clayey sands/silty sands and stiff to hard sandy clays.

It should be noted that borings are only representative of the location and time where/when they are performed, and varying subsurface conditions may exist outside of the performed location. In addition, subsurface conditions can change over time. The soil descriptions provided should not be construed to mean that the subsurface profile is uniform, and that soil is homogenous within the project area. Descriptions of the subsurface conditions are presented on the boring and geotechnical trench logs located in Appendix B.

2.3 Groundwater

Groundwater was not encountered to the maximum explored depth of 51.5 feet below existing grade. Historic high groundwater is estimated to be greater than 40 feet below existing ground surface (CGS, 2001).

In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local seepage or during rainy seasons. Groundwater conditions below the site may be variable, depending on numerous factors including seasonal rainfall, local irrigation, and groundwater pumping, among others.

2.4 Faulting and Seismic Hazards

Prompted by damaging earthquakes in California, State legislation and policies concerning the classification and land-use criteria associated with faults have been developed. Their purpose was to prevent the construction of urban developments across the trace of active faults, resulting in the Alquist-Priolo Earthquake Fault Zoning Act. Earthquake Fault Zones have been delineated along the traces of active faults within California. Where developments for human occupation are proposed within these zones, the State requires detailed fault evaluations be performed so that engineering geologists can mitigate the hazards associated with active faulting by identifying the location of active faults and allowing for a setback from zones of previous ground rupture.

The subject site is not located within an Alquist-Priolo Earthquake Fault Zone and no faults were identified on the site during our site evaluation. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site.

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching, shallow ground rupture, soil liquefaction and dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and causative fault and the onsite geology. Some of the major active nearby faults that could produce these secondary effects include the San Joaquin Hills, Whittier, Elsinore, Newport-Inglewood, among others (CGS, 2018). A discussion of these secondary effects is provided in the following sections.

2.4.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that loose, saturated, near-surface, cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils, and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Furthermore, dynamic settlement of dry sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

Based on our review of the State of California Seismic Hazard Zone for liquefaction potential (CDMG, 2001), the subject site is not located within a liquefaction hazard zone. Based on our evaluation, site soils are generally not susceptible to liquefaction due to the fine-grained nature of the on-site soils and low probability of groundwater in the upper 50 feet. Therefore, liquefaction potential is considered low.

2.4.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the site being relatively flat, low liquefaction potential and the lack of an adjacent “free face” to drive lateral spreading, the potential for lateral spreading is considered very low.

2.5 Seismic Design Criteria

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2022 California Building Code (CBC) and applicable portions of ASCE 7-16 which has been adopted by the CBC. Please note that the following seismic parameters are only applicable for code-based acceleration response spectra and are not applicable for where site-specific ground motion procedures are required by ASCE 7-16. Representative site coordinates of latitude 33.699559 degrees north and longitude -117.768908 degrees west were utilized in our analyses. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 2 on the following page. Since site soils are Site Class D, additional adjustments are required to code acceleration response spectrums as outlined below and provided in ASCE 7-16. The structural designer should contact the geotechnical consultant if structural conditions (e.g., number of stories, seismically isolated structures, etc.) require site-specific ground motions.

TABLE 2
Seismic Design Parameters

Selected Parameters from 2022 CBC, Section 1613 - Earthquake Loads	Seismic Design Values	Notes/Exceptions
Distance to applicable faults classifies the site as a "Near-Fault" site.		Section 11.4.1 of ASCE 7
Site Class	D*	Chapter 20 of ASCE 7
S _s (Risk-Targeted Spectral Acceleration for Short Periods)	1.257g	From SEAOC, 2024
S ₁ (Risk-Targeted Spectral Accelerations for 1-Second Periods)	0.449g	From SEAOC, 2024
F _a (per Table 1613.2.3(1))	1.0	For Simplified Design Procedure of Section 12.14 of ASCE 7, F _a shall be taken as 1.4 (Section 12.14.8.1)
F _v (per Table 1613.2.3(2))	1.851	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S _{MS} for Site Class D [Note: S _{MS} = F _a S _s]	1.257g	-
S _{M1} for Site Class D [Note: S _{M1} = F _v S ₁]	0.831g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S _{DS} for Site Class D [Note: S _{DS} = (2/3)S _{MS}]	0.838g	-
S _{D1} for Site Class D [Note: S _{D1} = (2/3)S _{M1}]	0.554g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
C _{RS} (Mapped Risk Coefficient at 0.2 sec)	0.940	ASCE 7 Chapter 22
C _{R1} (Mapped Risk Coefficient at 1 sec)	0.932	ASCE 7 Chapter 22
*Since site soils are Site Class D and S ₁ is greater than or equal to 0.2, the seismic response coefficient C _s is determined by Eq. 12.8-2 for values of T ≤ 1.5T _s and taken equal to 1.5 times the value calculated in accordance with either Eq. 12.8-3 for T _L ≥ T > T _s , or Eq. 12.8-4 for T > T _L . Refer to ASCE 7-16. Site Class F modified to Site Class D, seismic parameters only applicable for structure period ≤ 0.5 second, refer to discussion above.		

A deaggregation of the PGA based on a 2,475-year average return period (MCE) indicates that an earthquake magnitude of 6.55 at a distance of approximately 14.72 km from the site would contribute the most to this ground motion. A deaggregation of the PGA based on a 475-year average return period (Design Earthquake) indicates that an earthquake magnitude of 6.56 at a distance of approximately 21.38 km from the site would contribute the most to this ground motion (USGS, 2014).

Section 1803.5.12 of the 2022 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for liquefaction potential. The PGA_M for the site is equal to 0.576g (SEAOC, 2024). The design PGA is equal to 0.384g (2/3 of PGA_M).

2.6 Oversized Material

Oversized materials (material larger than 8 inches in maximum dimension) are not anticipated to be encountered during site grading based on our subsurface evaluation. If encountered, recommendations are provided for appropriate handling of oversized materials in Appendix E.

2.7 Expansion Potential

Based on the results of laboratory testing from our evaluation and from nearby sites, finished grade soils are anticipated to have a “High to Very High” expansion potential. Final expansion potential of site soils should be determined at the completion of grading.

2.8 Soils Susceptible to Hydro-Collapse

Soils that are typically susceptible to hydro-collapse (or collapsible soils) are predominately sand and silt held in a loose honeycomb structure. This relatively loose honeycomb structure is held together by small amounts clay or calcium carbonate acting as a temporary (soluble) cementing agent. If the soil remains dry the soil maintains its structure, however the addition of water to the soil will greatly weaken the honeycomb structure and the soil can subsequently experience immediate collapses. This collapse results in rapid soil settlement and potential damage to any improvements which are located without the zone of influence of the collapsible soils.

Laboratory testing for hydro-collapse is typically performed per American Society for Testing and Materials (ASTM) Test Method D5333 or ASTM D 2435. The two most common categorizations of hydro-collapse potential are ASTM D5333 and the Naval Facilities Engineering Command (NFEC, 1986) are shown in Table 3A and 3B below. As indicated in Table 3B soils with collapse potential above 5 percent are considered “trouble”.

TABLE 3A

Classification of Soil Collapsibility per ASTM D 5333

Collapse Index (I_c)	Collapse (%)	Collapse Potential
0	0	None
0.001 - 0.02	0.1 - 2	Slight
0.021 - 0.60	2.1 - 6	Moderate
0.60 - 0.10	6 - 10	Moderately Severe
> 0.10	> 10	Severe

TABLE 3B

Classification of Soil Collapsibility per NFEC, 1986

Collapse Potential (%)	Severity of Problem
0-1	No Problem
1-5	Moderate Trouble
5-10	Trouble
10-20	Severe Trouble
20	Very Severe Trouble

A summary of the onsite soils with the most significant collapse potential are provided in Table 4 on the following page. The measured collapse potential is up to 7.5 percent, with three samples indicating collapse potential of 5 percent or greater.

TABLE 4

Summary of Hydro-Collapse Laboratory Test Results

Boring	Laboratory Measured Collapse (%)
HS-2 @ 10 feet	7.5
HS-2 @ 15 feet	1.7
HS-3 @ 10 feet	6.2
HS-5 @ 10 feet	5.1

3.0 CONCLUSIONS

Based on the results of our subsurface geotechnical evaluation, it is our opinion that the proposed improvements are feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site development. A summary of our geotechnical conclusions are as follows:

- In general, borings excavated at the subject site indicate primarily native soils consisting of clayey sand, silty sand and sandy clay to the maximum explored depth of approximately 51.5 feet below existing grade. Native alluvial materials were found locally overlain by a relatively thin veneer of old artificial fill associated with previous development of the site. The near-surface loose and compressible soils are not suitable for the planned improvements in their present condition (refer to Section 4.1).
- Groundwater was not encountered to the maximum explored depth of 51.5 feet below existing grade. Historic high groundwater is estimated to be greater than 40 feet below existing ground surface (CGS, 2001).
- The subject study area is not located within a mapped State of California Earthquake Fault Zone, and based upon our review of published geologic mapping, no known active or potentially active faults are known to exist within or in the immediate vicinity of the site. Therefore, the potential for ground rupture as a result of faulting is considered very low.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life.
- The site is not located in a mapped liquefaction hazard zone. Based on our evaluation, site soils are generally not susceptible to liquefaction due to the fine-grained nature of the on-site soils and low probability of groundwater in the upper 50 feet. Therefore, liquefaction potential is considered low.
- Based on the results of preliminary laboratory testing, site soils are anticipated to have “High to Very High” expansion potential. Final design expansion potential must be determined at the completion of grading.
- Excavations into the existing site soils should be feasible with heavy construction equipment in good working order. We anticipate that soils generated from the excavations will be generally suitable for re-use as compacted fill, provided they are relatively free of rocks larger than 8 inches in dimension, construction debris, and significant organic material.
- Oversized materials (greater than 8 inches in maximum dimension) are not likely to be encountered during site grading. If encountered, recommendations are provided for appropriate handling of oversized materials in Appendix E.
- The onsite soils are not suitable for backfill of site retaining walls. Therefore, import of sandy soils meeting project recommendations will be required.
- Field testing resulted in a measured infiltration rate ranging from 0.01 to 0.03 inches per hour. The measured infiltration rates do not include a factor of safety. Discussion regarding infiltration is provided in Section 4.8.
- Some of the site soils are susceptible to hydro-collapse. To mitigate this condition, the soils most susceptible to collapse should be temporarily removed and recompacted as fill during the grading operations.
- Pre-soaking of the subgrade for building slabs (and flatwork) will be required due to site expansive soils. The duration and process varies greatly based on the chosen method and is also

dependent on factors such as soil type and weather conditions. Time duration for presoaking from completion of rough grading to trenching of foundations should be accounted for in the construction schedule (typically 2 to 3 weeks).

4.0 RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of grading and earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2022 CBC requirements. With regard to the possible occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an “acceptable level.” The “acceptable level” of risk is defined by the California Code of Regulations as “that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project” [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that our recommendations are intended to maintain the structural integrity of the proposed development and structures given the site geotechnical conditions but cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

Rough grading shall include remedial earthwork grading and placement of engineered compacted fill to design grades. Geotechnical recommendations for precise grading and construction of the proposed new improvements will be provided, as necessary.

We recommend that earthwork onsite be performed in accordance with the following recommendations, future grading plan review report(s), the 2022 CBC/City of Irvine requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix E. In case of conflict, the following recommendations shall supersede those included in Appendix E. The following recommendations may be revised within future grading plan review reports or based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading, areas to be developed should undergo complete demolition, removal of all vegetation, and clearing of pavements, existing utilities, foundation and slab elements from the site. Vegetation, debris from the previous land use and excessive organic

material should be removed and properly disposed of offsite. Holes resulting from removals of buried obstructions, which extend below proposed remedial and/or finish grades, should be replaced with suitable compacted fill material. If the demolition contractor removes subsurface utilities below the proposed remedial grading depth we recommend the excavations either be left open until grading operations begin or properly compacted to the depth of remedial grading.

If cesspools or septic systems are encountered, they should be removed in their entirety. The resulting excavation should be backfilled with properly compacted fill soils. As an alternative, cesspools can be backfilled with lean sand-cement slurry. Any encountered wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Removal Depths and Limits

In order to provide a relatively uniform bearing condition for the planned improvements, we recommend the near-surface potentially compressible soils and soils highly susceptible to collapse be temporarily removed and recompacted as engineered fill. If any undocumented artificial fill is encountered within the influence of the proposed building pads, the soils should be removed to competent native materials.

In order to promote more uniform soil conditions, soils shall be temporarily removed and recompacted to a minimum depth of approximately 12 feet below existing grade or 3 feet below the bottom of proposed foundations, whichever is deeper. Additionally, existing undocumented fill and unsuitable topsoil encountered within the building footprints should be temporarily removed and recompacted as compacted fill. Where space is available, the envelope for removal and recompaction should extend laterally a minimum distance equal to the depth of removal and recompaction below finish grade or 5 feet beyond the edges of the proposed building improvements, whichever is larger.

Local conditions may be encountered during excavation that could require additional over-excavation beyond the above noted minimum in order to obtain an acceptable subgrade. The actual depths and lateral extents of grading will be determined by the geotechnical consultant, based on subsurface conditions encountered during grading. Removal areas and areas to be over-excavated should be accurately staked in the field by the Project Surveyor.

4.1.3 Temporary Excavations

Temporary excavations should be performed in accordance with project plans, specifications, and applicable Occupational Safety and Health Administration (OSHA) requirements. Excavations should be laid back or shored in accordance with OSHA requirements before personnel or equipment are allowed to enter. Based on our field investigation, the majority of site soils are anticipated to be OSHA Type "B" soils (refer to the attached boring logs) with the potential for shallow groundwater. Sandy soils are present and should be considered susceptible to caving. Soil conditions should be regularly evaluated during construction to verify conditions are as anticipated. The

contractor shall be responsible for providing the “competent person” required by OSHA standards to evaluate soil conditions. Close coordination with the geotechnical consultant should be maintained to facilitate construction while providing safe excavations. Excavation safety is the sole responsibility of the contractor.

Where proposed improvements will be adjacent to property lines, the potential for impacting existing offsite improvements may be reduced by performing “ABC” slot cuts while performing earthwork removal and recompaction. “ABC” slot cuts are defined as excavations perpendicular to sensitive property boundaries that are divided into multiple “slots” of equal width. If slots are labeled A, B, C, A, B, C, etc., then all “A” slots can be excavated at the same time but must be backfilled before all “B” slots can be excavated, etc. Any given slot should be backfilled immediately with properly compacted fill to finish grade prior to excavation of the adjacent two slots. Please note some sands susceptible to caving are present at the site. Recommendations for slot cut dimensions should be evaluated during grading. Protection of the existing offsite improvements during grading is the responsibility of the contractor.

Vehicular traffic, stockpiles, and equipment storage should be set back from the perimeter of excavations a minimum distance equivalent to a 1:1(horizontal to vertical) projection from the bottom of the excavation or 5 feet, whichever is greater. Once an excavation has been initiated, it should be backfilled as soon as practical. Prolonged exposure of temporary excavations may result in some localized instability. Excavations should be planned so that they are not initiated without sufficient time to shore/fill them prior to weekends, holidays, or forecasted rain.

It should be noted that any excavation that extends below a 1:1 (horizontal to vertical) projection of an existing foundation will remove existing support of the structure foundation. If requested, temporary shoring parameters will be provided.

4.1.4 Removal Bottoms and Subgrade Preparation

In general, removal bottoms, over-excavation bottoms and areas to receive compacted fill should be scarified to a minimum depth of 6 inches, brought to a near-optimum moisture condition (generally within optimum and 2 percent above optimum moisture content), and re-compacted per project recommendations.

Removal bottoms, over-excavation bottoms and areas to receive fill should be observed and accepted by the geotechnical consultant prior to subsequent fill placement.

4.1.5 Material for Fill

From a geotechnical perspective, the onsite soils are generally considered suitable for use as general compacted fill, provided they are screened of significant organic materials, construction debris and any oversized material (8 inches in greatest dimension).

From a geotechnical viewpoint, import soils for general fill (i.e., non-retaining wall backfill) should consist of clean, granular soils of Medium expansion potential (expansion index 90 or less based on ASTM D4829). Import for retaining wall backfill should meet the criteria outlined in the paragraph below. Source samples should be provided to the geotechnical consultant for laboratory testing a minimum of three working days prior to any planned importation.

Retaining wall backfill should consist of imported sandy soils with a maximum of 35 percent fines (passing the No. 200 sieve) per ASTM Test Method D1140 (or ASTM D6913/D422) and a “Very Low” expansion potential (EI of 20 or less per ASTM D4829). Soils should also be screened of organic materials, construction debris, and any material greater than 3 inches in maximum dimension.

Aggregate base should conform to the requirements of Section 200-2 of the most recent version of the Standard Specifications for Public Works Construction (“Greenbook”) for untreated base materials and/or City of Irvine requirements.

The placement of demolition materials in compacted fill is acceptable from a geotechnical viewpoint provided the demolition material is broken up into pieces not larger than typically used for aggregate base (approximately 2 to 4 inches in maximum dimension) and well blended into fill soils with essentially not resulting voids. Demolition material placed in fills must be free of construction debris (wood, organics, etc.) and reinforcing steel. If you elect to incorporate asphalt concrete fragments into the fill materials, approval from an environmental viewpoint and/or local agency may be required and is not the purview of the geotechnical consultant. From our previous experience, we recommend that asphalt concrete fragments be limited to fill areas within planned street areas (i.e., not within building pad areas) or exported.

4.1.6 Placement and Compaction of Fills

Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum and 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557). Moisture conditioning of site soils will be required in order to achieve adequate compaction. Drying and/or mixing the very moist soils will be required prior to reusing the materials in compacted fills. Soils are also present that will require additional moisture in order to achieve the required compaction.

The optimum lift thickness to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in compacted thickness. Each lift should be thoroughly compacted and accepted prior to subsequent lifts. Generally, placement and compaction of fill should be performed in accordance with local grading ordinances and with observation and testing by LGC Geotechnical. Oversized material as previously defined should be removed from site fills.

During backfill of excavations, the fill should be properly benched into firm and competent soils of temporary backcut slopes as it is placed in lifts.

Aggregate base material should be compacted to a minimum of 95 percent relative compaction at or slightly above optimum moisture content per ASTM D1557. Subgrade below aggregate base should be compacted to a minimum of 90 percent relative compaction per ASTM D1557 at near-optimum moisture content (generally within optimum and 2 percent above optimum moisture content).

4.1.7 Trench and Retaining Wall Backfill and Compaction

The onsite materials may generally be suitable as trench backfill provided the soils are screened of organic matter and rocks greater than 6 inches in diameter. Trench backfill should be compacted in uniform lifts (generally not exceeding 12 inches in compacted thickness) by mechanical means to at least 90 percent relative compaction (per ASTM Test Method D1557). A representative from LGC Geotechnical should observe and test the backfill to verify compliance with the project recommendations.

Some manufacturers have restrictions for the type of soil in contact with pipes. Manufacturer specifications for soils surrounding the pipe should be reviewed and approved by the pipe designer for use prior to construction. The use of open-graded rock as backfill must include means of reducing migration of fines of adjacent materials into the void spaces. This can be done by wrapping the open-graded rock in a filter fabric or introducing an excavatable flowable fill to the rock.

Compactive efforts must be made for all backfill soil types except for flowable fill. There must be room between the trench side walls and the springline of the pipe for mechanical compaction equipment to get adequate compaction of the soil under the haunches of the pipe. If mechanical compaction may result in damage to pipes, clean sand having a Sand Equivalent (SE) greater than or equal to 20 (per California Test Method [CTM] 217) can be used to shade the pipes. Sand backfill should be densified by jetting or flooding and then tamped to ensure adequate compaction. Sand grains should be from a natural source with rounded shape. Manufactured sand from crushed rock or recycled material is not suitable for jetting/flooding as the grains are typically angular in shape and do not densify well enough with these methods.

Retaining wall backfill should consist of approved imported sandy soils as outlined in preceding Section 4.1.5. The onsite soils are not suitable for backfill of site retaining walls based on their fines content and expansion potential. Therefore, import of sandy soils meeting project recommendations will be required. The limits of select sandy backfill should extend a minimum $\frac{1}{2}$ the height of the retaining wall or the width of the heel (if applicable), whichever is greater, refer to Figure 3. Retaining wall backfill soils should be compacted in relatively uniform thin lifts to at least 90 percent relative compaction (per ASTM D1557). Jetting or flooding of retaining wall backfill materials should not be permitted.

A representative from LGC Geotechnical should observe, probe, and test the backfill to verify compliance with the project recommendations.

4.1.8 Shrinkage and Subsidence

Allowance in the earthwork volumes budget should be made for an estimated 5 to 15 percent reduction in volume of near-surface (upper approximate 5 feet) soils. It should be stressed that these values are only estimates and that an actual shrinkage factor would be extremely difficult to predetermine. The effective change in volume of onsite soils will depend primarily on the type of compaction equipment, method of compaction used onsite by the contractor, and accuracy of the topographic survey.

Due to the combined variability in topographic surveys, inability to precisely model the removals and variability of on-site near-surface conditions, it is our opinion that the site will not balance at the end of grading. If importing/exporting a large volume of soils is not considered feasible or economical, we recommend a balance area be designated onsite that can fluctuate up or down based on the actual volume of soil. We recommend a "balance" area that can accommodate on the order of 5 percent (plus or minus) of the total grading volume be considered.

4.2 Preliminary Foundation Recommendations

Provided that the remedial grading recommendations provided herein are implemented, the site may be considered suitable for the support of the residential structures using a post-tensioned foundation system designed to resist the impacts of expansive soils. Site soils are anticipated to be of High to Very High expansion potential (EI of greater than 90 per ASTM D4829). However, this must be verified based on as-graded conditions. Please note that the following foundation recommendations are preliminary and must be confirmed by LGC Geotechnical at the completion of project plans (i.e., foundation, grading and site layout plans) as well as completion of earthwork. Recommended soil bearing and estimated static settlement are provided in Section 4.3.

4.2.1 Provisional Post-Tensioned Foundation Design Parameters

The geotechnical parameters provided herein may be used for post-tensioned slab foundations with a deepened perimeter footing or a post-tensioned mat slab. These parameters have been determined in general accordance with the Post-Tensioning Institute (PTI) Standard Requirements for Design of Shallow Post-Tensioned Concrete Foundations on Expansive Soils, referenced in Chapter 18 of the 2022 CBC. In utilizing these parameters, the foundation engineer should design the foundation system in accordance with the allowable deflection criteria of applicable codes and the requirements of the structural designer/architect. Other types of stiff slabs may be used in place of the CBC post-tensioned slab design provided that, in the opinion of the foundation structural designer, the alternative type of slab is at least as stiff and strong as that designed by the CBC/PTI method.

Our design parameters are based on our experience with similar projects, test results onsite, and the anticipated nature of the soil (with respect to expansion potential). Please note that implementation of our recommendations will not eliminate foundation

movement (and related distress) should the moisture content of the subgrade soils fluctuate. It is the intent of these recommendations to help maintain the integrity of the proposed structures and reduce (not eliminate) movement, based upon the anticipated site soil conditions. Should future owners and/or property maintenance personnel not properly maintain the areas surrounding the foundation, for example by overwatering, then we anticipate for highly expansive soils the maximum differential movement of the perimeter of the foundation to the center of the foundation to be on the order of a couple of inches. Soils of lower expansion potential are anticipated to show less movement.

TABLE 5

Preliminary Post-Tensioned Foundation Design Parameters

Parameter	PT Slab with Perimeter Footing	PT Mat with Thicken ed Edge
Expansion Potential	Very High	Very High
Thorntwaite Moisture Index	-20	-20
Constant Soil Suction	PF 3.9	PF 3.9
Center Lift Edge moisture variation distance, e_m Center lift, y_m	6.1 feet 1.0 inch	6.1 feet 1.2 inch
Edge Lift Edge moisture variation distance, e_m Edge lift, y_m	3.4 feet 2.5 inches	3.4 feet 2.5 inches
Modulus of Subgrade Reaction, k (assuming presoaking as indicated below)	100 pci	100 pci
Minimum perimeter footing/thickened edge embedment below finish grade	30 inches	6 inches
Minimum Slab Thickness	6 inches ²	10 inches ²
Presoak	140% of Opt. 30 inches	140% of Opt. 30 inches
1. Expansion index is for preliminary design purposes. Further evaluation is needed at the completion of grading. 2. Recommendations for foundation reinforcement and slab thickness are ultimately the purview of the foundation engineer/structural engineer based upon geotechnical criteria and structural engineering considerations. 3. Recommendations for vapor retarders below slabs are also the purview of the foundation engineer/structural engineer and should be provided in accordance with applicable code requirements.		

4.2.2 Shallow Foundation Maintenance

The geotechnical parameters provided herein assume that if the areas adjacent to the foundation are planted and irrigated, these areas will be designed with proper drainage and adequately maintained so that ponding, which causes significant moisture changes below the foundation, does not occur. Our recommendations do not account for excessive irrigation and/or incorrect landscape design. Plants should only be provided with sufficient irrigation for life and not overwatered to saturate subgrade soils. Sunken planters placed adjacent to the foundation should either be designed with an efficient drainage system or liners to prevent moisture infiltration below the foundation. Some lifting of the perimeter foundation beam should be expected even with properly constructed planters.

In addition to the factors mentioned above, future owners/property management personnel should be made aware of the potential negative influences of trees and/or other large vegetation. Roots that extend near the vicinity of foundations can cause distress to foundations. Future owners (and the owner's landscape architect) should not plant trees/large shrubs closer to the foundations than a distance equal to half the mature height of the tree or 20 feet, whichever is more conservative unless specifically provided with root barriers to prevent root growth below the building foundation.

It is the owner's responsibility to perform periodic maintenance during hot and dry periods to ensure that adequate watering has been provided to keep soil from separating or pulling back from the foundation. Future owners and property management personnel should be informed and educated regarding the importance of maintaining a constant level of soil-moisture. The owners should be made aware of the potential negative consequences of both excessive watering, as well as allowing potentially expansive soils to become too dry. Expansive soils can undergo shrinkage during drying, and swelling during the rainy winter season, or when irrigation is resumed. This can result in distress to building structures and hardscape improvements. The builder should provide these recommendations to future owners and property management personnel.

4.2.3 Slab Underlayment Guidelines

The following is for informational purposes only since slab underlayment (e.g., moisture retarder, sand or gravel layers for concrete curing and/or capillary break) is unrelated to the geotechnical performance of the foundation and thereby not the purview of the geotechnical consultant. Post-construction moisture migration should be expected below the foundation. The foundation engineer/architect should determine whether the use of a capillary break (sand or gravel layer), in conjunction with the vapor retarder, is necessary or required by code. Sand layer thickness and location (above and/or below vapor retarder) should also be determined by the foundation engineer/architect.

4.3 Soil Bearing and Lateral Resistance

Provided our earthwork recommendations are implemented, an allowable soil bearing pressure of 1,500 pounds per square foot (psf) may be used for the design of footings having a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent ground surface. This value may be increased by 300 psf for each additional foot of embedment and 150 psf for each additional foot of foundation width to a maximum value of 2,500 psf. A mat foundation a minimum of 6 inches below lowest adjacent grade may be designed for an allowable soil bearing pressure of 1,200 psf. These allowable bearing pressures are applicable for level (ground slope equal to or flatter than 5H:1V) conditions only. Bearing values indicated are for total dead loads and frequently applied live loads and may be increased by $\frac{1}{3}$ for short duration loading (i.e., wind or seismic loads).

In utilizing the above-mentioned allowable bearing capacity and provided our earthwork recommendations are implemented, foundation settlement due to structural loads is anticipated to be 1-inch or less. Differential settlement may be taken as half of the total settlement (i.e., $\frac{1}{2}$ -inch over a horizontal span of 40 feet).

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. For concrete/soil frictional resistance, an allowable coefficient of friction of 0.25 may be assumed with dead-load forces. An allowable passive lateral earth pressure of 200 psf per foot of depth (or pcf) to a maximum of 2,000 psf may be used for the sides of footings poured against properly compacted fill. Allowable passive pressure may be increased to 265 pcf (maximum of 2,650 psf) for short duration seismic loading. This passive pressure is applicable for level (ground slope equal to or flatter than 5H:1V) conditions only. Frictional resistance and passive pressure may be used in combination without reduction. We recommend that the upper foot of passive resistance be neglected if finished grade will not be covered with concrete or asphalt. The provided allowable passive pressures are based on a factor of safety of 1.5 and 1.1 for static and seismic loading conditions, respectively. The structural designer should incorporate appropriate factors of safety and/or load factors in their design.

4.4 Lateral Earth Pressures and Retaining Wall Design Considerations

The following may be used for design of site retaining walls. Lateral earth pressures are provided as equivalent fluid unit weights, in psf per foot of depth (or pcf). These values do not contain an appreciable factor of safety, so the retaining wall designer should apply the applicable factors of safety and/or load factors during design. A soil unit weight of 120 pcf may be assumed for calculating the actual weight of soil over the wall footing.

The following lateral earth pressures are presented in Table 6 below, for approved imported free draining, clean granular (sandy) soils with a maximum of 35 percent fines (passing the No. 200 sieve per ASTM D-421/422) and a "Very Low" expansion potential (EI of 20 or less per ASTM D4829). The site soils are not suitable for retaining wall backfill due to their fines content and expansion index. Import of soils meeting the criteria outlined above will need to be used for retaining wall backfill soil. The wall designer should clearly indicate on the retaining wall plans the required imported sandy soil backfill criteria. These preliminary findings should be confirmed during grading.

TABLE 6

Lateral Earth Pressures – Approved Imported Sandy Soils

Conditions	Equivalent Fluid Unit Weight (pcf)	Equivalent Fluid Unit Weight (pcf)
	Level Backfill	2:1 Sloped Backfill
	Approved Sandy Soils	Approved Sandy Soils
Active	35	55
At-Rest	55	70

If the wall can yield enough to mobilize the full shear strength of the soil, it can be designed for “active” pressure. If the wall cannot yield under the applied load, the earth pressure will be higher. This would include 90-degree corners of retaining walls. Such walls should be designed for “at-rest.” The equivalent fluid pressure values assume free-draining conditions and a drainage system will be installed and maintained to prevent the build-up of hydrostatic pressures. If conditions other than those assumed above are anticipated, the equivalent fluid pressure values should be provided on an individual-case basis by the geotechnical engineer.

Retaining wall structures should be provided with appropriate drainage and appropriately waterproofed. To reduce, but not eliminate, saturation of near-surface (upper approximate 1-foot) soils in front of the retaining walls, the perforated subdrain pipe should be located as low as possible behind the retaining wall. The outlet pipe should be sloped to drain to a suitable outlet. In general, we do not recommend retaining wall outlet pipes be connected to area drains. If subdrains are connected to area drains, special care should be taken to maintain these drains. Typical conventional retaining wall drainage is shown on Figure 3. It should be noted that the recommended subdrain does not provide protection against seepage through the face of the wall and/or efflorescence. Waterproofing and outlet systems are not the purview of the geotechnical consultant.

Surcharge loading effects from any adjacent structures should be evaluated by the retaining wall designer. In general, structural loads within a 1:1 (horizontal to vertical) upward projection from the bottom of the proposed retaining wall footing will surcharge the proposed retaining wall. In addition to the recommended earth pressure, retaining walls adjacent to streets should be designed to resist a uniform lateral pressure of 85 pounds per square foot (psf) due to normal street vehicle traffic, if applicable. Uniform lateral surcharges may be estimated using the applicable coefficient of lateral earth pressure using a rectangular distribution. A factor of 0.45 and 0.3 may be used for at-rest and active conditions, respectively. The retaining wall designer should contact the geotechnical consultant for any required geotechnical input in estimating surcharge loads.

If retaining walls greater than 6 feet in height are proposed, the retaining wall designer should contact the geotechnical engineer for specific seismic lateral earth pressure increments based on the configuration of the planned retaining wall structures.

Soil bearing and lateral resistance (friction coefficient and passive resistance) are provided in

Section 4.3. Earthwork considerations (temporary backcuts, backfill, compaction, etc.) for retaining walls are provided in Section 4.1 (Site Earthwork) and the subsequent earthwork related sub-sections.

4.5 Corrosivity to Concrete and Metal

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. We therefore present the results of our testing with regard to corrosion for the use of the client and other consultants, as they determine necessary.

Corrosion testing of near-surface bulk samples indicated a soluble sulfate content value of 95 ppm (less than 0.01 percent), a chloride content of 60 ppm, pH of 7.90, and a minimum resistivity of 720 ohm-centimeters. Based on Caltrans Corrosion Guidelines (2021), soils are considered corrosive if the pH is 5.5 or less, or the chloride concentration is 500 ppm or greater, or the sulfate concentration is 2,000 ppm (0.2 percent) or greater. Based on the test results, soils are not considered corrosive using Caltrans criteria. Note that based on minimum resistivity the soils are considered severely corrosive to metallic improvements. If improvements that may be susceptible to corrosion are proposed, it is recommended that further evaluation by a corrosion engineer be performed.

Based on our laboratory test results of representative site soil samples and our experience, onsite soils should be considered as having a severity categorization of “moderate” and are designated class “S1” per ACI 318, Table 19.3.1.1 with respect to sulfates. Concrete in direct contact with the onsite soils can be designed according to ACI 318, Table 19.3.2.1 using the “S1” sulfate classification.

Laboratory testing may need to be performed at the completion of grading by the project corrosion engineer to further evaluate the as-graded soil corrosivity characteristics. Accordingly, revision of the corrosion potential may be needed, should future test results differ substantially from the conditions reported herein. The client and/or other members of the development team should consider this during the design and planning phase of the project and formulate an appropriate course of action.

4.6 Preliminary Asphalt Concrete Pavement Sections

For the purposes of these preliminary recommendations, we have selected a preliminary design R-value of 5 and calculated pavement sections for Traffic Indices of 5.5, 6.0 and 6.5. R-value testing of the street subgrade will need to be performed to confirm our preliminary testing results/assumptions once the streets have been graded to finish subgrade elevations and the final Traffic Index is determined by the Civil Engineer or City Engineer. We are not responsible for selecting a design Traffic Index. It is our understanding that the City of Irvine requires a minimum pavement section of 4.2 inches of asphalt over 6 inches of base.

TABLE 7

Preliminary Pavement Sections

Assumed Traffic Index	5.5	6.0	6.5
R -Value Subgrade	5	5	5
AC Thickness	4.2 inches	4.2 inches	5.0 inches
AB Thickness	10.0 inches	12.5 inches	13.0 inches

Due to anticipated construction traffic prior to the completion of the project, we recommend that the total thickness (base course and capping course) of AC be placed at essentially the same time. Construction traffic loading on only the base course of the AC will increase the potential for pavement distress. It should be noted that construction traffic such as concrete trucks will likely exceed traffic loading after completion of construction.

Increasing the thickness of asphalt or adding additional base material will reduce the likelihood of the pavement experiencing distress during its service life. The above recommendations are based on the assumption that proper maintenance and irrigation of the areas adjacent to the roadway will occur through the design life of the pavement. Failure to maintain a proper maintenance and/or irrigation program may jeopardize the integrity of the pavement.

Earthwork recommendations regarding aggregate base and subgrade are provided in the previous Section "Site Earthwork" and the related sub-sections of this report.

4.7 Nonstructural Concrete Flatwork

Nonstructural concrete flatwork (such as walkways, private drives, patio slabs, etc.) has a potential for cracking due to changes in soil volume related to soil-moisture fluctuations. To reduce the potential for excessive cracking and lifting, concrete may be designed in accordance with the minimum guidelines outlined in Table 8 on the following page. These guidelines will reduce the potential for irregular cracking and promote cracking along construction joints but will not eliminate all cracking or lifting. Thickening the concrete and/or adding additional reinforcement will further reduce cosmetic distress.

TABLE 8

Nonstructural Concrete Flatwork Guidelines

	Community Sidewalks (≤6 feet wide)	Private Drives	Patios/Entryways / Walkways (adjacent to homes or flatwork >6 feet wide)	City Sidewalk Curb and Gutters
Minimum Thickness (in.)	4 (nominal)	5 (full)	5 (full)	City/Agency Standard
Presaturation	140% of optimum m/c to 12 inches	140% of optimum m/c to 12 inches	140% of optimum m/c to 24 inches	City/Agency Standard
Reinforcement	—	No. 3 at 24 inches on centers	No. 3 at 24 inches on centers	City/Agency Standard
Thickened Edge (in.)	—	8 x 8	—	City/Agency Standard
Crack Control Joints	Saw cut or deep open tool joint to a minimum of 1/3 the concrete thickness	Saw cut or deep open tool joint to a minimum of 1/3 the concrete thickness	Saw cut or deep open tool joint to a minimum of 1/3 the concrete thickness	City/Agency Standard
Maximum Joint Spacing	5 feet	10 feet or quarter cut whichever is closer	6 feet	City/Agency Standard

To reduce the potential for driveways to separate from the garage slab, the builder may elect to install dowels to tie these two elements together. Similarly, future homeowners should consider the use of dowels to connect flatwork to the foundation.

4.8 Subsurface Water Infiltration

Recent regulatory changes have occurred that mandate that storm water be infiltrated below grade into subsurface soils rather than collected in a conventional storm drain system. Typically, a combination of methods are implemented to reduce surface water runoff and increase infiltration including; permeable pavements/pavers for roadways and walkways, directing surface water runoff to grass-lined swales, retention areas, and/or drywells, etc.

It should be noted that collecting and concentrating surface water for the purpose of intentionally infiltrating below grade, conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, the vast majority of geotechnical distress issues are directly related to improper drainage. In general, distress in the form of movement of improvements could occur as a result of soil

saturation and loss of soil support, expansion, internal soil erosion, collapse and/or settlement. The results of our field infiltration testing indicate the observed 1-D infiltration rate for I-1 and I-2 (not including required factors of safety for design) was 0.01 to 0.03 inches per hour. The design infiltration rate is thereby equal to the Observed Infiltration Rate provided in Table 1 (inches per hour) divided by the design factor of safety. The design factor of safety must be a minimum of 2.0 but may be increased at the discretion of the design engineer (County of Orange, 2013). Per the County of Orange infiltration guidelines (2013), infiltration of stormwater is not required when the factored infiltration rate (measured infiltration rate with safety factors applied) is less than 0.3 inches per hour in the vicinity of the BMPs.

Based on the results of field infiltration testing indicating essentially zero infiltration and soils with high fines content (silts and clays), we strongly recommend against the intentional infiltration of stormwater into the subsurface soils.

4.9 Control of Surface Water and Drainage Control

From a geotechnical perspective, we recommend that compacted finished grade soils adjacent to proposed structures be sloped away from the proposed structures and towards an approved drainage device or unobstructed swale. Drainage swales, wherever feasible, should not be constructed within 5 feet of buildings. Where lot and building geometry necessitates that drainage swales be routed closer than 5 feet to structural foundations, we recommend the use of area drains together with drainage swales. Drainage swales used in conjunction with area drains should be designed by the project civil engineer so that a properly constructed and maintained system will prevent ponding within 5 feet of the foundation. Code compliance of grades is not the purview of the geotechnical consultant.

Planters with open bottoms adjacent to buildings should be avoided. Planters should not be designed adjacent to buildings unless provisions for drainage, such as catch basins, liners, and/or area drains, are made. Overwatering must be avoided.

4.10 Geotechnical Plan Review

Project plans (grading, foundation, retaining wall, etc.) should be reviewed by this office prior to construction to verify that our geotechnical recommendations have been incorporated. Additional or modified geotechnical recommendations may be required based on the proposed layout.

4.11 Geotechnical Observation and Testing

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing is required per Section 1705 of the 2022 California Building Code (CBC).

Geotechnical observation and/or testing should be performed by LGC Geotechnical at the

following stages:

- During grading (removal bottoms, fill placement, etc.);
- During retaining wall backfill and compaction;
- During utility trench backfill and compaction;
- After presoaking building pad and other concrete-flatwork subgrades, and prior to placement of aggregate base or concrete;
- Preparation of pavement subgrade and placement of aggregate base;
- After building and wall footing excavation and prior to placement of steel reinforcement and/or concrete; and
- When any unusual soil conditions are encountered during any construction operation subsequent to issuance of this report.

5.0 LIMITATIONS

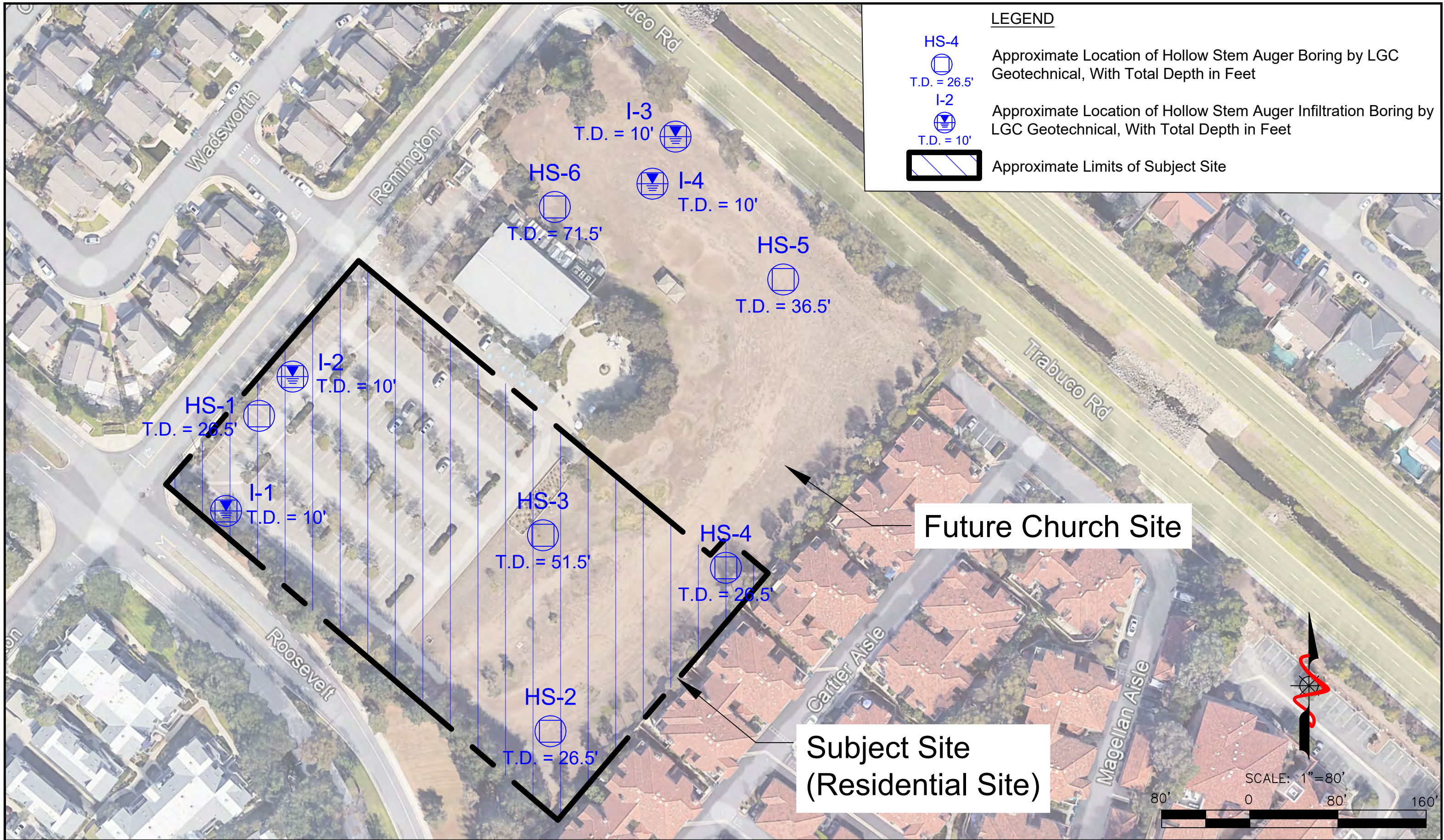
Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

This report is based on data obtained from limited observations of the site, which have been extrapolated to characterize the site. While the scope of services performed is considered suitable to adequately characterize the site geotechnical conditions relative to the proposed development, no practical evaluation can completely eliminate uncertainty regarding the anticipated geotechnical conditions in connection with a subject site. Variations may exist and conditions not observed or described in this report may be encountered during grading and construction.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the other consultants (at a minimum the civil engineer, structural engineer, landscape architect) and incorporated into their plans. The contractor should properly implement the recommendations during construction and notify the owner if they consider any of the recommendations presented herein to be unsafe, or unsuitable.

The findings of this report are valid as of the present date. However, changes in the conditions of a site can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. The findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site. This report is intended exclusively for use by the client, any use of or reliance on this report by a third party shall be at such party's sole risk.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification.



 LGC Geotechnical, Inc. 131 Calle Iglesia, Ste. 200 San Clemente, CA 92672 TEL (949) 369-6141 FAX (949) 369-6142	FIGURE 2 Boring Location Map		PROJECT NAME	Our Lady of Peace, Irvine
			PROJECT NO.	23174-01
			ENG. / GEOL.	DJB
			SCALE	1" = 80'
			DATE	May 2024

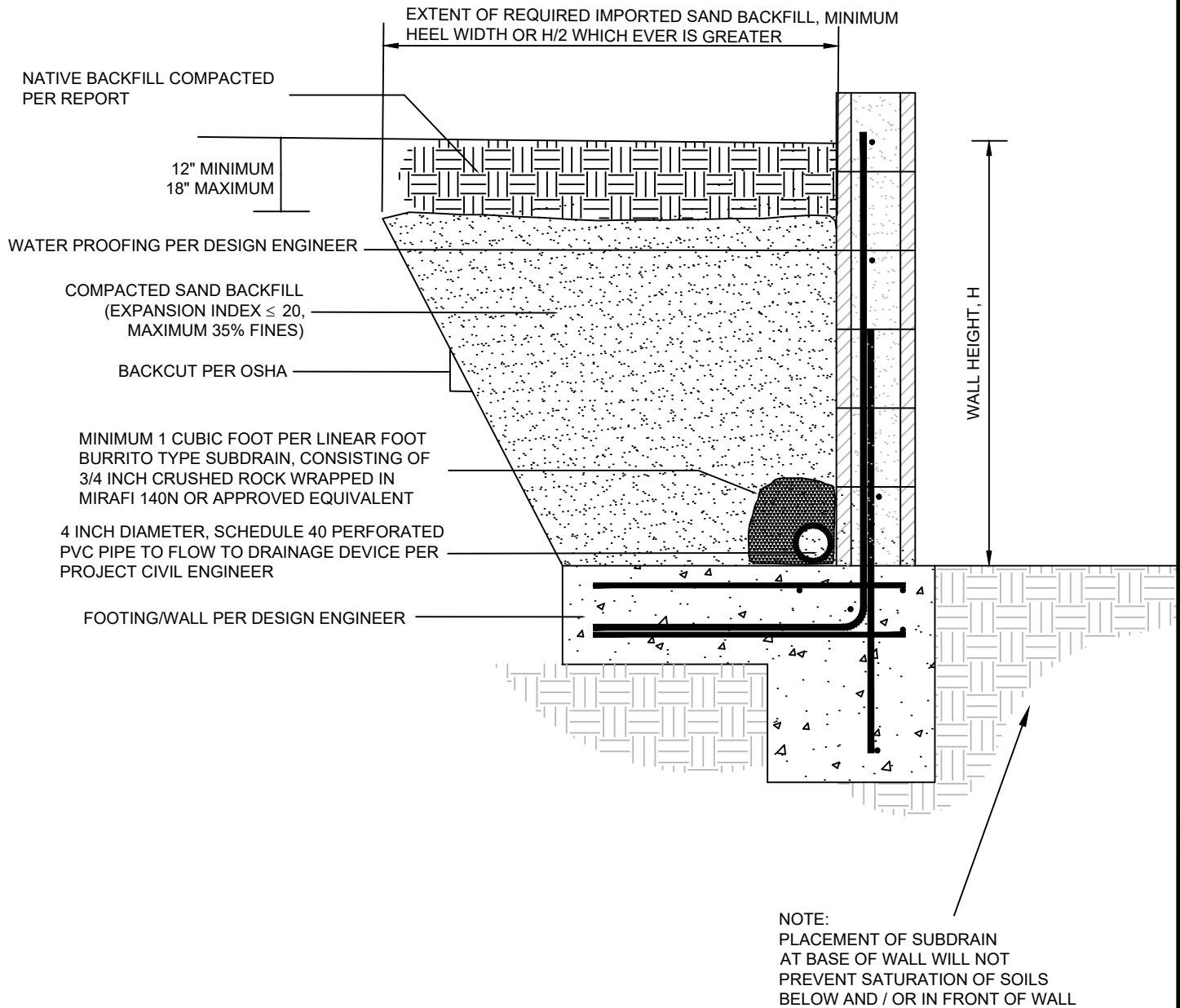


FIGURE 3
Retaining Wall
Backfill Detail

PROJECT NAME	Our Lady of Peace, Irvine
PROJECT NO.	23174-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	May 2024

Appendix A

References

APPENDIX A

References

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Appendix B

Boring Logs

Geotechnical Boring Log Borehole HS-1

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~154' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
150	0							@ 0' - 3" of Asphalt over 7" of Base	
								Young Axial Channel Deposits (Qya):	
			R-1	4 8 17	103.5	19.3	CL	@ 2.5' - Sandy CLAY: brown, very moist, very stiff	
145	5		R-2	10 13 14	95.8	15.7	SC	@ 5' - Clayey SAND: brown, very moist, medium dense	
			R-3	16 24 25	91.5	16.1		@ 7.5' - Clayey SAND: brown, very moist, dense	
140	10		R-4	9 10 10	90.1	23.0		@ 10' - Clayey SAND: brown, very moist, medium dense	
			SPT-1	5 11 14		10.3		@ 15' - Clayey SAND: brown, moist, dense	
135	20		R-5	10 14 14	101.9	13.6		@ 20' - Clayey SAND: reddish brown, very moist, medium dense	
130	25		SPT-2	4 6 8		18.0		@ 25' - Clayey SAND: brown, very moist, medium dense	
125	30							Total Depth = 26.5' No Groundwater Encountered Backfilled with Cuttings and Capped with Cold Patch on 2/22/24	



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~158' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0		R-1	4 10 24	99.8	19.0	CL	@0' - Grass Young Axial Channel Deposits (Qya): @ 2.5' - Sandy CLAY: brown, very moist, very stiff	
150	5		R-2	16 20 20	92.7	11.8	SC	@ 5' - Clayey SAND: brown, moist, dense	
145	10		R-3	16 20 23	94.7	10.2		@ 7.5' - Clayey SAND: brown, moist, dense	
140	15		R-4	11 11 15	89.7	9.1	SM	@ 10' - Silty SAND: light brown, moist, medium dense	
135	20		R-5	7 10 12	103.4	1.1	SP-SM	@ 15' - SAND with Silt to Silty SAND: light reddish brown, dry, medium dense	CO
130	25		SPT-1	5 9 14		16.1	CL	@ 20' - Sandy CLAY: brown, moist, very stiff	
125	30		R-6	6 7 9	90.6	21.8	SC	@ 25' - Clayey SAND: brown, very moist, medium dense	
Total Depth = 26.5' No Groundwater Encountered Backfilled with Cuttings on 2/22/24									



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

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GROUNDWATER TABLE

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 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~157' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0							@0' - Grass	MD CR
			R-1	4 10 17	96.0	14.7	SC	Young Axial Channel Deposits (Qya): @ 2.5' - Clayey SAND: brown, very moist, medium dense	
150	5		R-2	17 19 19	82.1	11.9		@ 5' - Clayey SAND: brown, moist, dense	
			R-3	14 18 22	97.2	10.0		@ 7.5' - Clayey SAND: brown, moist, dense	
145	10		R-4	19 20 25	92.2	9.0		@ 10' - Clayey SAND: light brown, moist, dense	
140	15		SPT-1	4 5 4		11.2		@ 15' - Clayey SAND: brown, moist, medium dense	
135	20		R-5	7 11 11	95.2	15.4		@ 20' - Clayey SAND: light brown, very moist, medium dense	
130	25		SPT-2	3 4 5		9.5		@ 25' - Clayey SAND: brown, moist, medium dense	
	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE



TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~157' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
125	30		R-6	8 12 14	95.9	7.8	SC	@ 30' - Clayey SAND: pale brown, moist, medium dense	
120	35		SPT-3	4 4 5		12.3	SM	@ 35' - Silty SAND: brown, moist, medium dense	
115	40		R-7	9 16 20	105.6	10.1		@ 40' - Silty SAND: brown, moist, medium dense	
110	45		SPT-4	6 7 7		7.3		@ 45' - Silty SAND: brown, moist, medium dense	
105	50		R-8	9 9 24	99.6	23.6	CL	@ 50' - Sandy CLAY: brown, very moist, very stiff	
100	55							Total Depth = 51.5' No Groundwater Encountered Backfilled with Cuttings on 2/22/24	
60									



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

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 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
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 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-4

Date: 2/23/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~160' MSL (google)	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
155	0		R-1	3 6 12	98.0	13.7	CL	@0' - Grass Young Axial Channel Deposits (Qya): @ 2.5' - Sandy CLAY: brown, moist, stiff	
155	5		R-2	10 10 13	79.7	11.5	SC	@ 5' - Clayey SAND: brown, moist, medium dense	
150	10		R-3	17 16 14	92.1	12.2		@ 7.5' - Clayey SAND: brown, moist, medium dense	
150	10		R-4	15 16 22	84.4	12.8	CL	@ 10' - Sandy CLAY: brown, moist, hard	
145	15		R-5	6 7 11	86.4	14.2	ML	@ 15' - Sandy SILT: light brown, moist, stiff	
140	20		SPT-1	4 7 8		10.2	SC	@ 20' - Clayey SAND: brown, moist, medium dense	
135	25		R-6	4 8 9	88.9	8.4	SM	@ 25' - Silty SAND: reddish brown, moist, medium dense	
130	30							Total Depth = 26.5' No Groundwater Encountered Backfilled with Cuttings on 2/23/24	



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE



TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-1

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~152' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
150	0		R-1	10 12 17	89.9	15.9	SC	@0' - 5" of Asphalt over 5.5" of Base Young Axial Channel Deposits (Qya): @ 2.5' - Clayey SAND: brown, very moist, medium dense	
145	5		R-2	13 15 17	103.1	15.7	CL	@ 5' - Sandy CLAY: dark brown, moist, very stiff	
140	10		R-3	10 15 18	102.0	10.6	SC	@ 8.5' - Clayey SAND: brown, moist, medium dense.	#200
135	15							Total Depth = 10' No Groundwater Encountered 3" Perforated Pipe with Filter Sock and Gravel Installed Pipe Removed, Backfilled with Cuttings and Capped with Cold Patch on 2/26/2024	
130	20								
125	25								
120	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE

GROUNDWATER TABLE

TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 #200 % PASSING # 200 SIEVE

Geotechnical Boring Log Borehole I-2

Date: 2/22/24	Drilling Company: 2R Drilling
Project Name: Our Lady of Peace, Irvine	Type of Rig: Limited Access Rig
Project Number: 23174-01	Drop: 30" Hole Diameter: 8"
Elevation of Top of Hole: ~155' MSL	Drive Weight: 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By RNP Sampled By RNP Checked By BPP DESCRIPTION	Type of Test
150	0		R-1	4 8 13	107.3	20.4	CL	@0' - 4" of Asphalt over 8.5" of Base Young Axial Channel Deposits (Qya): @ 2.5' - Sandy CLAY: dark brown, very moist, very stiff	
145	5		R-2	6 10 13	94.1	16.5	SC	@ 5' - Clayey SAND: brown, very moist, medium dense	
145	10		R-3	8 14 18	96.2	15.3		@ 8.5' - Clayey SAND: brown, very moist, medium dense	
140	15							Total Depth = 10' No Groundwater Encountered 3" Perforated Pipe with Filter Sock and Gravel installed Pipe Removed, Backfilled with Cuttings and Capped with Cold Patch on 2/26/2024	
135	20								
130	25								
125	30								



THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:
 B BULK SAMPLE
 R RING SAMPLE (CA Modified Sampler)
 G GRAB SAMPLE
 SPT STANDARD PENETRATION TEST SAMPLE



TEST TYPES:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 SA SIEVE ANALYSIS
 S&H SIEVE AND HYDROMETER
 EI EXPANSION INDEX
 CN CONSOLIDATION
 CR CORROSION
 AL ATTERBERG LIMITS
 CO COLLAPSE/SWELL
 RV R-VALUE
 -#200 % PASSING # 200 SIEVE

Appendix C
Laboratory Test Results

APPENDIX C

Laboratory Testing Procedures and Test Results

The laboratory testing program was formulated towards providing data relating to the relevant engineering properties of the soils with respect to residential construction. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve and dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	Description	% Passing # 200 Sieve
I-1 @ 8.5 feet	Clayey Sand	48
I-3 @ 8.5 feet	Sandy Clay	68

Expansion Index: The expansion potential of selected samples was evaluated by the Expansion Index Test, Standard ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch-thick by 4-inch-diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
HS-3 @ 1-5 feet	112	High
HS-6 @ 1-5 feet	135	Very High

* ASTM D4829

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

APPENDIX C (Cont'd)

Laboratory Testing Procedures and Test Results

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-3 @ 1-5 feet	Dark Grayish Brown Clay	117.5	12.5
HS-6 @ 1-5 feet	Dark Brown Sandy Clay	115.0	14.0

Collapse/Swell Potential: Six collapse tests were performed per ASTM D4546. A sample (2.4 inches in diameter and 1-inch in height) was placed in a consolidometer and loaded to the approximate in-situ effective stress. The curve is presented in this Appendix.

Chloride Content: Chloride content was tested in accordance with Caltrans Test Method (CTM) 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @ 1-5 feet	60

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below.

Sample Location	Sulfate Content (ppm)	Sulfate Exposure Class *
HS-3 @ 1-5 feet	95	S0

*Based on ACI 318R-14, Table 19.3.1.1

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @ 1-5 feet	7.90	720

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-1
 Sample No.: R-4
 Sample Description: Brown lean clay (CL)

Tested By: G. Bathala Date: 05/20/24
 Checked By: J. Ward Date: 05/22/24
 Sample Type: Ring
 Depth (ft.): 10.0

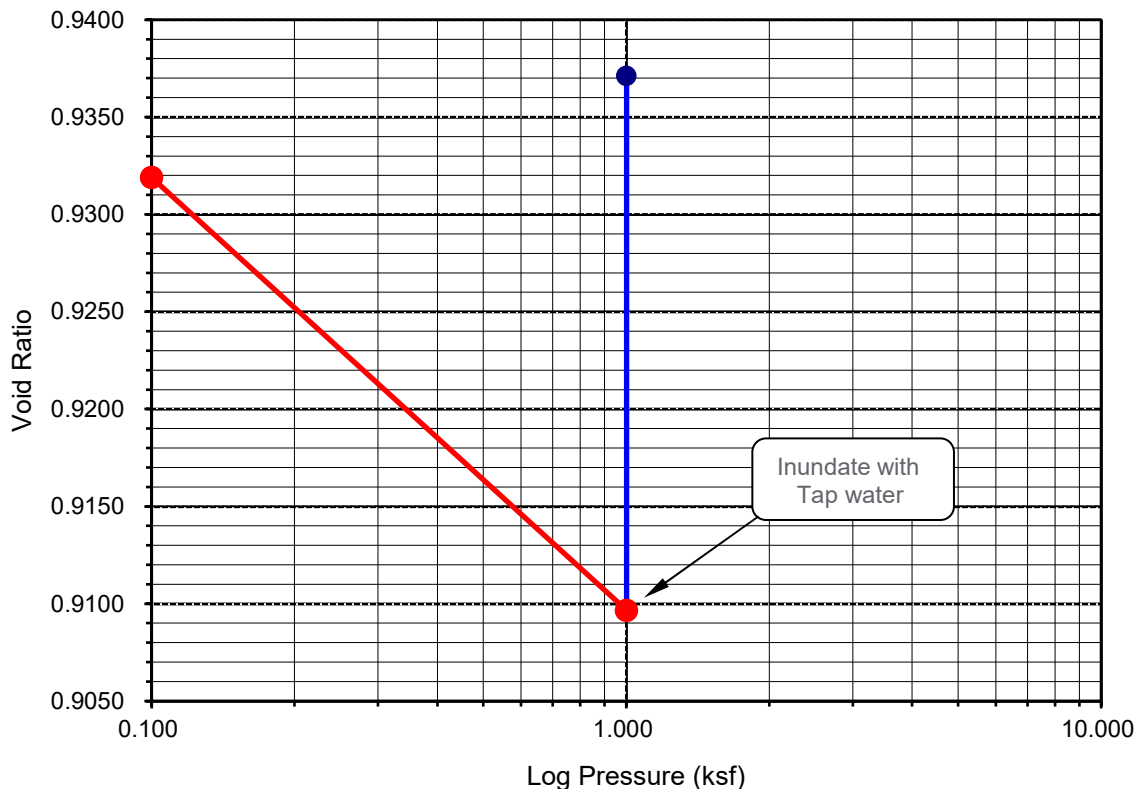
Initial Dry Density (pcf):	87.2
Initial Moisture (%):	22.94
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1187
Diameter(in):	2.415

Final Dry Density (pcf):	87.3
Final Moisture (%) :	31.6
Initial Void ratio:	0.9335
Specific Gravity(assumed):	2.70
Initial Saturation (%)	66.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1195	0.9992	0.00	-0.08	0.9319	-0.08
1.000	0.1325	0.9862	0.15	-1.38	0.9097	-1.23
H2O	0.1183	1.0004	0.15	0.04	0.9371	0.19

Percent Swell (+) / Settlement (-) After Inundation = 1.44

Void Ratio - Log Pressure Curve





**ONE-DIMENSIONAL SWELL OR SETTLEMENT
POTENTIAL OF COHESIVE SOILS
ASTM D 4546**

Project Name: Shea - Our Lady of Peace, Irvine
Project No.: 23174-01
Boring No.: HS-2
Sample No.: R-4
Sample Description: Brown silty clay (CL-ML)

Tested By: G. Bathala Date: 05/21/24
Checked By: J. Ward Date: 05/23/24
Sample Type: Ring
Depth (ft.): 10.0

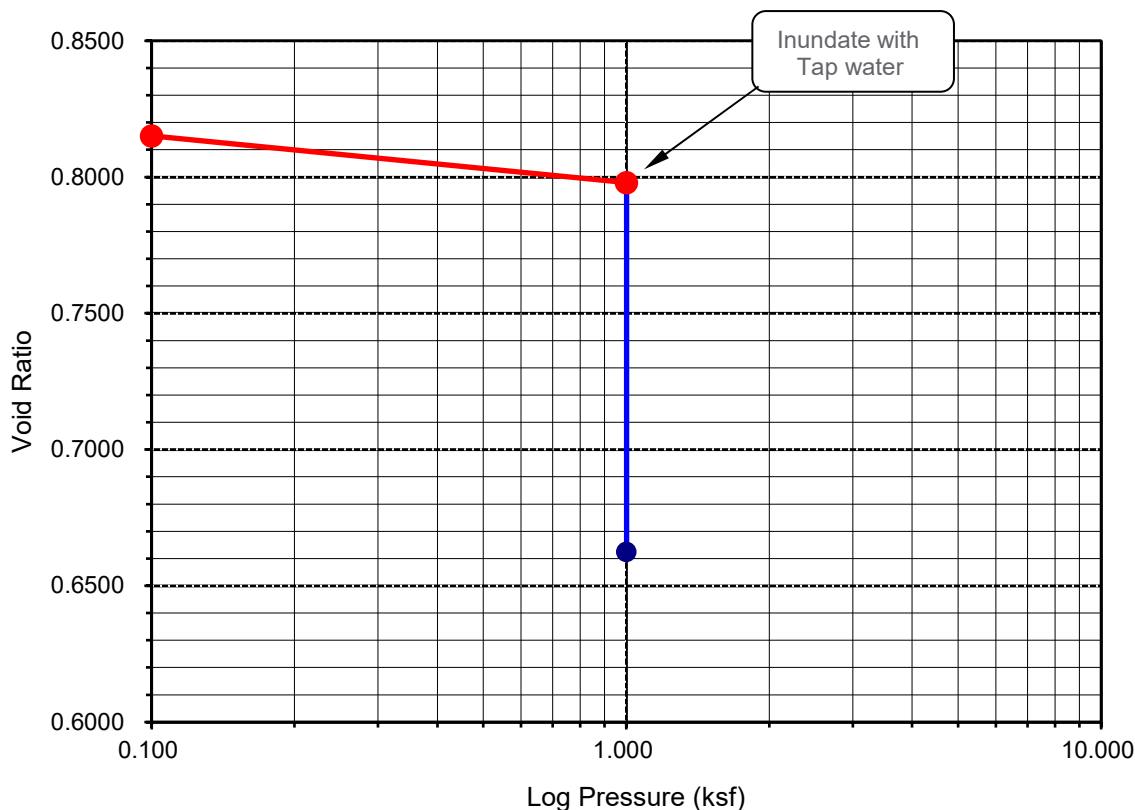
Initial Dry Density (pcf):	92.3
Initial Moisture (%):	7.54
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1122
Diameter(in):	2.415

Final Dry Density (pcf):	101.7
Final Moisture (%) :	20.8
Initial Void ratio:	0.8270
Specific Gravity(assumed):	2.70
Initial Saturation (%)	24.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1187	0.9935	0.00	-0.65	0.8151	-0.65
1.000	0.1296	0.9826	0.15	-1.74	0.7980	-1.59
H2O	0.2038	0.9084	0.15	-9.16	0.6624	-9.01

Percent Swell (+) / Settlement (-) After Inundation = -7.54

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-2
 Sample No.: R-5
 Sample Description: Brown silty sand (SM)

Tested By: G. Bathala Date: 03/13/24
 Checked By: J. Ward Date: 03/21/24
 Sample Type: Ring
 Depth (ft.): 15.0

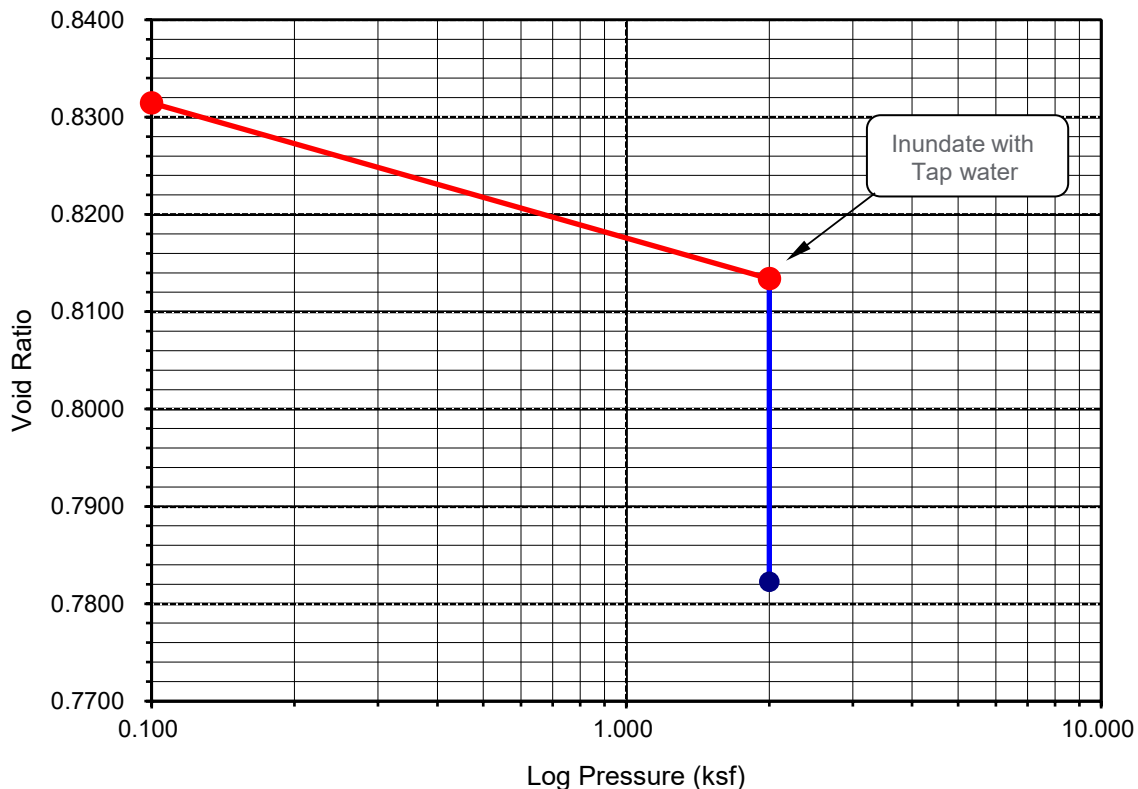
Initial Dry Density (pcf):	92.0
Initial Moisture (%):	8.87
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0680
Diameter(in):	2.415

Final Dry Density (pcf):	95.9
Final Moisture (%) :	22.0
Initial Void ratio:	0.8325
Specific Gravity(assumed):	2.70
Initial Saturation (%)	28.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.06855	0.9995	0.00	-0.06	0.8315	-0.06
2.000	0.0849	0.9831	0.65	-1.69	0.8134	-1.04
H2O	0.1019	0.9661	0.65	-3.39	0.7823	-2.74

Percent Swell (+) / Settlement (-) After Inundation = -1.72

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-3
 Sample No.: R-4
 Sample Description: Brown lean clay with sand (CL)s

Tested By: G. Bathala Date: 05/20/24
 Checked By: J. Ward Date: 05/22/24
 Sample Type: Ring
 Depth (ft.): 10.0

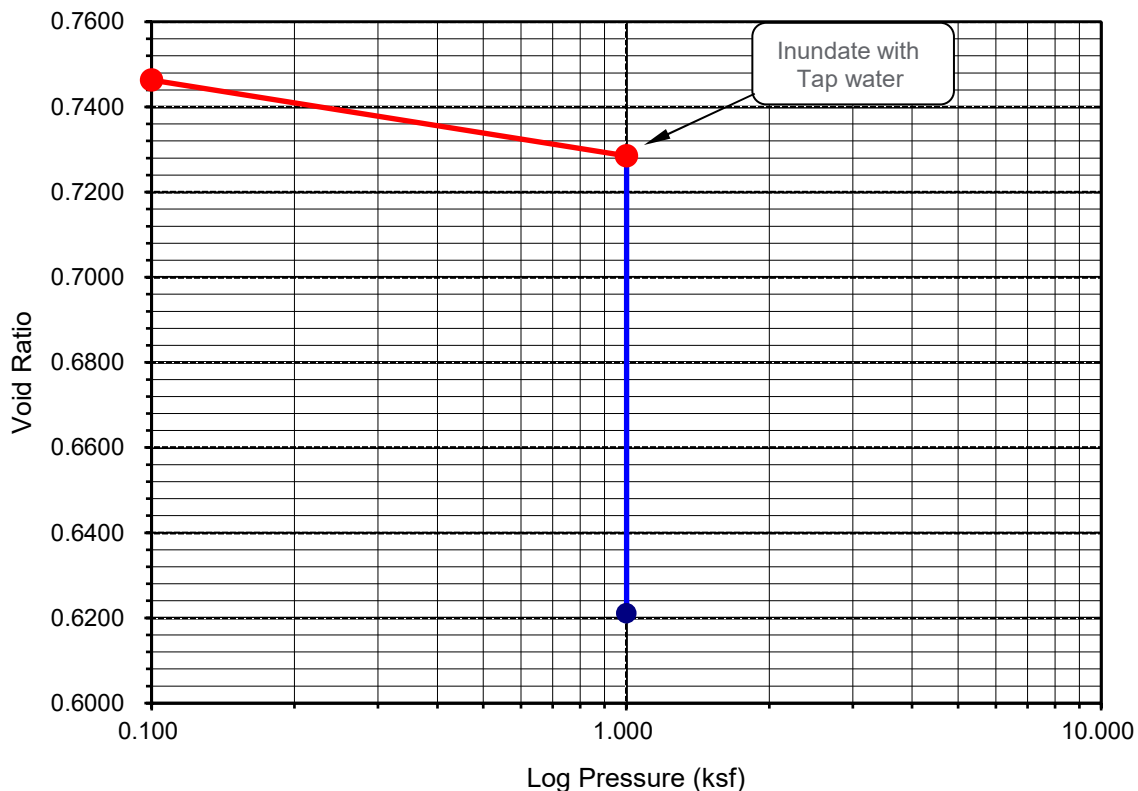
Initial Dry Density (pcf):	96.5
Initial Moisture (%):	5.37
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0967
Diameter(in):	2.415

Final Dry Density (pcf):	104.3
Final Moisture (%) :	19.1
Initial Void ratio:	0.7469
Specific Gravity(assumed):	2.70
Initial Saturation (%)	19.4

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0970	0.9997	0.00	-0.03	0.7464	-0.03
1.000	0.1087	0.9880	0.15	-1.20	0.7285	-1.05
H2O	0.1702	0.9265	0.15	-7.35	0.6211	-7.20

Percent Swell (+) / Settlement (-) After Inundation = -6.22

Void Ratio - Log Pressure Curve





ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine

Project No.: 23174-01

Boring No.: HS-4

Sample No.: R-4

Sample Description: Brown lean clay (CL)

Tested By: G. Bathala

Date: 05/21/24

Checked By: J. Ward

Date: 05/23/24

Sample Type: Ring

Depth (ft.): 10.0

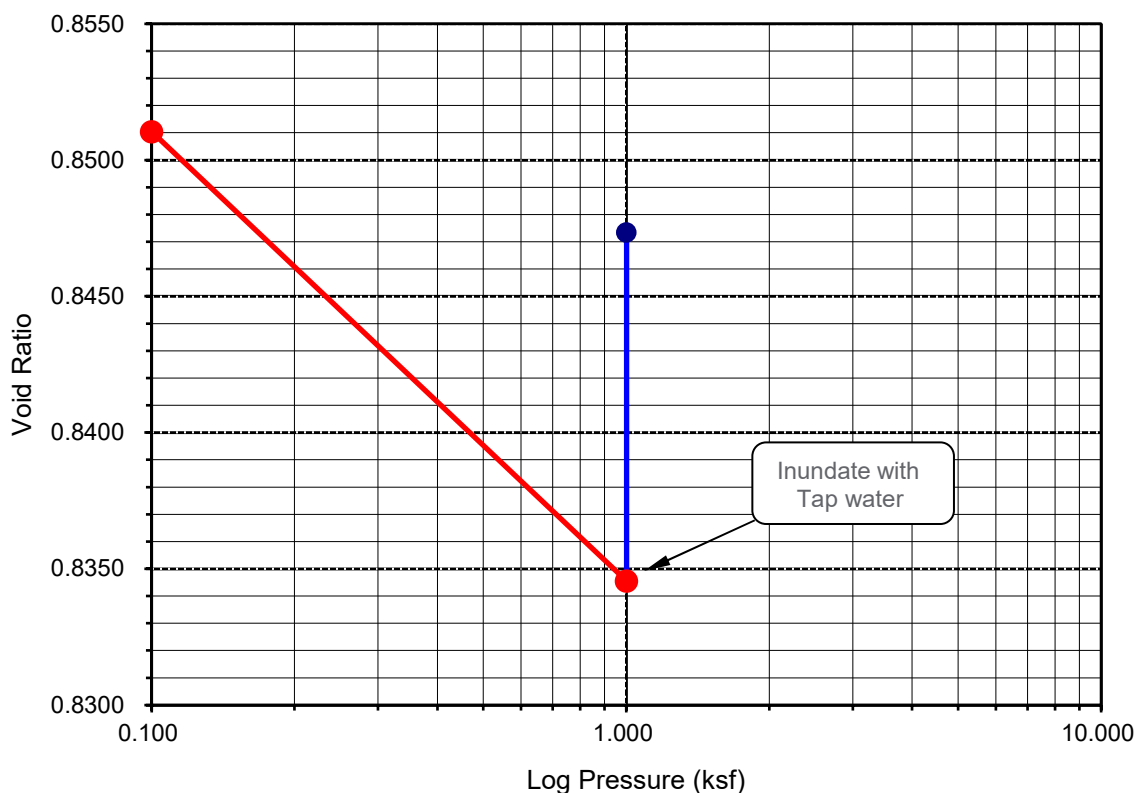
Initial Dry Density (pcf):	91.0
Initial Moisture (%):	13.63
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0961
Diameter(in):	2.415

Final Dry Density (pcf):	91.5
Final Moisture (%) :	24.3
Initial Void ratio:	0.8522
Specific Gravity(assumed):	2.70
Initial Saturation (%)	43.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0967	0.9994	0.00	-0.06	0.8510	-0.06
1.000	0.1071	0.9890	0.15	-1.10	0.8346	-0.95
H2O	0.1002	0.9959	0.15	-0.41	0.8473	-0.26

Percent Swell (+) / Settlement (-) After Inundation = **0.70**

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS ASTM D 4546

Project Name: Shea - Our Lady of Peace, Irvine
 Project No.: 23174-01
 Boring No.: HS-5
 Sample No.: R-4
 Sample Description: Olive brown silty clay (CL-ML)

Tested By: G. Bathala Date: 03/13/24
 Checked By: J. Ward Date: 03/21/24
 Sample Type: Ring
 Depth (ft.): 10.0

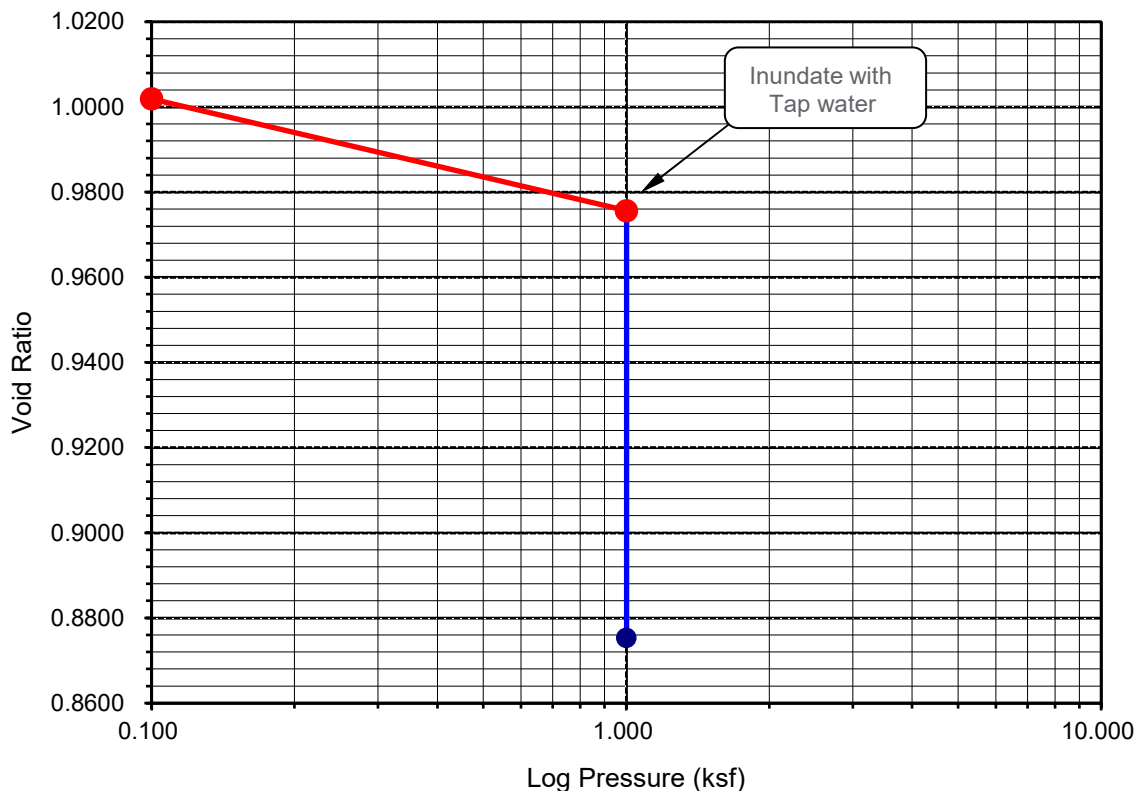
Initial Dry Density (pcf):	84.2
Initial Moisture (%):	12.07
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1519
Diameter(in):	2.415

Final Dry Density (pcf):	90.2
Final Moisture (%) :	25.5
Initial Void ratio:	1.0029
Specific Gravity(assumed):	2.70
Initial Saturation (%)	32.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1524	0.9995	0.00	-0.05	1.0019	-0.05
1.000	0.1670	0.9849	0.15	-1.51	0.9757	-1.36
H2O	0.2171	0.9348	0.15	-6.52	0.8753	-6.37

Percent Swell (+) / Settlement (-) After Inundation = -5.08

Void Ratio - Log Pressure Curve



Appendix D
Infiltration Test Data

Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Our Lady of Peace, Irvine
Project Number: 23174-01
Date: 2/26/2024
Boring Number: I-1

Test hole dimensions (if circular)

Boring Depth (feet)*: 10
Boring Diameter (inches): 8
Pipe Diameter (inches): 3

*measured at time of test

Test pit dimensions (if rectangular)

Pit Depth (feet): _____
Pit Length (feet): _____
Pit Breadth (feet): _____

Minimum test Head (D_o):

(What the sounder tape should read)

Boring Depth - ($5 \times$ Boring Radius) 8.4 ft

(Shallow) The value on the sounder tape should be close to this value during testing for **DEEP** testing fill to 4 feet below top of hole

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:08	7:33	25.0	7.21	7.25	0.04	Yes
2	7:35	8:00	25.0	7.23	7.27	0.04	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	8:00	8:30	30.0	7.20	7.24	0.04	0.1
2	8:32	9:02	30.0	7.24	7.28	0.04	0.1
3	9:04	9:34	30.0	7.28	7.31	0.03	0.0
4	9:37	10:07	30.0	7.31	7.34	0.03	0.0
5	10:09	10:39	30.0	7.25	7.29	0.04	0.1
6	10:41	11:11	30.0	7.21	7.24	0.03	0.0
7	11:13	11:43	30.0	7.24	7.27	0.03	0.0
8	11:45	12:15	30.0	7.27	7.29	0.02	0.0
9	12:18	12:48	30.0	7.18	7.21	0.03	0.0
10	12:50	13:20	30.0	7.21	7.23	0.02	0.0
11	13:22	13:52	30.0	7.23	7.25	0.02	0.0
12	13:52	14:22	30.0	7.25	7.27	0.02	0.0

Measured Infiltration Rate (No Factor of Safety) 0.03

Sketch:

Notes:

Based on Guidelines from: South Orange County 9/28/2017

Spreadsheet Revised on: 10/30/2019



Infiltration Test Data Sheet

LGC Geotechnical, Inc

131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Our Lady of Peace, Irvine
Project Number: 23174-01
Date: 2/26/2024
Boring Number: I-2

Test hole dimensions (if circular)

Boring Depth (feet)*: 10
Boring Diameter (inches): 8
Pipe Diameter (inches): 3

*measured at time of test

Test pit dimensions (if rectangular)

Pit Depth (feet): _____
Pit Length (feet): _____
Pit Breadth (feet): _____

Minimum test Head (D_o):

(What the sounder tape should read)

Boring Depth - ($5 \times$ Boring Radius) 8.4 ft

(Shallow) The value on the sounder tape should be close to this value during testing for **DEEP** testing fill to 4 feet below top of hole

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:10	7:35	25.0	7.44	7.47	0.03	Yes
2	7:37	8:02	25.0	7.39	7.42	0.03	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	8:04	8:34	30.0	7.42	7.45	0.03	0.0
2	8:36	9:06	30.0	7.35	7.38	0.03	0.0
3	9:08	9:38	30.0	7.36	7.39	0.03	0.0
4	9:40	10:10	30.0	7.31	7.33	0.02	0.0
5	10:12	10:42	30.0	7.33	7.36	0.03	0.0
6	10:45	11:15	30.0	7.36	7.38	0.02	0.0
7	11:17	11:47	30.0	7.33	7.35	0.02	0.0
8	11:49	12:19	30.0	7.34	7.36	0.02	0.0
9	12:22	12:52	30.0	7.32	7.34	0.02	0.0
10	12:54	13:24	30.0	7.34	7.35	0.01	0.0
11	13:26	13:56	30.0	7.35	7.36	0.01	0.0
12	13:57	14:27	30.0	7.36	7.37	0.01	0.0

Measured Infiltration Rate (No Factor of Safety)

0.01

Sketch:

Notes:

Based on Guidelines from: South Orange County 9/28/2017

Spreadsheet Revised on: 10/30/2019



Appendix E
General Earthwork and Grading
Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "equipment" of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

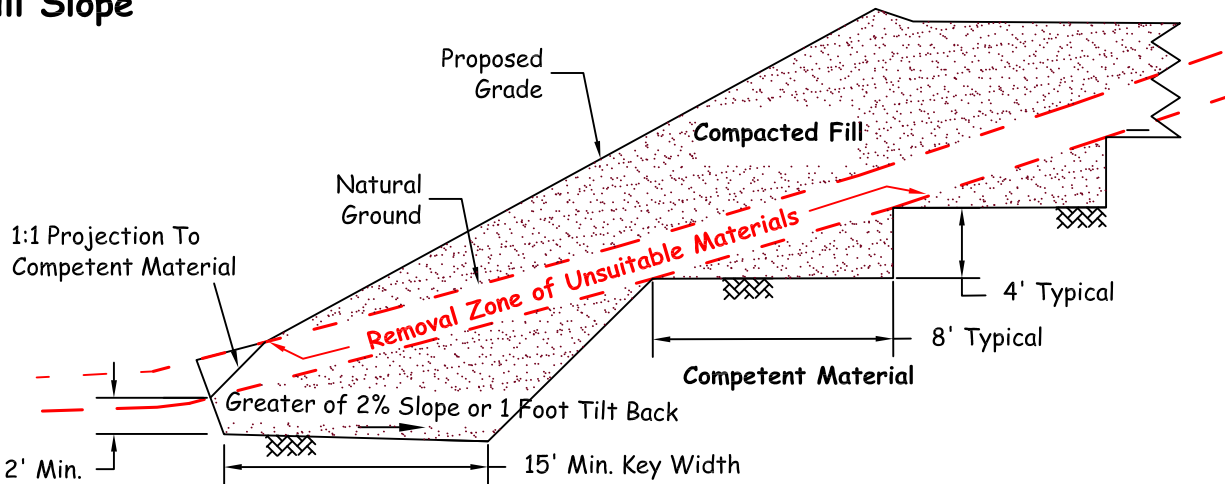
7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

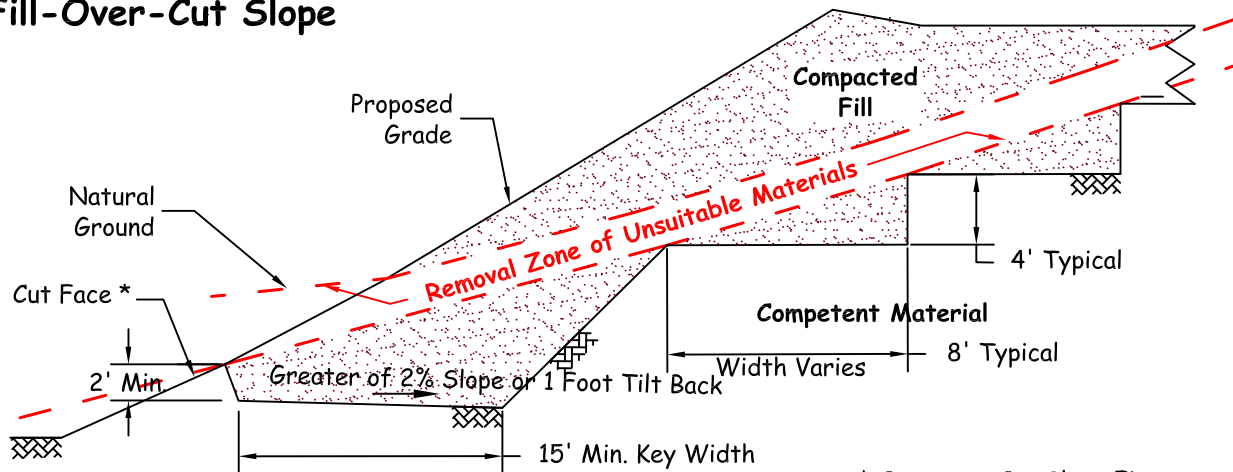
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

- 7.3** The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.
- 7.4** The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.
- 7.5** Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

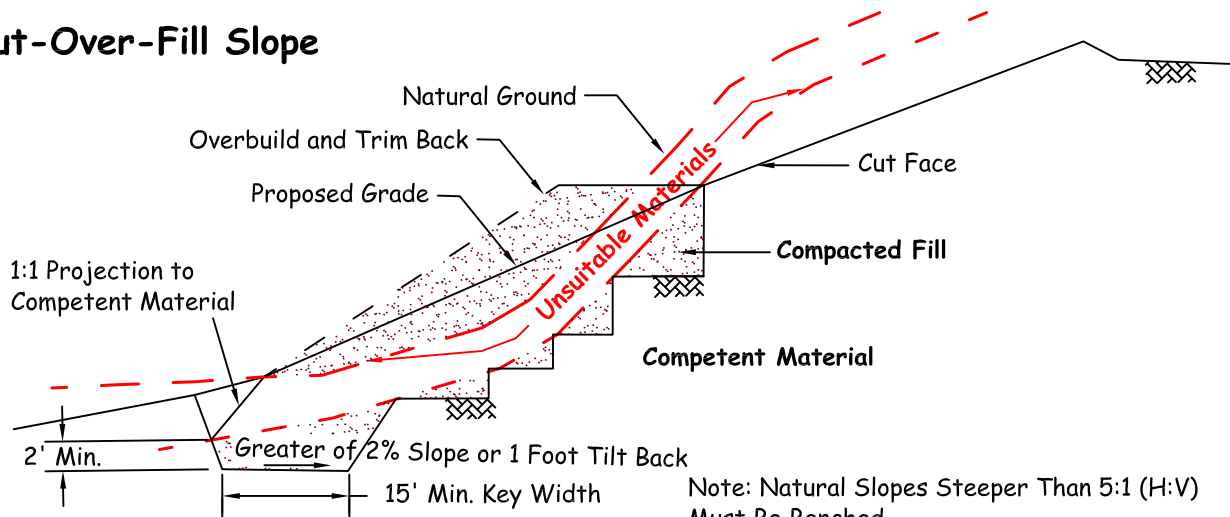


Fill-Over-Cut Slope

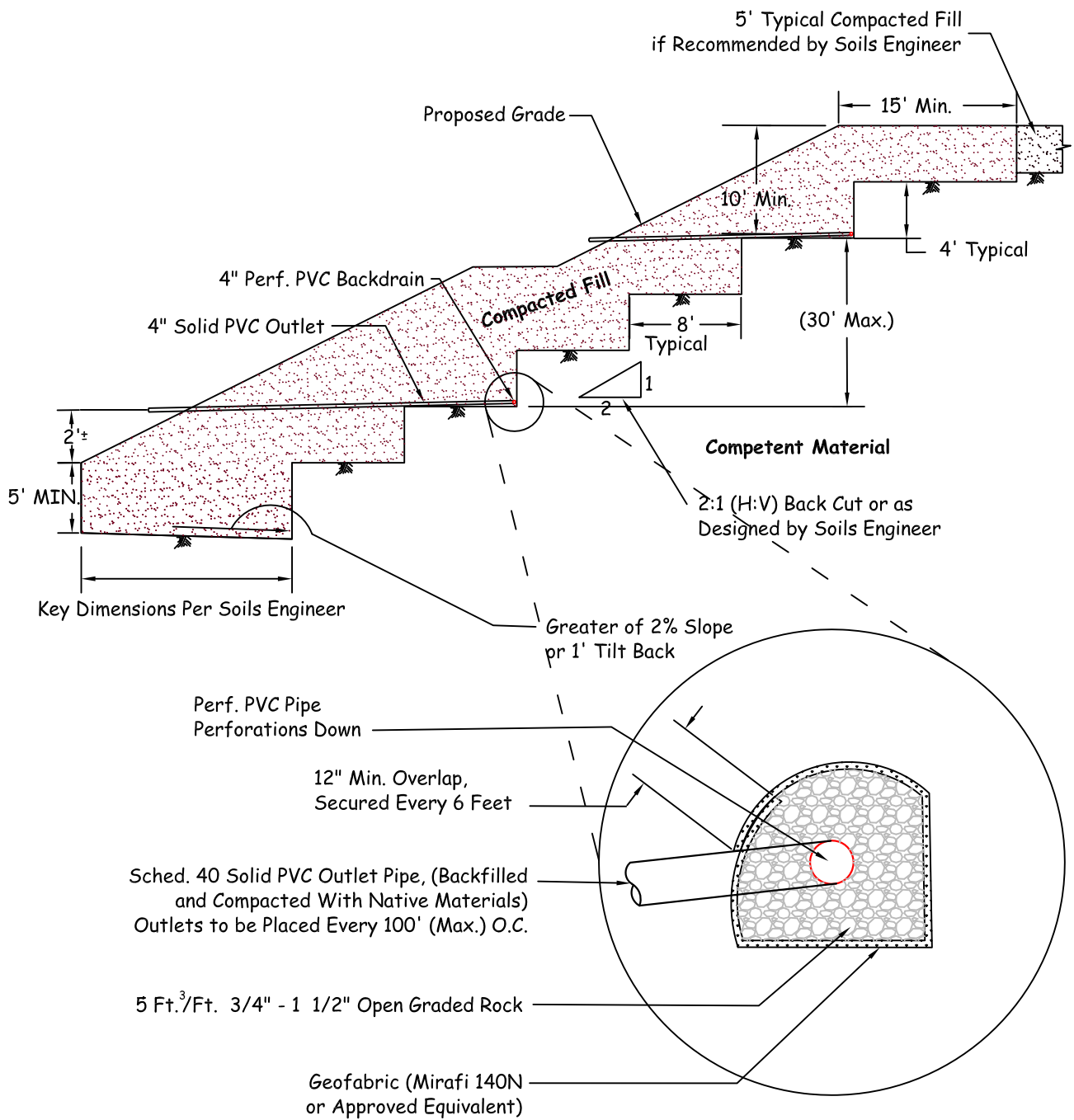


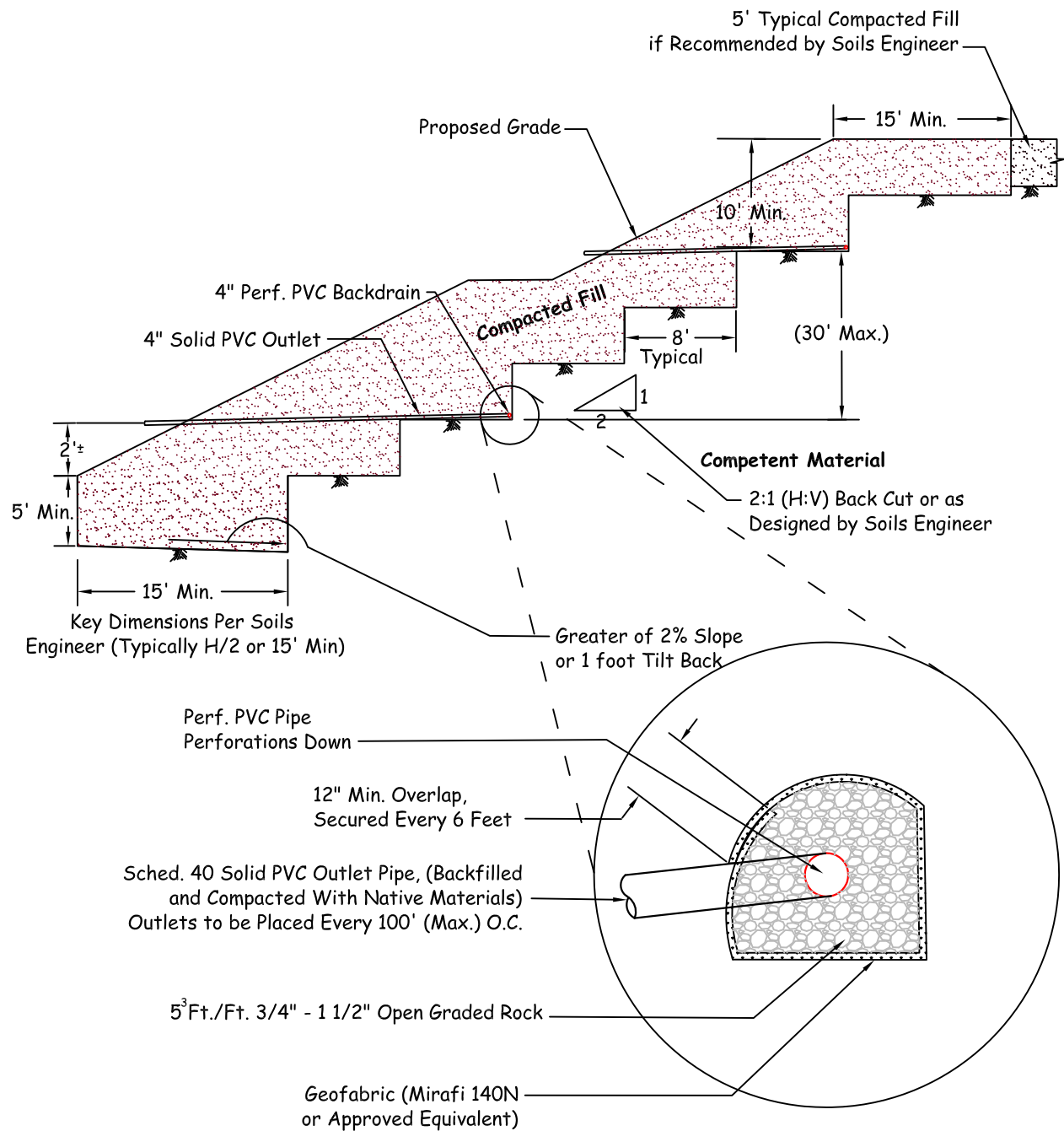
* Construct Cut Slope First

Cut-Over-Fill Slope

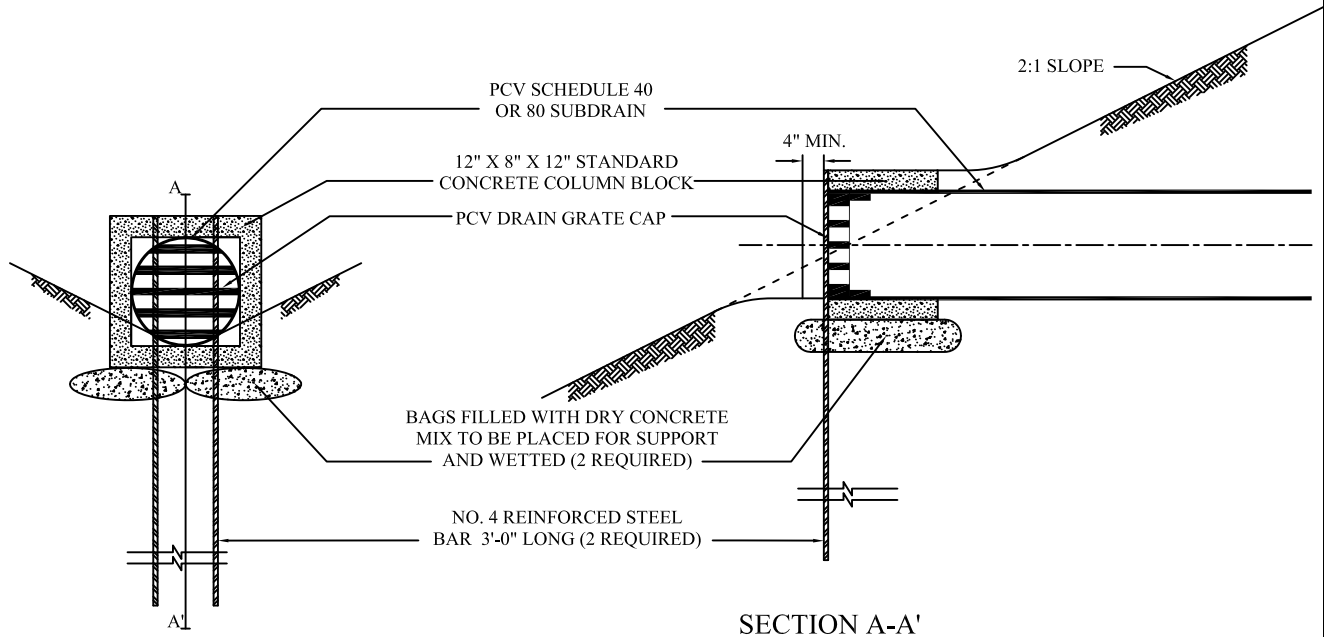


Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

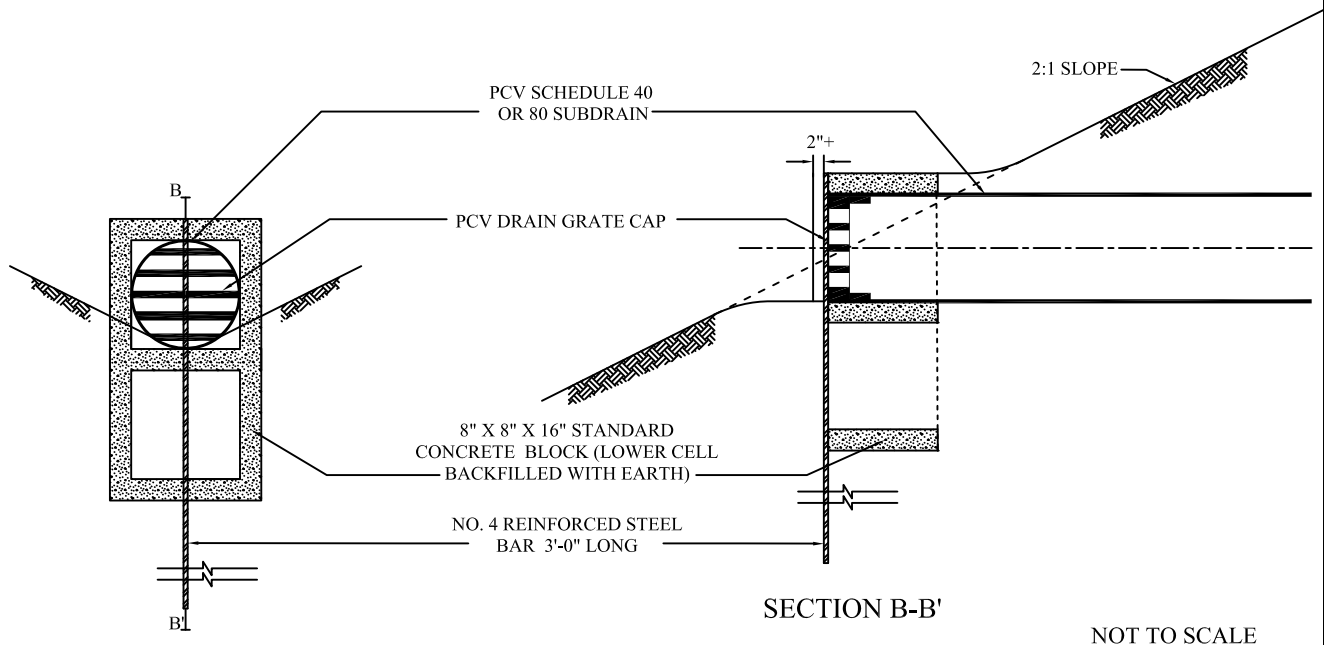




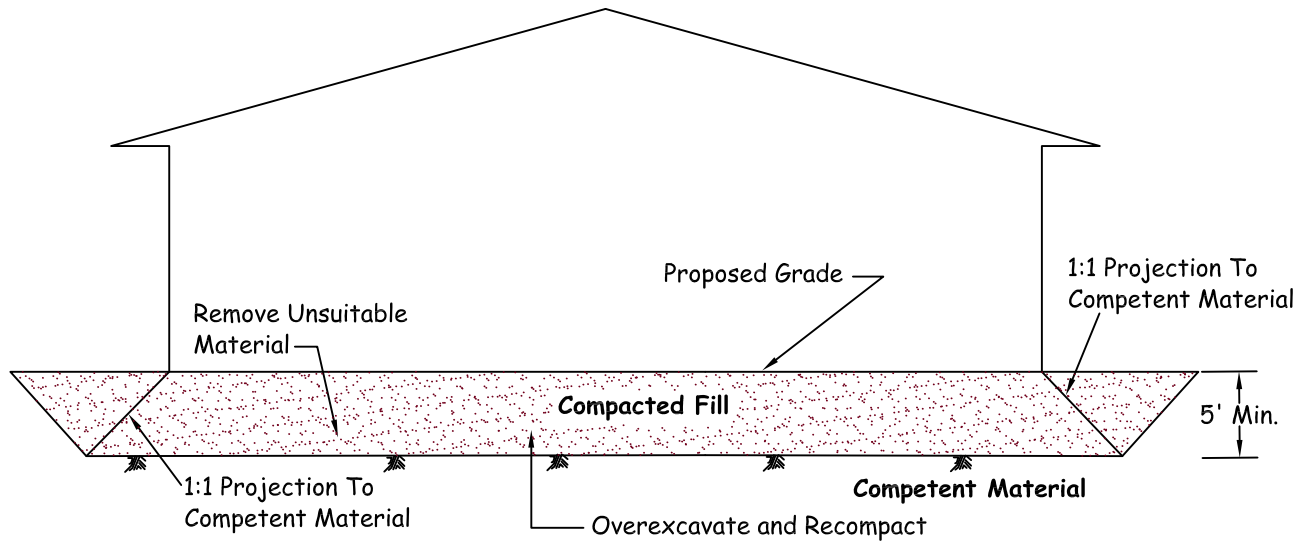
SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SUBDRAIN OUTLET MARKER -4" PIPE



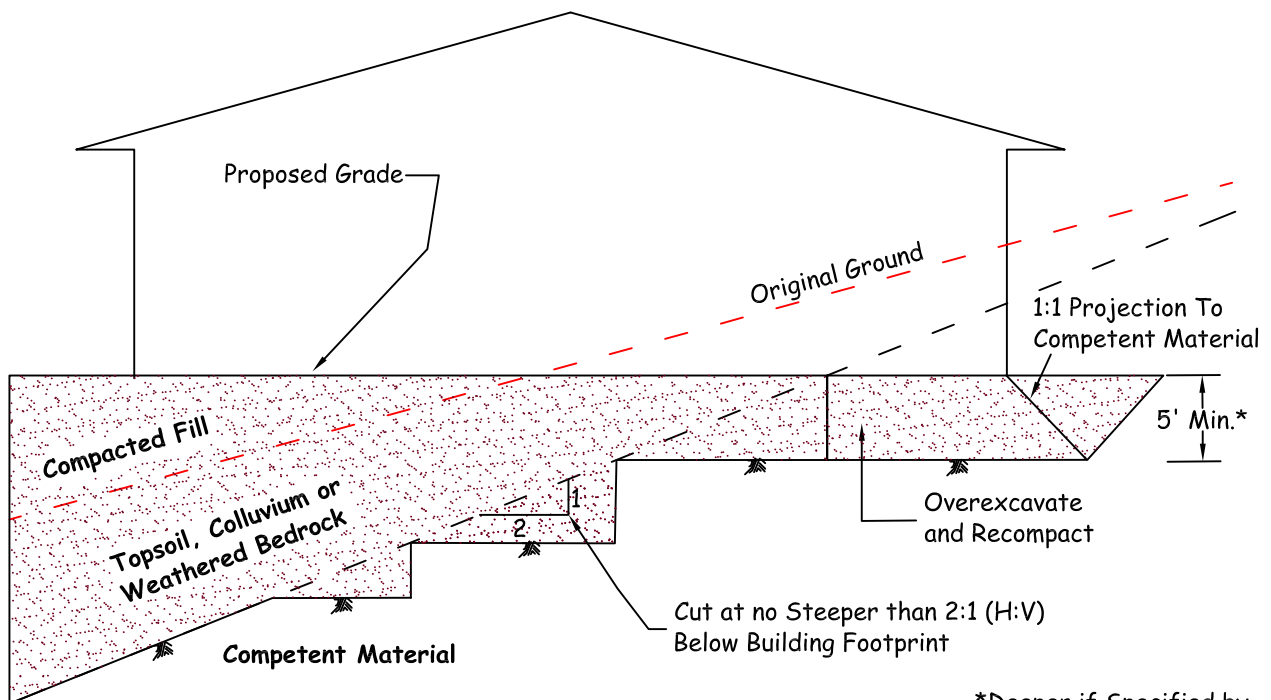
Cut Lot (Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

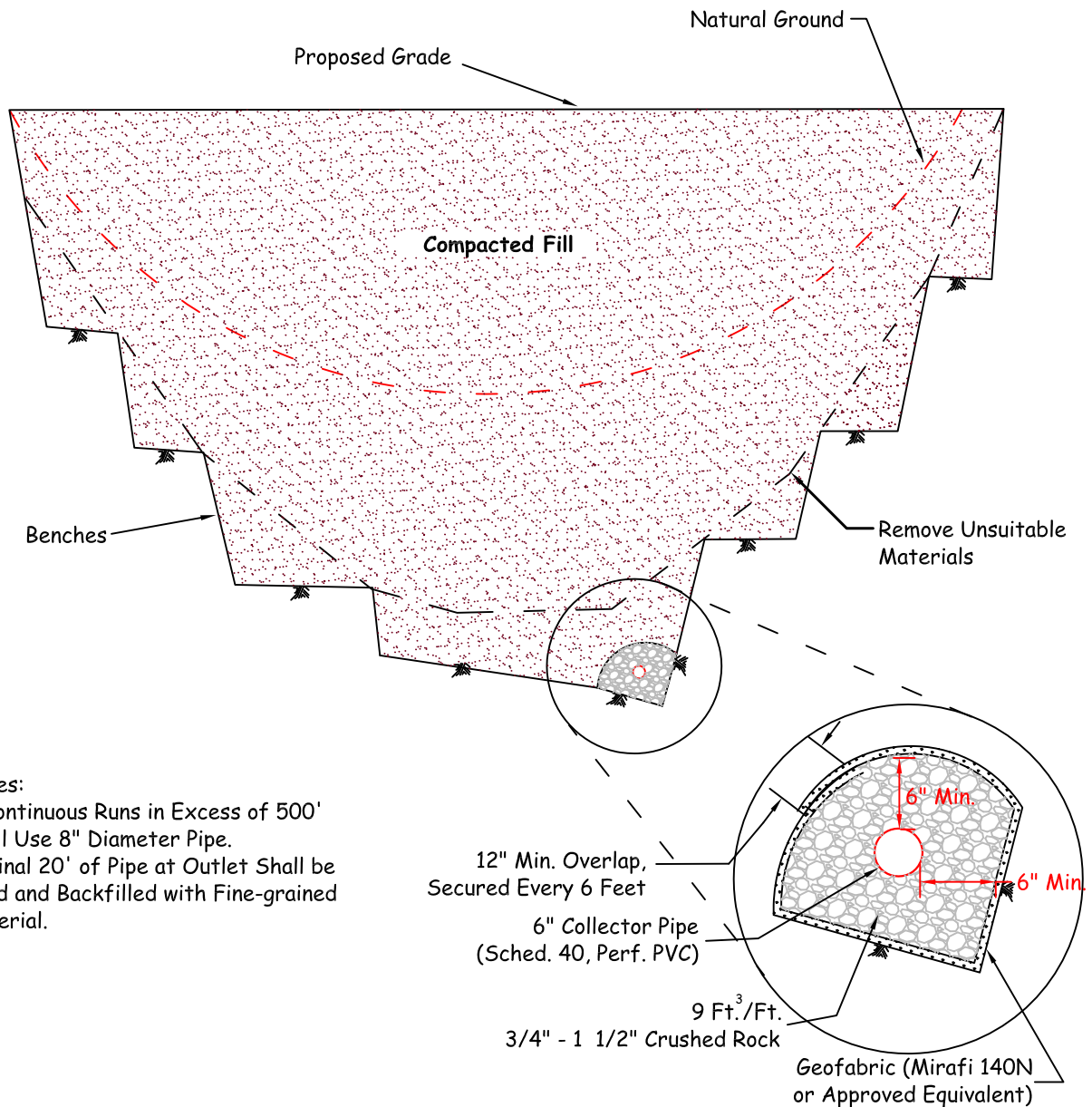
Cut/Fill Transition Lot



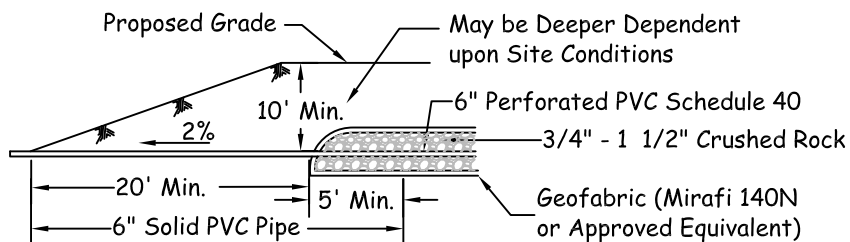
*Deeper if Specified by Soils Engineer

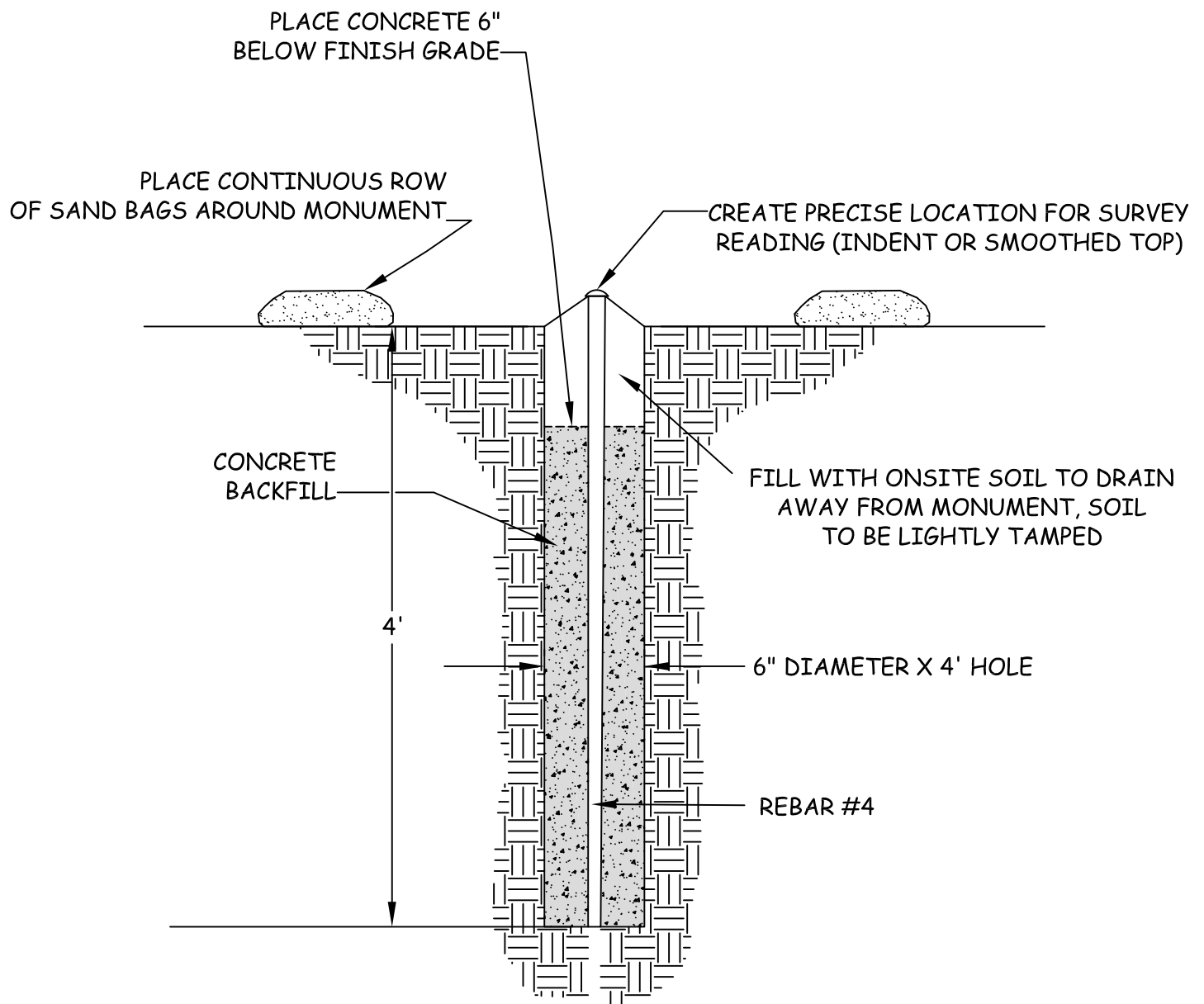


CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



Proposed Outlet Detail

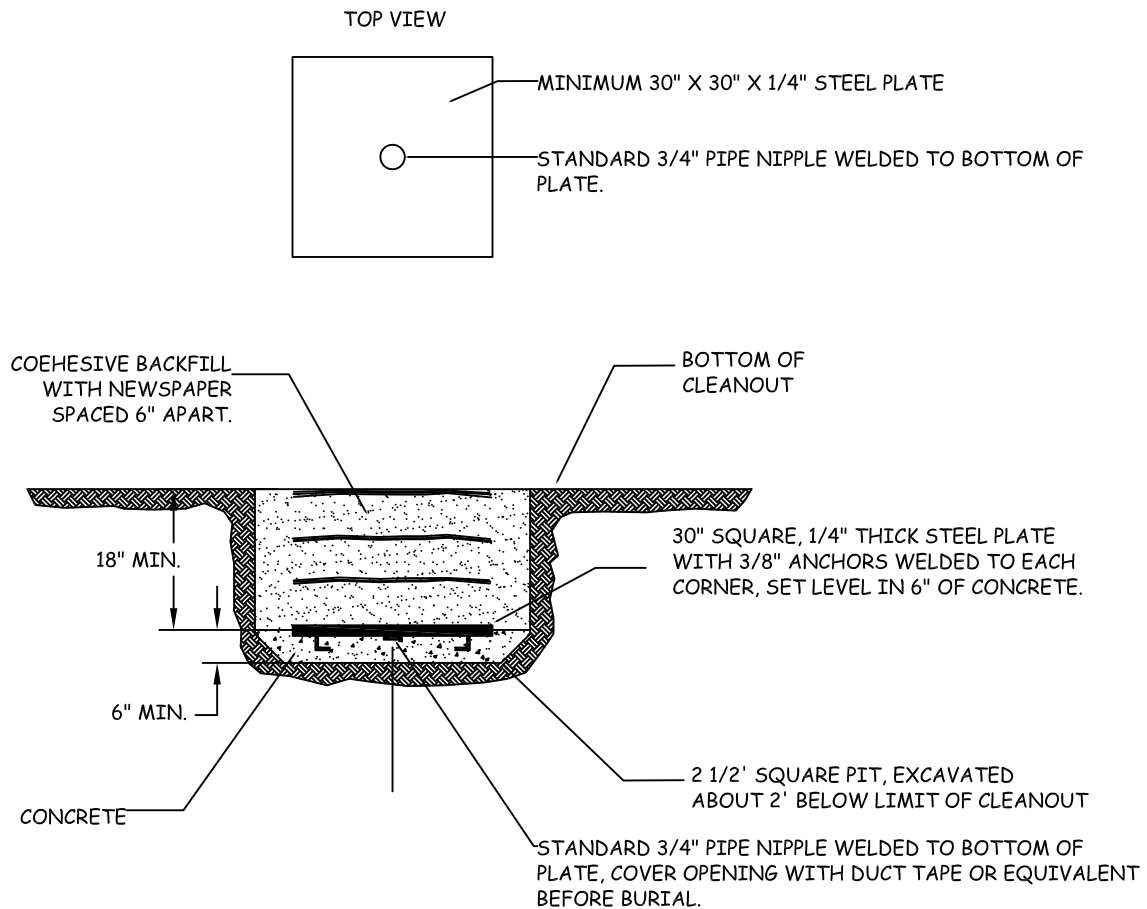




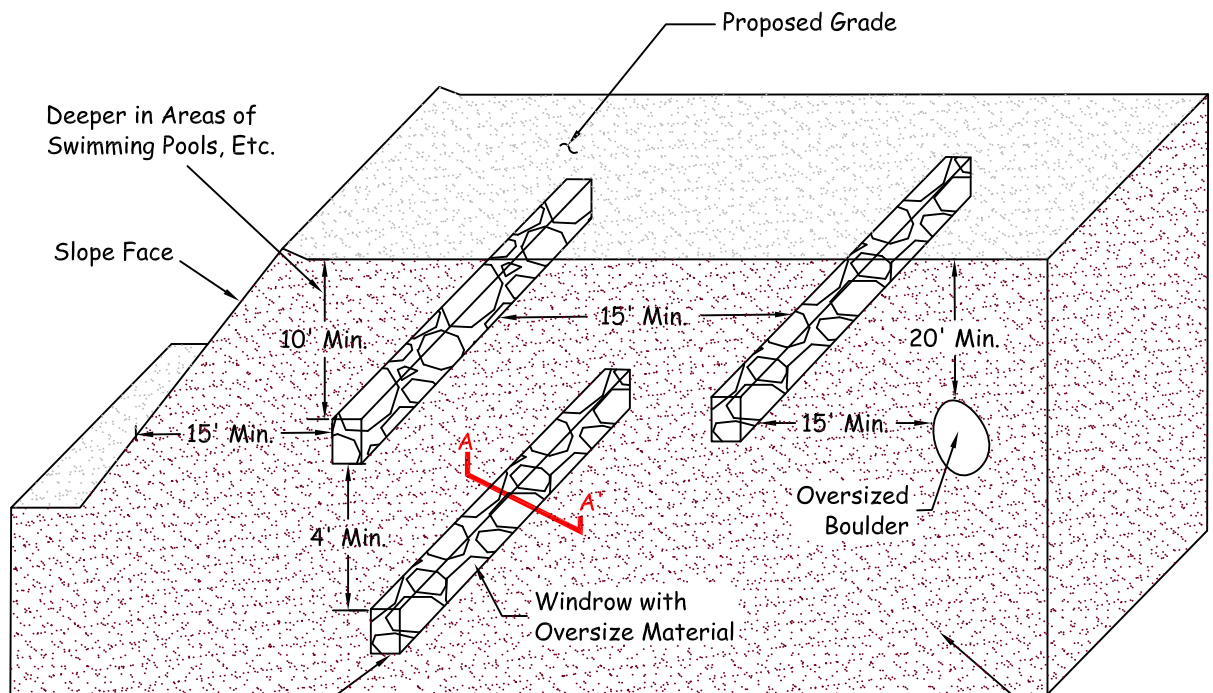
NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS



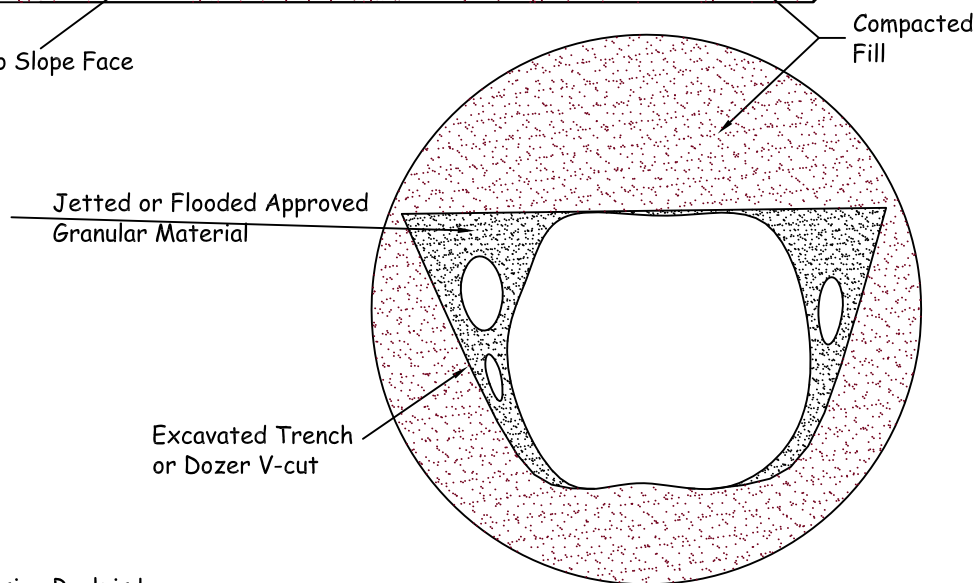
TYPICAL SURFACE SETTLEMENT MONUMENT



1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITLY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.



Windrow Parallel to Slope Face



Note: Oversize Rock is Larger than 8" in Maximum Dimension.

Section A-A'

APPENDIX E

PHASE I ENVIRONMENTAL SITE ASSESSMENT – PHASE II SITE INVESTIGATION

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Phase I Environmental Site Assessment & Phase II Investigation – Pesticide Sampling

**14010 Remington
Irvine, California**

Prepared for:
Roman Catholic Diocese of Orange
132870 Chapman Avenue
Irvine, California 92840

Prepared by:
Enercon Services, Inc.
4111 Broad Street, Suite 210
San Luis Obispo, CA 93401

June 26, 2024
Project No. RCDO-00001

June 26, 2024
Project No. RCDO-00001

Roman Catholic Diocese of Orange (RCDO)
132870 Chapman Avenue
Garden Grove, California 92840

**Subject: Phase I Environmental Site Assessment &
Phase II Investigation – Pesticide Sampling**
14010 Remington
Irvine, California

Dear Roman Catholic Diocese of Orange:

Enercon Services, Inc. (ENERCON) has performed a Phase I Environmental Site Assessment (ESA) and Phase II Investigation – Pesticide Sampling for the above-referenced subject property located in Irvine, California (subject property). Work was completed in accordance with the proposal dated August 25, 2023, between RCDO and ENERCON. RCDO is performing this Phase I ESA and Phase II- Pesticide Sampling in preparation for potential on-site re-development with additional buildings. The attached report presents our methodology, findings, opinions, and conclusions regarding the environmental conditions at the subject property. We appreciate the opportunity to be of service on this project. If there are any questions, please feel free to contact the undersigned at your convenience.

Sincerely,

Enercon Services, Inc.



Beth P. Ullom
Principal Technical Specialist



Theresa L. Heirshberg, MS PG
Principal – Environmental Geologist

Distribution: (1) Addressee (electronic copy)



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Appendix E – Regulatory Agency Records

Appendix F – Laboratory Report

Appendix G – Resumes

Acronyms

AAI	All Appropriate Inquiries
ACM	Asbestos-Containing Materials
APN	Assessor's Parcel Number
ASTM	American Society for Testing and Materials
AST	Aboveground Storage Tank
AUL	Activity and Use Limitations
AWP	Annual Work Plans
bgs	Below Ground Surface
CalGEM	California Department of Conservation, Geologic Energy Management Division
CERCLA	Compensation and Liability Act
CERCLIS	Compensation and Liability Information Systems
CFR	Code of Federal Regulations
CL	Silty Clay
CORRACTS	Corrective Action Report
CREC	Controlled Recognized Environmental Condition
DTSC	Department of Toxic Substances Control
ENERCON	Enercon Services, Inc.
ERIS	Environmental Risk Information Services
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FOIA	Freedom of Information Act
HASP	Health and Safety Plan
HERO	Human and Ecological Risk Office
HREC	Historical Recognized Environmental Condition
IBS	Irvine Building and Safety Department
LBP	Lead-Based Paint
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
MCAS	Marine Corp Air Station
ML	Sandy Silt
msl	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	No Detectable
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
OCDPW	Orange County Department of Public Works
OCHCA	Orange County Health Care Agency
OCP	Organochlorine Pesticides
OPP	Organophosphorus Pesticides
PCB	Polychlorinated Biphenyls
PID	Photoionization Detector
REC	Recognized Environmental Condition
RCRA	Resource Conservation and Recovery Act
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SEM	Superfund Enterprise Management System

SM	Silty Sand
SQG	Small Quantity Generator
SWRCB	State Water Resources Control Board
SWLF	Solid Waste Landfill Sites
SWIS	Solid Waste Information System
TBA	Targeted Brownfield's Assessments
TSD	Treatment, Storage, and Disposal
USEPA/EPA	United States Environmental Protection Agency
USGS	United States Geologic Survey
UST	Underground Storage Tank
VCP	Voluntary Cleanup Programs
VEC	Vapor Encroachment Condition
VOC	Volatile Organic Compound
VSQG	Very Small Quantity Generator
WMUD	Waste Management Unit Database

EXECUTIVE SUMMARY

Enercon Services, Inc. (ENERCON) was retained by Roman Catholic Diocese of Orange (RCDO) to perform a Phase I Environmental Site Assessment (ESA) and Phase II Investigation – Pesticide Sampling for the property located at 14010 Remington in Irvine, California (subject property). At the time of publication of this report, the subject property was occupied by a church and outbuildings. RCDO is performing the Phase I and Phase II ESAs prior to performing additional building and/or renovations on the subject property that may involve disturbing the soil. Document review and site assessment activities for this report were conducted between August 29, 2023, and June 17, 2024.

The following is a summary of the results of the Phase I ESA & Phase II Investigation:

- From at least 1938 through ca.1986, the subject property was utilized for agricultural purposes (orchards). From ca. 2000 through the time of publication of this report, the subject property has been occupied by a church facility, currently known as Our Lady of Peace Koren Catholic Center. The subject property is occupied by a sanctuary building and various outbuildings used for storage, a trash enclosure and solid waste dumpster, paved parking areas and associated landscaping.
- A groundwater monitoring well is present on the northwest corner of the subject property for the purpose of monitoring the quality of Orange County groundwater. The well is periodically sampled for alkalinity, boron, calcium, chloride, carbonate, fluoride, bicarbonate, potassium, magnesium, sodium, nitrate, pH, specific conductivity, sulfate, total dissolved solids (TDS), and temperature.
- According to a site plan provided to ENERCON by RCDO, there is an existing groundwater well on the southwestern portion of the subject property. There is no record of this well in the California State Water Control Board Database.
- A groundwater well is present on a residential property approximately 100 feet northwest of the subject property. Depth to groundwater in that well was last measured in the 1990s and was approximately 59 feet below the ground surface (bgs). Based on topography, the presumed direction of flow of the groundwater is to the northwest.
- Due to the potential for environmental impacts on the subject property from its historical agricultural use, ENERCON completed a Phase II limited subsurface investigation at the subject property concurrently with the preparation of the Phase I ESA. The results of the Phase I ESA and the limited subsurface investigation are presented together within this report. Based on the results of the subsurface investigation, three discrete soil samples had concentrations of arsenic and lead below regulatory limits. One composited soil sample had low detectable concentrations of two pesticides, 4,4-DDE and 4,4-DDT. The concentrations of the arsenic and lead and pesticides identified in soil samples from the subject property were below regulatory background levels.
- ENERCON identified the historical agricultural use of the subject property as a potential environmental concern. However, based on the results of the subsurface investigation completed by ENERCON at the subject property, no environmental impacts from the

historical agricultural use of the subject property were identified. Therefore, historical agricultural use is not an environmental concern.

- Then buildings on the subject property were constructed in 2000 and later; therefore, asbestos-containing materials (ACMs) and lead-based paints (LBPs) are not an environmental concern.
- No other on- or off-site environmental concerns were noted.

CONCLUSIONS

ENERCON has performed this Phase I ESA & Phase II Investigation in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-27, ASTM Practice E2600-22, and the EPA Standards and Practices for All Appropriate Inquiries (AAI), Final Rule (40 CFR, Part 312), for the property 14010 Remington located in the city of Irvine, California. Any limitations or exceptions encountered during completion of this report are stated in Section 1.4. No evidence or indication of recognized environmental conditions (RECs), historical RECs (HRECs), controlled RECs (CRECs), or de minimis environmental conditions (i.e., conditions that generally do not present a material risk of harm to public health or the environment) have been revealed, except for the following:

RECs

- No RECs have been identified during the completion of this report.

HRECs

- No HRECs have been identified during the completion of this report.

CRECs

- No CRECs have been identified during the completion of this report.

De Minimis Conditions

- No *de minimis* conditions have been identified during the completion of this report.

Non-ASTM Conditions

- No non-ASTM conditions have been identified during the completion of this report.

RECOMMENDATIONS

Based on the information obtained during this assessment, ENERCON has no recommendations for additional investigations at this time.

1. INTRODUCTION

Enercon Services, Inc. (ENERCON) was retained by Roman Catholic Diocese of Orange (RCDO) to perform a Phase I Environmental Site Assessment (ESA) and Phase II Investigation – Pesticide Sampling for the subject property located at 14010 Remington in Irvine, California (subject property). At the time of publication of this report, the subject property was occupied by a church and outbuildings, a trash enclosure and a roll-off box, and paved parking areas with associated landscaping. The RCDO is considering renovation/new build activities on the site that may involve disturbing the soil. The following sections identify the purpose, involved parties, scope of work, and limitations and exceptions associated with the Phase I ESA.

1.1. Purpose of Phase I ESA

In accordance with the American Society for Testing and Materials (ASTM) E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Standard E1527-21), the objective of the Phase I ESA was to identify, to the extent feasible pursuant to ASTM Standard E1527-21, recognized environmental conditions (RECs), historical RECs (HRECs), controlled RECs (CRECs), or conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject property.

ASTM defines REC as “...(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.”

ASTM defines HRECs as “...a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations).”

ASTM defines CRECs as a “...REC affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous

substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations)."

ASTM defines a de minimis condition as "...a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

Other environmental considerations include subject property features or conditions that may have an environmental component of interest, but which do not meet the ASTM definition of a REC, CREC, or HREC. ASTM does not necessarily require any actions to address the presence or condition, but such conditions are identified for the sake of thoroughness and completeness.

The United States Environmental Protection Agency ("USEPA" or "EPA") has stated that ASTM Standard E1527-21, is consistent with the Standards and Practices for All Appropriate Inquiries (AAI), Final Rule (40 Code of Federal Regulations [CFR], Part 312) and is compliant with the statutory criteria for all appropriate inquiries. All appropriate inquiries, as defined in the AAI Final Rule, must be conducted by persons seeking the landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) prior to acquiring a property or seeking or receiving federal Brownfields grants under the authorities of CERCLA. The purpose of AAI, as defined in the AAI Final Rule, was to identify releases and threatened releases of hazardous substances which cause or threaten to cause the incurrence of response costs.

As part of this Phase I ESA, ENERCON also assessed whether a vapor encroachment condition (VEC) exists at the subject property. The VEC assessment was completed following the ASTM E2600-22 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions (ASTM Standard E2600-22). The objective of this work was to evaluate the possibility that hazardous materials or other adverse environmental conditions are present due to past or present use of the subject property and/or properties in the subject property vicinity.

1.2. Involved Parties

Mr. Matt Pensaw of ENERCON conducted the site reconnaissance, Ms. Beth Ullom conducted regulatory inquiries, historical and document review and prepared the Phase I and

Phase II report. Mr. Pensaw performed field oversight of Phase II site activities documented the subsurface investigation. Ms. Theresa Heirshberg completed project oversight and final review of this report. Ms. Heirshberg meets the definition of an *environmental professional* as set forth in the AAI Final Rule.

1.3. Scope of Work

ENERCON's scope of work for this Phase I ESA is consistent with ASTM Standard E1527-21 and includes the activities listed below.

- **Review of User Provided Information** – Review of information regarding title and judicial records for environmental liens or activity and use limitations, recorded environmental liens, actual or specialized knowledge or commonly known information regarding environmental conditions at the subject property, the relationship of the purchase price of the property to the fair market value, readily available maps, environmental reports, and other environmental documents pertaining to the subject property, as available and obtained from the user/client.
- **Records Review** – Acquisition and review of records, including federal, state, tribal, and local regulatory agency databases, for the subject property and for properties located within a specified radius of the subject property; local regulatory agency files for the subject property and selected nearby properties of potential environmental concern; physical setting sources, including topographic maps, geologic maps, and geologic and hydrogeologic reference documents; and historic land use information including aerial photographs, historical fire insurance rate maps, building department records, and city directories, as necessary, that are reasonably ascertainable, publicly available, can be obtained within reasonable time and cost, and are practically reviewable.
- **Vapor Encroachment Condition (VEC)** – Review available regulatory and client provided data to assess Tier 1 non-numeric screening for the subject property. ENERCON evaluated whether contaminants were present in soil and/or groundwater in the site vicinity which might pose a VEC at the subject property.
- **Site Reconnaissance** – Performance of a site reconnaissance to visually observe the subject property and any structure(s) located on the subject property to the extent not obstructed by bodies of water, adjoining buildings, or other obstacles. The purpose of the site reconnaissance is to obtain information indicating the likelihood of identifying RECs in connection with the subject property, including the general site setting, site usage, use and storage of hazardous materials and petroleum products, disposal of waste products and materials, sources of polychlorinated biphenyls (PCBs), and evidence of releases and possible risks of contamination from activities at adjoining properties.
- **Interviews** – Interviews with subject property representatives, including owners, occupants, and site managers, regarding the environmental condition of the subject property to the extent necessary and such person(s) are available. Interviews with state and/or local government officials as necessary.
- **Report** – Evaluation of the information and data obtained by the Phase I ESA process outlined above and preparation of this Phase I ESA report documenting findings and providing opinions and conclusions regarding possible environmental impacts and RECs at the subject property.

1.4. Limitations and Exceptions

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. ENERCON should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

The findings, opinions, and conclusions are based on an analysis of the observed subject property conditions and the referenced literature. It should be understood that the conditions of a subject property can change with time as a result of natural processes or the activities of man at the subject property or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which ENERCON has no control. ENERCON cannot warrant or guarantee that not finding indicators of any particular hazardous material means that this particular hazardous material or any other hazardous materials do not exist on the subject property. Additional research, including invasive testing, can reduce the uncertainty, but no techniques now commonly employed can eliminate the uncertainty altogether.

1.5. Special Terms and Conditions

As indicated in Section 13.1.5 of ASTM Standard E1527-21, the following, which is not intended to be all inclusive, represents out-of-scope items with respect to a Phase I ESA: asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, wetlands, regulatory compliance, cultural and historic risk, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, biological agents, and mold. As part of our agreement with the client, ENERCON visually assessed subject property buildings (if present) for possible ACMs, LBP, and mold. In addition, ASTM Standard E 2600-22 supplements the ASTM Standard E1527-21 to include evaluation of VEC using Tier 1 screening.

This study did not include an evaluation of geotechnical conditions or potential geologic hazards. In addition, ENERCON did not address interpretations of zoning regulations, building code requirements, or property title issues.

1.6. User Reliance

This report may be relied upon and is intended exclusively for use by the client, its partners, members, investors, affiliates, successors and assigns, and lenders. Any use or reuse of the findings, opinions, and/or conclusions of this report by parties other than the foregoing parties is undertaken at said parties' sole risk.

1.7. Physical Limitations

There were no physical limitations encountered during the site visit.

1.8. Data Gaps

No significant data gaps were noted during the preparation of this Phase I ESA report.

2. GENERAL SUBJECT PROPERTY CHARACTERISTICS

The following sections describe the location and the current uses of the subject property and adjacent properties. A site location map is presented as Figure 1, and a site vicinity map is presented as Figure 2. Selected photographs of the subject property and surrounding properties are provided in Appendix A.

2.1. Location and Legal Description

The subject property is a rectangular shaped parcel consisting of approximately 5.6-acres located in Irvine, California (Figure 1). The subject property is commercial property occupied by a church and attendant outbuildings, and the parcel is identified as APN 529-401-01 by the Orange County, California, Auditor.

2.2. Subject Property Description and Current Uses/Operations

The following paragraphs present a description of the structures present at the subject property, the current occupant of the subject property, the activities being conducted on-site, the heating and cooling systems utilized in the subject property buildings, the sewage disposal system, and the potable water provider for the subject property, if any.

2.2.1. Subject Property Description

The subject property is occupied by a church sanctuary building and a number of outbuildings used for storage, a paved parking area and associated landscaping, a roll-off box for solid waste, and an enclosed trash area.

2.2.2. Occupants

The occupant of the subject property is Our Lady of Peace Korean Catholic Center operated by the RCDO.

2.2.3. Heating and Cooling Systems

Central heating and cooling systems are present on the subject property.

2.2.4. Sewage Disposal/Septic Systems

The subject property is serviced by the municipal sewer utility.

2.2.5. Potable Water

Potable water services are currently provided by the municipal water authority to the subject property.

2.3. Adjoining Properties

Currently, the subject property vicinity consists of residential housing to the north, south, east, and west (Figure 2).

No aboveground storage tanks (ASTs), evidence of underground storage tanks (USTS), or possible hazardous materials or waste were noted being used or stored by off-site properties along the subject property line. These off-site properties would not be considered an environmental concern to the subject property.

3. USER PROVIDED INFORMATION

The following sections summarize information provided by the user to assist the environmental professional in identifying the possibility of RECs in connection with the subject property, and to fulfill the user's responsibilities in accordance with Section 6 of ASTM Standard E1527-21. A copy of the user provided documents are presented in Appendix B. The user environmental questionnaire was completed by the Roman Catholic Bishop of Orange. The subject property was purchased July 29, 1983 and occupied in 2000 as a church. The subject property was developed with one building consisting of approximately 7,128 square feet in 2000. Well No. TIC-41 was destructed in 2003 and active groundwater monitoring well No. IDM-3 remains onsite.

3.1. Current Title Information

A Preliminary Title Report was not provided for the subject property.

3.2. Environmental Liens or Activity and Use Limitations

- (1.) Environmental liens that are filed or recorded against the subject property (40 C.F.R. § 312.25).

Roman Catholic Bishop of Orange stated, "Property was deeded to RCBO from Irvine Company as vacant land. We know of no environmental liens than the groundwater well easement."

- (2.) Activity and use limitations that are in place on the subject property or that have been filed or recorded against the subject property.

Roman Catholic Bishop of Orange stated, "RCBO operates under a CUP for the site as a religious designation."

3.3. Specialized Knowledge

- (3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 C.F.R. § 312.28).

Roman Catholic Bishop of Orange stated, "N/A."

3.4. Valuation Reduction for Environmental Issues

- (4.) Relationship of the purchase price to the fair market value of the subject property if it were not contaminated (40 C.F.R. § 312.29). In a transaction involving the purchase of a parcel of commercial real estate, the user shall consider the relationship of the purchase price of the property to fair market value of the property if the property was not affected by hazardous substances or petroleum products.

- (5.) Roman Catholic Bishop of Orange stated, "N/A."

3.5. Commonly Known or Reasonably Ascertainable Information

- (5.) Commonly known or reasonably ascertainable information about the subject property (40 C.F.R. § 312.30). Are you aware of commonly known or reasonably ascertainable information about the subject property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example,

(a.) Do you know the past uses of the subject property?

Roman Catholic Bishop of Orange stated, "vacant land from our knowledge."

(b.) Do you know of specific chemicals that are present or once were present at the subject property?

Roman Catholic Bishop of Orange stated, "don't know."

(c.) Do you know of spills or other chemical releases that have taken place at the subject property?

Roman Catholic Bishop of Orange stated, "don't know."

(d.) Do you know of any environmental cleanups that have taken place at the subject property?

Roman Catholic Bishop of Orange stated, "don't know."

3.6. Degree of Obviousness

(6.) The degree of obviousness of the presence or likely presence of contamination at the subject property, and the ability to detect the contamination by appropriate investigation (40 C.F.R. § 312.31).

Roman Catholic Bishop of Orange stated, "don't know."

3.7. Reason for Performing Phase I ESA

This Phase I ESA is being completed as part of RCDO's environmental due diligence prior to redevelopment of portions of the subject property.

3.8. Other User Provided Information

No other information was provided by the user.

4. PHYSICAL SETTING

The following sections include discussions of topographic, geologic, and hydrogeologic conditions in the vicinity of the subject property, based upon our document review and our visual reconnaissance of the subject property and adjacent areas.

4.1. Topography

Based on the review of the United States Geologic Survey (USGS), Topographical Map 7.5-minutes series, Tustin and El Toro Quadrangles, California, dated 2023, the subject property has an elevation of approximately 159 feet above mean sea level (msl). Regional surface topography generally slopes to the west-northwest.

4.2. Geology

The subject property is located in the western portion of the Peninsular Ranges geomorphic province of southern California, within the dissected Orange County Coastal Plain of the Los Angeles Basin. The coastal plain is underlain with over 10,000 feet of marine and non-marine sediments. The upper several hundred feet of sediments is composed of unconsolidated recent alluvium consisting of stream channel and over bank deposits made up of interbedded gravel, sand, silt, and clay.

4.3. Hydrology

The following sections discuss the subject property hydrology in terms of both surface waters and groundwater.

4.3.1. Surface Waters

No natural surface water bodies, including ponds, streams, or other bodies of water, are located on the subject property or in the immediate site vicinity.

4.3.2. Groundwater

Groundwater information was obtained from a report related to a water well on an adjoining residential property approximately 100 feet to the northwest of the subject property. According to SWRB-GAMA on-line groundwater elevation data In the report, groundwater has been reported at a depth of approximately 59 feet below the ground surface (bgs) and flows in a westerly direction. Due to the differences in elevation and potential subsurface geology, groundwater depths may vary beneath the subject property.

4.4. Oil and Gas Maps

Based on a review of the California Department of Conservation, Geologic Energy Management Division (CalGEM) on-line Well Finder database, the subject property is not present in an active oil field and no oil or natural gas wells have been drilled on the subject property or in the immediate site vicinity. Based on this information, there is a low likelihood

that petroleum hydrocarbon impacted soil or elevated methane gas is present due to oil and gas production activities.

5. HISTORICAL LAND USE

ENERCON conducted a historical land use record search for both the subject property and surrounding areas. This included a review of one or more of the following sources that were found to be both reasonably ascertainable and useful for the purposes of this Phase I ESA: historical fire insurance maps, historical aerial photographs, building permits and plans, historical city directories, topographic maps, property tax records, zoning/land use records, and a review of prior environmental assessment reports regarding the subject property. Copies of historical data obtained during this assessment are provided in Appendix C.

5.1. Summary of Historical Land Use of the Property

From at least 1938 through ca. 1980, the subject property was occupied by orchards. The orchards appear to have been removed by 1986, and the subject property was undeveloped land from ca. 1986 until 2002, when the subject property was developed with a structure similar in appearance to the church currently on the site.

5.2. Summary of Historical Land Use of Adjoining Properties

From at least 1938 through ca. 1980, the site vicinity was occupied by orchards. By 1980, the adjoining properties to the east-northeast had been developed for residential use. By 1986, the adjoining properties to the west were developed for residential use. By 2002, when the subject property was developed with a church, all adjoining properties were developed for residential use. The residential use of adjoining properties continues to the present day.

5.3. Fire Insurance Rate Maps

Historical Sanborn Fire Insurance Rate Maps (Sanborn maps) were requested from Environmental Data Resources Risk Information Services (ERIS). According to ERIS, there were no Sanborn maps available for the subject property or site vicinity.

5.4. Building Department

Building permits are issued and maintained by the City of Irvine Building and Safety Department (IBS). The IBS files its information based on addresses. A building permit was issued for the address of the subject property in 1999 for temporary poles for a church property, in 2000 for an underground fire line and site lighting, and in 2001 for underground plumbing and site lighting.

5.5. Historical Aerial Photographs

Historical aerial photographs for selected years between 1938 and 2016 were provided by ERIS. The following presents a summary of the historical aerial photographs.

- **1938, 1947, 1952, 1963, 1972, 1980** – The subject property is agricultural land developed with orchards. The site vicinity is undeveloped and/or agricultural land with residential development on the adjoining property to the east-northeast beginning in 1980.
- **1986, 1994** – The subject property is undeveloped and/or agricultural land. The site vicinity is undeveloped and/or agricultural land with residential development on the west-northwest and west-southwest in 1986.
- **2002, 2009, 2010, 2012, 2014, 2016 2018, 2020, and 2022** – The subject property is developed with a building similar in appearance to the church building currently on the site. The site vicinity was completely developed with residential housing in all directions.

5.6. City Directories

Historical records were requested for the subject property and surrounding properties from ERIS. According to ERIS, city directories were available between the years 1951 through 2022. The address of the subject property first appears in the city directory in 2003 and shows that the occupant is a church. The address of the subject property is also listed in the 2008, 2012, 2016, 2020, and 2022 city directories as being occupied by a church.

5.7. Historical Topographic Maps

Historical topographic maps were provided by ERIS and researched using TopoView for review. The maps were dated between 1901 through 2022 and do not show any details regarding the use of the subject property other than occupation of the site by orchards until ca. the early 1980s. The maps dated 2012, 2015, 2018, and 2022 depict surrounding roadways but no details of the subject property. No other site-specific details were noted.

5.8. Interviews

Interviews were conducted by ENERCON in March 2024 with key site personnel (e.g., past and present owners, operators, and/or occupants) with the objective of obtaining information indicating RECs in connection with the subject property. The following are the site personnel interviewed for the purposes of this assessment.

5.8.1. Interview with Owner

The owner is the Roman Catholic Diocese of Orange, who directed interview questions to Mr. Woodward.

5.8.2. Interview with Site Manager

The site manager, Mr. Woodward, was available for an interview.

5.8.3. Interviews with Occupant

The subject property is developed with a church – onsite staff provided interior access.

5.8.4. Interviews with Local Government Officials

No local government officials or regulatory agency officials were available for personal interviews, but local government and agency records were requested via Freedom of Information Act (FOIA) requests and/or searched in online databases.

5.8.5. Interviews with Others

No other interviews were completed during completion of this report.

5.9. Previous Reports and Documents

No previous reports or documents regarding the subject property have been released to ENERCON.

6. SITE RECONNAISSANCE

The subject property and site vicinity reconnaissance was performed by ENERCON on March 21 and 27, 2024. The site reconnaissance involved a visual inspection of the subject property and a visual observation of adjoining properties. At the time of the site reconnaissance there were no weather-related obstructions. Selected photographs taken during these activities are included in Appendix A.

At the time of the subject property site visit, the property was occupied by a church sanctuary building and associated outbuildings and paved parking areas with landscaping, a roll-off box, and a trash enclosure. The following information is provided as per ASTM standards to summarize the current conditions at the subject property.

6.1. Use and Storage of Hazardous Substances and Petroleum Products

No potential use or storage of hazardous substances and petroleum products were noted on the subject property.

6.2. Storage and Disposal of Hazardous Wastes

No on-site storage or disposal of hazardous waste was observed. Minor amounts of retail sized containers of cleaning and maintenance chemicals were present on-site for the buildings on the subject property.

6.3. Unidentified Substance Containers

No unidentified substance containers were observed.

6.4. Aboveground Storage Tanks (ASTs) and Underground Storage Tanks (USTs)

No ASTs and no evidence of USTs (e.g., fill ports, vent pipelines, etc.) were observed during the site reconnaissance.

6.5. Evidence of Releases

There was no evidence of releases noted during the site reconnaissance.

6.6. Polychlorinated Biphenyls (PCBs)

Historically, PCBs (a group of hazardous substances and suspected human carcinogens) were widely used as an additive in cooling oils for electrical components. Typical sources of PCBs can include electrical transformers. One pad-mounted electrical transformer was observed on the subject property. The date of installation of the transformer is unknown; however, it was likely installed at the time of the development of the property by the church (ca. 2002). No evidence of leaks or stains was noted on or near the transformer.

6.7. Suspect Asbestos-Containing Building Materials (ACMs)

Due to the date of construction (ca. 2002) of the buildings on the subject property ACMs are not an environmental concern.

6.8. Lead Based Paint (LBP)

Due to the date of construction (ca. 2002) of the buildings on the subject property, LBP is not an environmental concern.

6.9. Indications of Water Damage or Mold Growth

No water damage or mold growth was observed in the buildings on the subject property; therefore, water infiltration and mold growth are not environmental concerns.

6.10. Wastewater Systems

No on-site wastewater systems such as septic tanks or septic fields were observed during the site reconnaissance.

6.11. Stormwater Systems

Two stormwater drains were noted on the subject property. Storm water is transferred to surrounding streets where curb-and-gutter and two storm drains were observed on the west side of the subject property. No evidence of dumping into storm drains was noted.

6.12. Wells

One apparent well cap was noted on the subject property. The use of this well is for monitoring groundwater quality in Orange County.

6.13. Other Subsurface Structures

No other subsurface structures (e.g., sumps, vaults, oil/water separators, and other surface impoundments) were noted during the site reconnaissance.

6.14. Other Issues

A roll-off box was present on the site, and contained small amounts of apparent municipal waste, two trash barrels, and cardboard waste. A trash enclosure is also present on the subject property and contains two trash dumpsters. No environmental issues were identified to be associated with these features. No other on-site issues of environmental concern were noted during the site reconnaissance.

7. ENVIRONMENTAL DATABASE SEARCH

A computerized environmental information database search was performed by ERIS on April 3, 2024. The database search included federal, state, local, and tribal databases. A summary of the environmental databases searched, their corresponding search radii, and number of noted facilities of environmental concern is presented in Appendix D. In addition, a description of the assumptions and approach to the database search is provided in Appendix D. The review was conducted to evaluate whether the subject property or properties within the vicinity of the subject property have been reported as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects.

Neither the subject property or any adjoining properties appear on any database search presented in the ERIS report.

No unplotable (orphaned) properties were identified in the database report.

The following sections describe the databases that contain noted properties of environmental concern and include a discussion of the regulatory status of the facilities and potential environmental impact to the subject property.

7.1. Federal National Priorities List (NPL): Distance Searched – One mile

The NPL is the USEPA's database of uncontrolled or abandoned hazardous waste properties identified for priority remedial actions under the Superfund program. This database includes proposed NPL listings.

Neither the subject property nor properties located within a one-mile radius were listed on this database.

7.2. Federal Delisted NPL: Distance Searched – One mile

This database contains delisted NPL properties under the Superfund program. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the USEPA uses to delete properties from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425. (e), properties may be deleted from the NPL where no further response is appropriate.

Neither the subject property nor properties located within a one-mile radius were listed on this database.

7.3. Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Distance Searched – 0.5 mile

The CERCLIS database has been replaced by the Superfund Enterprise Management System (SEMS) database, which Tracts hazardous waste sites and remedial activities performed in support of the EPA's Superfund Program. This database also includes properties listed on the SEMS-ARCHIVE database for facilities with statuses of No Further Remedial Action Planned (NFRAP).

Neither the subject property nor properties located within the search radius were listed on this database.

7.4. Federal Corrective Action Report (CORRACTS): Distance Searched – One mile

The USEPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing corrective action. A corrective action order is issued when there has been a release of hazardous waste or constituents into the environment from an RCRA facility.

Neither the subject property nor properties located within the search radius were listed on this database.

7.5. Federal Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Facilities List: Distance Searched – 0.5 mile

The RCRA TSD database (non-CORRACTS) is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. Listing on this database is for tracking purposes and not indicative of a release.

Neither the subject property nor properties located within the search radius were listed on this database.

7.6. Federal RCRA Generators List: Distance Searched – Subject Property and Adjoining Properties

This list identifies facilities that generate hazardous waste as defined by RCRA. Facilities on this list are identified as either large, small, or very small quantity generators (LQG, SQG, or VSQG, respectively) based on the amount of hazardous waste generated annually. Inclusion on this database is for permitting purposes and is not indicative of a release.

Neither the subject property nor properties located within the search radius were listed on this database.

7.7. Federal Institutional Control/Engineering Control Registries: Distance Searched – 0.5 mile

These lists identify properties with engineering and/or institutional controls. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on the subject property. Deed restrictions are generally required as part of the institutional controls.

Neither the subject property nor properties located within the search radius were listed on this database.

7.8. Federal Emergency Response Notification System (ERNS) List: Distance Searched – Subject Property

The ERNS database, maintained by the USEPA, contains information on reported releases of oil and hazardous substances.

The subject property was not listed on this database.

7.9. Federal Brownfield List: Distance Searched – 0.5 mile

The USEPA Brownfield database, entitled Targeted Brownfield's Assessments (TBA), lists properties for which the USEPA is providing funding and/or technical support for environmental assessments and investigations. The objective of the TBA is to promote cleanup and redevelopment of undesirable properties with environmental issues.

Neither the subject property nor properties located within a 0.5-mile radius were listed on this database.

7.10. California EnviroStor or State-Equivalent CERCLIS: Distance Searched – One mile

The EnviroStor database, also known as the State-equivalent CERCLIS, is maintained by the Cal-EPA DTSC. This database contains information on Annual Work Plans (AWP), and both known and potentially contaminated properties. Two-thirds of these properties have been classified, based on available information, as needing no further action (NFA) by the DTSC. The remaining properties are in various stages of review and remediation to determine if a problem exists. These properties are presented by ERIS on the EnviroStor database.

The subject property was not listed on this database. Four facilities were listed within the one-mile search radius. Three of the sites (schools) have facility status of no further action. The remaining facility, a dry cleaner, is undergoing evaluation. The dry cleaner site is approximately 1800 feet to the northwest of the subject property and is downgradient from the subject property. Based on distance, direction, depth to groundwater, and/or regulatory status, these facilities would not be considered an environmental concern to the subject property.

7.11. State Solid Waste Landfill Sites (SWLF): Distance Searched – 0.5 mile

The SWLF database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) and the State Water Resources Control Board (SWRCB) Waste Management Unit Database (WMUD) database.

The subject property was not listed on this database.

7.12. State Leaking Underground Storage Tank (LUST) Lists: Distance Searched – 0.5 mile

The LUST information system is obtained from the SWRCB and the SARWQCB.

Neither the subject property nor properties located within the search radius were listed on this database.

7.13. State Underground Storage Tank (UST) and Aboveground Storage Tank (AST) Registration List: Distance Searched – Subject Property and Adjoining Properties

UST and AST databases are provided by the SWRCB. Inclusion on these lists is for permitting purposes and is not indicative of a release.

Neither the subject property nor adjoining properties were listed on this database.

7.14. State Voluntary Cleanup Programs (VCPs): Distance Searched – 0.5 mile

The State VCP database lists low threat level properties with either confirmed or unconfirmed releases. Project proponents have requested that the DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

The subject property was not listed within this database.

7.15. Indian Reservations: Distance Searched – Subject Property

This list depicts Indian administered lands of the United States that have an area equal to or greater than 640-acres. No Indian Reservations are listed within a one-mile radius from the subject property. Due to the lack of Indian Reservations within one-mile of the subject property, other tribal database listings required by ASTM and AAI were deemed not applicable. These listings would include tribal-equivalent NPL, CERCLIS, Landfill and/or Solid Waste Disposal, LUST, UST and AST Registrations, Institutional Control/Engineering Control Registries, VCPs, and Brownfields.

7.16. Other Non-ASTM and AAI Database: Distance Searched – Subject Property

Other databases were included in the ERIS report but are not required by ASTM or AAI. The subject property was not listed on any of these databases.

8. VAPOR ENCROACHMENT CONDITION (VEC)

ENERCON completed a VEC study for the subject property using Tier 1 criteria as recommended by ASTM E2600-22. The Tier 1 screening identifies surrounding facilities that pose a possible vapor intrusion source to the subject property based on the results of the Phase I ESA investigations and certain criteria outlined by ASTM. These criteria include a certain distance from the target subject property (referred to by ASTM as within the “area of concern”); the types of chemicals used (referred to by ASTM as the “chemicals of concern”); and a plume test to determine if the plume associated with a source of contamination is close enough to the subject property to impact indoor air quality. A VEC is defined by ASTM as “...the presence or likely presence of chemicals or vapors from contaminated soil and/or groundwater either on or near the target property identified by the Phase I ESA.” Based on our review of information obtained during the completion of this Phase I ESA, a VEC does not exist at the subject property.

9. REGULATORY RECORDS REVIEW

The Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), and the South Coast Air Quality Management District (SCAQMD), the Orange County Department of Public Works (OCDPW), and the Orange County Health Care Agency (OCHCA-CUPA) are the lead regulatory agencies for USTs, ASTs, and LUST cases, and facilities that use, store, or generate, hazardous waste or hazardous materials. These agencies typically file information regarding properties using addresses. Since no structures are currently developed, there are no current addresses associated with the subject property. ENERCON reviewed RWQCB, DTSC, and SCAQMD online databases regarding the subject property and surrounding properties. ENERCON also requested files from the OCDPW and the OCHCA.

9.1. Regional Water Quality Control Board, Santa Ana Region (RWQCB)

According to the SWRCB GeoTracker online database, the subject property is not listed.

9.2. Department of Toxic Substances Control (DTSC)

ENERCON reviewed state and federal case file listing on the DTSC EnviroStor online database. The subject property is not listed.

9.3. South Coast Air Quality Management District (SCAQMD)

ENERCON requested a records review from the SCAQMD. According to the SCAQMD, no records of violation have been reported for the subject property.

9.4. Orange County Department of Public Works (OCDPW)

ENERCON requested files for the subject property from the OCDPW. As of the date of publication of this report, no response has been received from OCDPW.

9.5. Orange County Health Care Agency (OCHCA-CUPA)

ENERCON requested a records review from the OCHCA. As of the date of publication of this report, no response has been received from OCHCA-CUPA.

10. PHASE II SUBSURFACE INVESTIGATION

ENERCON was retained by Roman Catholic Diocese of Orange (RCDO, the “client”) to complete a subsurface investigation in conjunction with the Phase I ESA for the subject property located at the 14010 Remington in the city of Irvine, California (“subject property”). ENERCON, based on preliminary review of historical data, determined that the subject property land use was agricultural from at least 1938 through 1980. Since agricultural land use was identified, a subsurface investigation was requested by RCDO to determine if there is impact to the soils on the subject property from the use of agricultural chemicals.

10.1. Background

The Phase I ESA identified the following potential environmental concern:

“The subject property was determined to be utilized for agricultural purposes from 1938 through ca. 1980. Due to the historical agricultural use at the subject property, residual pesticides and/or agricultural metals (i.e., arsenic) in shallow soil at the subject property could be present. However, due to the previous development of a church facility on the subject property, it is likely that any residual agricultural chemicals, which could impact soil from surface to one-foot depth, have likely either been removed during construction activities or mixed and dispersed, lessening the concentration of regulated chemicals in site soils. In addition, no areas of preparing, pouring and mixing, or storage of agricultural chemicals were identified on the subject property. Based on prior grading and construction activity during construction of the church and parking areas, and the lack of areas of chemical storage and preparation such as a barn, historical agricultural use is considered a potential environmental concern but does not indicate a recognized environmental condition.”

Note: since the 1930s, organochlorine pesticides (OCP), such as DDT, dieldrin, and heptachlor were commonly used in California. Some of these insecticides, such as DDT, are persistent organic pollutants which pose a danger when released into the environment. DDT, which was widely used in the mid-20th century, also accumulated in food chains and caused reproductive problems (e.g., eggshell thinning) in certain bird species. In 1970, the United States banned organochlorine pesticides, and in response, farmers began using organophosphorus pesticides (OPP). Lead arsenate was also used in pesticides and herbicides prior to the 1950s. Based on the time frame during which the site was used for agriculture (ca. 1938-1980), samples collected during Phase II site activities will be analyzed for OCPs, OPPs, and arsenic.

10.2. Objectives

To address the potential environmental concern, the objective for the subsurface investigation was to assess whether elevated concentrations of pesticides and/or arsenic are present in shallow soils at the subject property.

10.3. Subsurface Investigation

To further assess whether a significant release has occurred at the site, ENERCON completed a subsurface investigation to assess the potential environmental concern identified in the Phase I ESA. The subsurface investigation was completed on March 27, 2024, and included the advancement of 12 soil borings (Figure 3, subsurface utility map showing soil boring locations). The fieldwork was performed by Mr. Matthew Pensaw, an ENERCON Staff Geologist. The report write-up was prepared by Ms. Beth Ullom, an ENERCON Principal Technical Specialist. The subsurface investigation was completed under the direction and oversight of Ms. Theresa L. Heirshberg, a California Professional Geologist from ENERCON.

This scope of work followed the sampling protocol outlined by the California DTSC *Interim Guidance for Sampling Agricultural Properties (Third Revision)* dated August 7, 2008 (referred to herein as the "DTSC guidelines").

10.3.1. Pre-Field Activities

Prior to conducting field work, ENERCON prepared a site-specific Health and Safety Plan (HASP) addressing the scope of work, potential contaminants, safety hazards, and safety procedures that could be encountered during the subsurface investigation.

10.3.2. Field Activities

The subsurface investigation included the collection of shallow soil samples from vegetated areas and under paved parking areas. The sample collection activities were completed using hand-auger equipment. The paved parking areas were cored using an impact drill prior to hand augering beneath the pavement. Each boring was advanced using a hand auger to two feet bgs. Hand augers were decontaminated with an alcohol-based soap and deionized water between soil samples collected. Hand augering activities and soil sampling were performed between March 27, 2024.

Based on the size of the subject property (approximately 5.6 acres occupied by a church sanctuary, outbuildings and paved parking areas), 12 soil borings were advanced by coring the asphalt to expose the soil underneath (complies with the DTSC guidelines) and advancing soil borings in vegetated areas. Soil sampling locations were based on a general grid pattern. One sample point was placed within the approximate center of each grid pattern (Figure 3) to screen the area of the subject property not occupied by buildings. Soil samples were collected from each boring location at 0.5-foot and 2-feet bgs.

The borings were backfilled with the soil cuttings generated and were patched to grade with asphalt in the parking areas following sampling activities.

10.3.3. Soil Observations and Sample Collection

During hand augering activities, soil samples were collected at the 0.5-foot and 2-foot interval from each soil boring and were examined in the field for soil types, lithological changes, environmental concerns (i.e., staining, odor, etc.), and screened for volatile organic chemicals in the headspace of the sample using a photoionization detector (PID).

In general, shallow soil lithology consisted of clay and silty clay (CL). No soil samples collected had evidence of staining, odors, or elevated PID readings.

10.4. Sample Analysis

Soil samples were containerized in laboratory provided glass jars. Soil samples were placed on ice in a cooler and maintained at approximately 4°C until the samples were delivered to the analytical laboratory. Chain of Custody forms were filled out and protocols followed. Samples were transported to Enviro-Chem, Inc., a state certified laboratory located in Pomona, California, for analysis. Once at the laboratory, the samples that ENERCON collected from 0.5-foot depth were prepared by following DTSC guidelines for sample

analysis: twelve (12) soil samples were broken into groups of four, which were combined into three (3) composite soil samples (C1, C2, C3) for analysis of arsenic, OCPs and OPPs. Three (3) discrete soil samples for analysis of arsenic and lead were recovered from the locations of B-3, B7, and B-11 and analyzed for arsenic, and lead. The two-foot samples were placed on hold pending the 0.5-foot analysis results.

10.4.1. Soil Analyses

The samples were analyzed for OCPs, OPPs and arsenic and lead in general accordance with EPA Method Nos. 8141A and 6010B, respectively. All the 0.5-foot composite and discrete samples were analyzed first. If elevated concentrations are detected in the 0.5-foot samples exceeding regulatory screening levels, then the "on hold" 2-foot samples would be analyzed to further assess the vertical extent.

10.5. Analytical Results

The analytical results for arsenic and lead and OCPs and OPPs in soil are presented in Tables 1a and 1b. Arsenic was detected at in the discrete soil samples from B3, B7 and B11 at concentrations ranging from 7.41 mg/kg to 9.68 mg/kg. Lead was detected in those same soil samples at concentrations ranging from 5.04 mg/kg to 16.6 mg/kg.

Only 4,4-DDE and 4,4-DDT were detected in soils in composite sample C1, recovered in the eastern portion of the subject property. Comparison of these analytical results with regulatory guidelines is discussed in Section 10.7 of this report.

10.6. Regulatory Guidelines and Data Evaluation

The following presents the regulatory guidelines used by ENERCON to evaluate the laboratory results and data collected from soil sampling at the site.

10.7. Regulatory Guidelines for Soil

The California DTSC and the U.S Environmental Protection Agency (EPA) maintain cleanup criteria for soil that are based on protection of human health. Detectable concentrations of OCPs, OPPs, and arsenic and lead in soil were compared to the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note 3 soil screening levels for residential land use (DTSC-SLr) and/or the US EPA Regional Screening Levels for soil applicable to residential land use (EPA-RSLr). These very conservative guidelines are based on the protection of human health through dermal contact, inhalation, and ingestion.

Metals are naturally occurring in soil. With the exception of arsenic, concentrations of metals are compared to the human health risk criteria set forth in the DTSC-SLR and US EPA-RSLr guidelines. Due to the granitic nature of California geology, concentrations of arsenic typically exceed the human health risk guideline prepared by the State and Federal agencies. DTSC completed a study of naturally occurring concentrations of arsenic for school properties for the Los Angeles Unified School District (DTSC, 2005). Based on this study, DTSC concluded that background arsenic concentrations are less than 12 mg/kg.

10.7.1. Evaluation of Laboratory Results for Soil Samples

The soil samples analyzed for arsenic and lead had detectable concentrations of arsenic at levels below the background arsenic levels of 12 mg/kg and lead below the background levels of 80 mg/kg. Since none of these results exceeded regulatory screening levels, ENERCON concluded that analyses of the two-foot soil samples as either composite or discrete samples was not necessary to delineate vertical extent of the presence of arsenic and lead, and therefore no further analyses were conducted for these analytes.

In the composite samples (C1, C2, and C3), 4,4-DDE and 4,4-DDT were present in C1; however, the concentrations of 4,4-DDE and 4,4-DDT do not exceed regulatory screening levels. Soil samples analyzed for OPPs were all ND for the presence of OPPs.

10.8. Summary of Phase II Investigation Findings and Recommendations

ENERCON performed a subsurface investigation to assess whether elevated concentrations of selected chemicals associated with the potential environmental concern of agricultural land use identified during the Phase I ESA are present in soil in specific areas of the subject property. The subsurface investigation included the collection of shallow soil samples. The results of analyses show that background level concentrations of arsenic and lead occurred in discrete soil samples recovered from borings B3, B7 and B11. Low concentrations of OCPs were present in one composite sample, C1. No detectable concentrations of OPPs were present in the composite soil samples. Based on the results of the soil sampling completed during this investigation, ENERCON makes the following conclusions and recommendations:

ENERCON concludes, based on the lack of elevated concentrations of arsenic and lead in discrete soil samples, and the low concentration of OCPs in one composited soil sample and the ND results of OPPs in composited soil samples, that the subject property is not adversely

impacted by the historical agricultural land use. Therefore, ENERCON does not recommend additional investigation.

11. FINDINGS, OPINIONS, AND CONCLUSIONS

Based upon the results of this Phase I ESA & Phase II Investigation the following findings and conclusions are provided.

11.1. Findings and Opinions

The following presents a summary of findings associated with this Phase I ESA performed for the subject property, including known or suspect RECs, HRECs, CRECs, and *de minimis* environmental conditions (i.e., conditions that generally do not present a material risk of harm to public health or the environment).

- From at least 1938 through ca.1986, the subject property was utilized for agricultural purposes (orchards). From ca. 2000 through the time of publication of this report, the subject property has been occupied by a church facility, currently known as Our Lady of Peace Koren Catholic Center. The subject property is occupied by a sanctuary building and various outbuildings used for storage, a trash enclosure and solid waste dumpster, paved parking areas and associated landscaping.
- A groundwater monitoring well is present on the northwest corner of the subject property for the purpose of monitoring the quality of Orange County groundwater. The well is periodically sampled for alkalinity, boron, calcium, chloride, carbonate, fluoride, bicarbonate, potassium, magnesium, sodium, nitrate, pH, specific conductivity, sulfate, total dissolved solids (TDS), and temperature.
- According to a site plan provided to ENERCON by RCDO, there is an existing groundwater well on the southwestern portion of the subject property. There is no record of this well in the California State Water Control Board Database.
- A groundwater well is present on a residential property approximately 100 feet northwest of the subject property. Depth to groundwater in that well was last measured in the 1990s and was approximately 59 feet below the ground surface (bgs). Based on topography, the presumed direction of flow of the groundwater is to the northwest.
- Due to the potential for environmental impacts on the subject property from its historical agricultural use, ENERCON completed a Phase II limited subsurface investigation at the subject property concurrently with the preparation of the Phase I ESA. The results of the Phase I ESA and the limited subsurface investigation are presented together within this report. Based on the results of the subsurface investigation, three discrete soil samples had concentrations of arsenic and lead below regulatory limits. One composited soil sample had low detectable concentrations of two pesticides, 4,4-DDE and 4,4-DDT. The concentrations of the arsenic and lead and pesticides identified in soil samples from the subject property were below regulatory background levels.
- ENERCON identified the historical agricultural use of the subject property as a potential environmental concern. However, based on the results of the subsurface investigation completed by ENERCON at the subject property, no environmental impacts from the

historical agricultural use of the subject property were identified. Therefore, historical agricultural use is not an environmental concern.

- Then buildings on the subject property were constructed in 2000 and later; therefore, asbestos-containing materials (ACMs) and lead-based paints (LBPs) are not an environmental concern.
- No other on- or off-site environmental concerns were noted.

12. CONCLUSIONS

ENERCON performed this Phase I ESA & Phase II Investigation in conformance with the scope and limitations of the ASTM Practice E1527-21, ASTM Practice E2600-22, and the EPA Standards and Practices for AAI, Final Rule (40 CFR, Part 312), for the property located at 14010 Remington in Irvine, California. Any limitations or exceptions encountered during completion of this report are stated in Section 1.4.

No evidence or indication of RECs, HRECs, CRECs, or *de minimis* environmental conditions (i.e., conditions that generally do not present a material risk of harm to public health or the environment) have been revealed.

13. RECOMMENDATIONS

Based on the information obtained during this assessment, ENERCON has no recommendations for additional investigations at this time.

14. REFERENCES

California Department of Conservation, Geologic Energy Management Division Well Finder, [Well Finder \(ca.gov\)](#), accessed June 12, 2024.

Environmental Risk Information Services (ERIS), 2024, Regulatory Database Report, dated April 3, 2024.

ERIS, 2024, Historical Aerials, dated April 3, 2024.

ERIS, 2024, City Directories, dated April 8, 2024.

ERIS, 2024, Fire Insurance Maps "No Coverage," dated April 2, 2024.

USGS TopoView, [Get Maps | topoView \(usgs.gov\)](#), accessed June 13, 2024.

15. QUALIFICATIONS STATEMENT AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

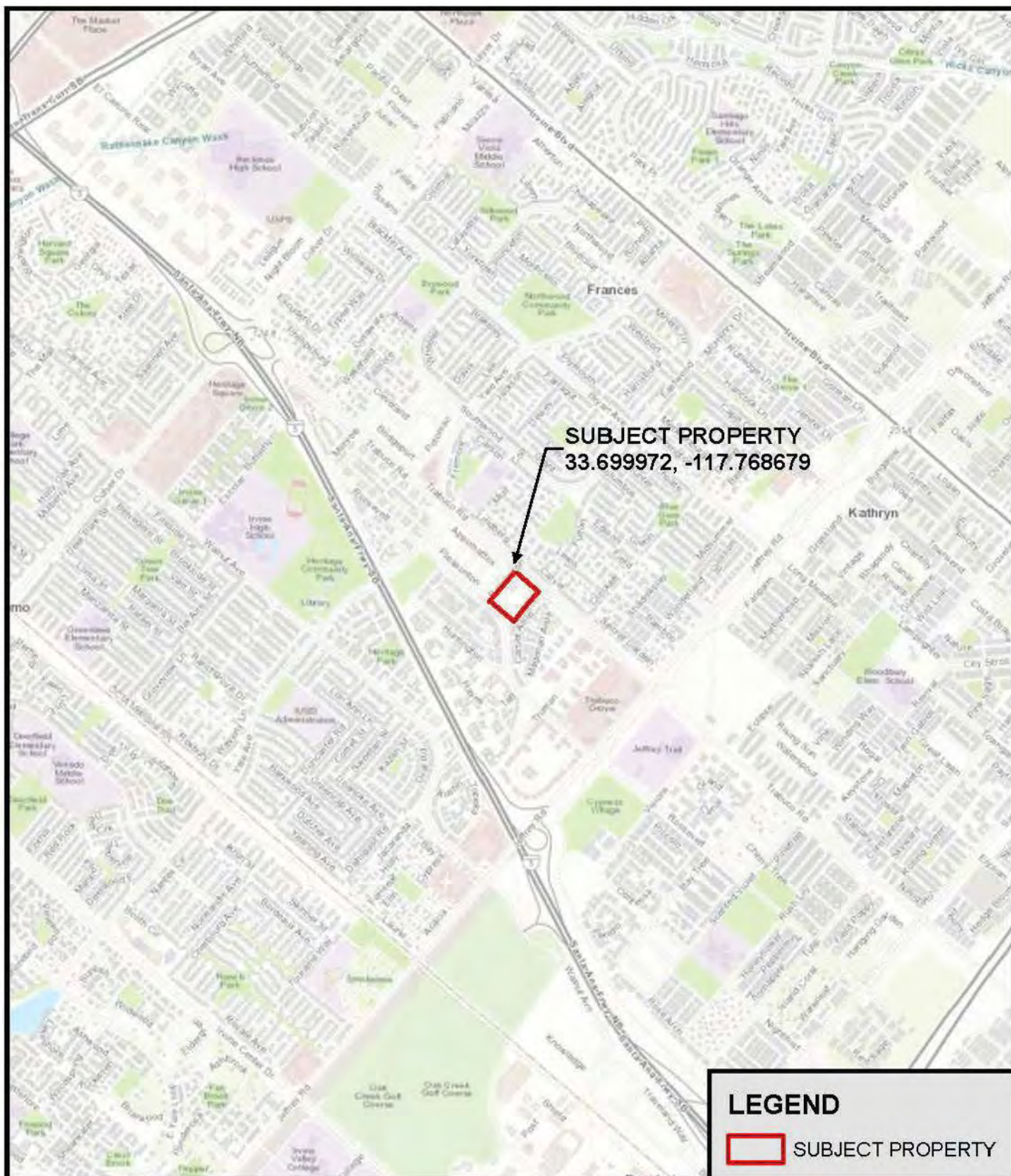
Ms. Theresa Heirshberg states that the Phase I ESA was performed under her direct supervision, and that she has reviewed and approved the report, and the methods and procedures employed in the development of the report conform to the minimum industry standards. Ms. Heirshberg certifies that ENERCON project personnel and subcontractors are properly licensed and/or certified to do the work described herein.

Pursuant to Paragraph 12.14.1 and 12.14.2 of the ASTM Standard E1527-21:

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental professional* as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

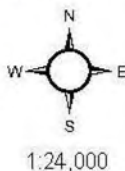


Theresa L. Heirshberg, MS/PG
Principal – Environmental Geologist



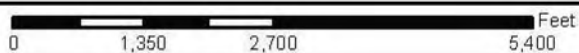
**ROMAN CATHOLIC DIOCESE OF ORANGE
OUR LADY OF PEACE KOREAN CATHOLIC CENTER**

MAP REFERENCE:
USGS TOPOGRAPHIC QUADRANGLE,
7.5 MINUTE SERIES
TUSTIN AND EL TORO, CA: 2023



**PHASE I ESA
14010 REMINGTON, IRVINE, CA
FIGURE 1
SITE LOCATION MAP**

Date: June 12, 2024

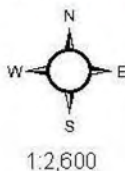




ROMAN CATHOLIC DIOCESE OF ORANGE
OUR LADY OF PEACE KOREAN CATHOLIC CENTER

MAP REFERENCE:

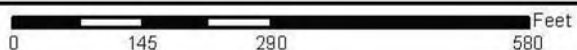
Service Layer Credits: Esri, HERE, Garmin, (c)
OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and
the GIS User Community

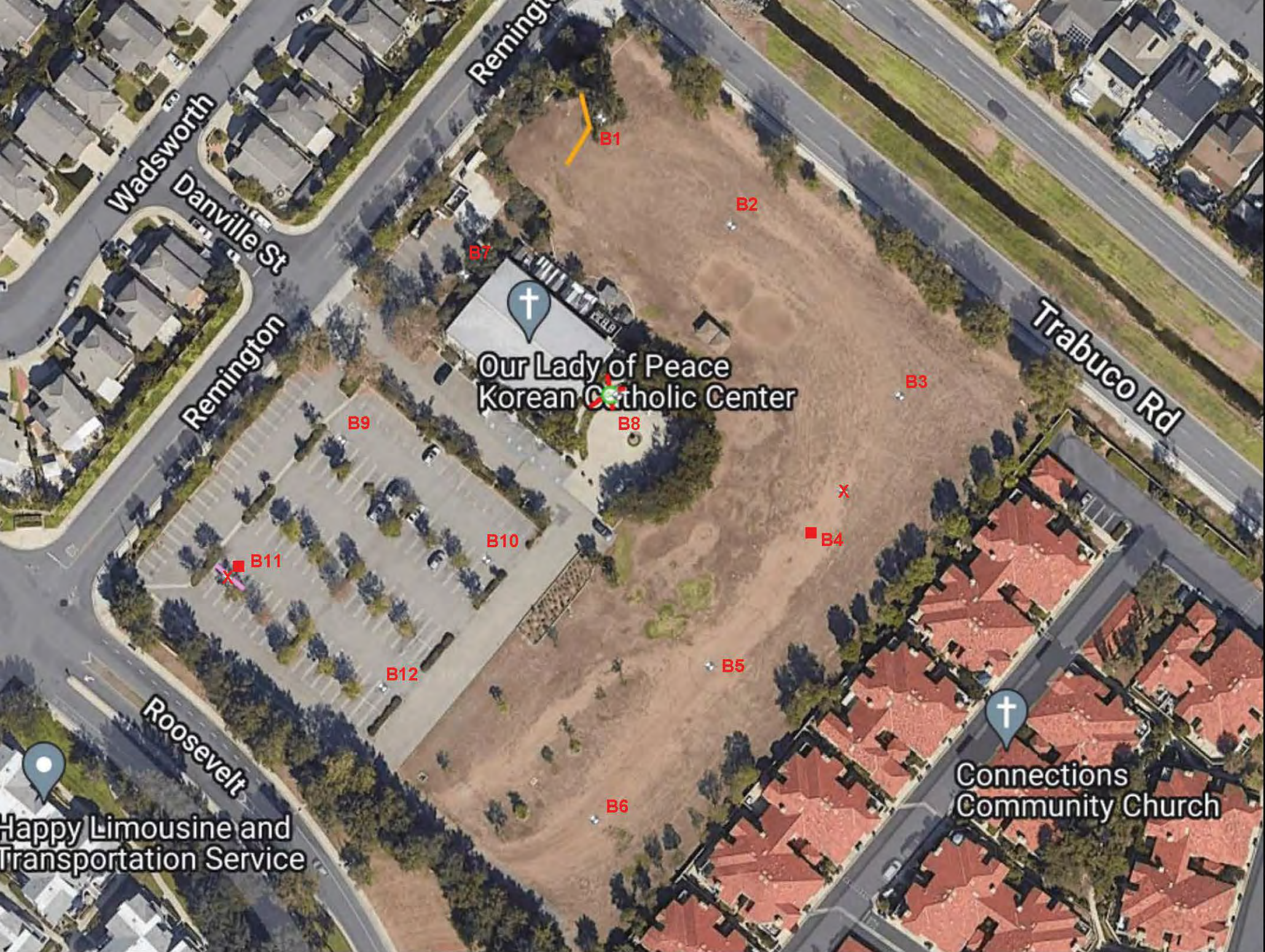


PHASE I ESA
14010 REMINGTON, IRVINE, CA

FIGURE 2
SITE VICINITY MAP

Date: June 12, 2024





- 1. THIS PROJECT COLLECTS AND ORGANIZES RECORDS OF THE DATA
- 2. AERIAL IMAGES COLLECTED NEEDS
- 3. GPS RECORDS SUBSISTENCE FINDING BEVER
- 4. GPS RECORDS SURVEILLANCE LAND SURVEILLANCE STATE
- 5. FOR EQUIPMENT OTHER EMAIL
- 6. PRIVATE CALLS TO ANY



8

GPS RECORDS THESE GPS RECORDS SEE NO

F

TABLES

Table 1 – Laboratory Results of Soil Samples

**TABLE 1a - RCDO 14010 REMINGTON ROAD, IRVINE CA
SOIL ANALYTICAL RESULTS - Arsenic and Lead**

Boring Location	Boring ID	Date Sampled	Sample Depth (feet bgs)	Arsenic mg/kg	Lead mg/kg
Eastern property corner	B-3	03/27/24	0.5	9.680	16.6
West centra portion of property	B-7	03/27/24	0.5	7.890	7.25
Southwestern corner of property	B-11	03/27/24	0.5	7.410	5.04
Eastern portion of property	C1 (B1, B2, B3, B4 Composite Sample)	03/27/24	0.5	---	---
West central and southeastern portion of property	C2 (B5, B6, B7, B8 Composite Sample)	03/27/24	0.5	---	---
Southwestern corner of property	C3 (B9, B10, B11, B12 Composite Sample)	03/27/24	0.5	---	---
Screening Levels for Protection of Human Health	DTSC-SLr		NA	12	NA
	EPA-RSLr		NA	6	80
Screening Levels for Protection of Groundwater	SFRWQCB-ESLgw (ug/L)		NA	10	2.5

Notes:

Boring ID - boring identification

feet bgs - feet below the ground surface

mg/kg - milligrams per kilogram

OCP - Organochloride Pesticide

* - sum of 4,4'-DDE an 4,4'- DDT, mg/kg

OPP - Organophosphorus Pesticide

--- - not analyzed in this sample

NA - not applicable/not available

ND - not detected at or above the laboratory detection limit provided

DTSC-SL - Department of Toxic Substances Control Human Health Risk Assessment (HHRA) Note Number 3, residential soil screening levels, dated June 2020, revised May 2022

EPA-RSL - EPA Regional Screening Levels, screening levels for resident soil, dated May 2022

SFRWQCB-ESL - San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, dated January 2019

SFRWQCB-ESLgw - SFRWQCB-ESL for Leaching to Groundwater Levels (Drinking Water)

**TABLE 1b - RCDO 14010 REMINGTON ROAD, IRVINE CA
SOIL ANALYTICAL RESULTS - Pesticides**

Boring Location	Boring ID	Date Sampled	Sample Depth (feet bgs)	Pesticides	Pesticides
				OCPs (mg/kg)	OPPs (mg/kg)
Eastern property corner	B-3	03/27/24	0.5	---	---
West central portion of property	B-7	03/27/24	0.5	---	---
Southwestern corner of property	B-11	03/27/24	0.5	---	---
Eastern portion of property	C1 (B1, B2, B3, B4 Composite Sample)	03/27/24	0.5	4,4'-DDE 0.020	ND<0.05
Eastern portion of property	C1 (B1, B2, B3, B4 Composite Sample)	03/27/24	0.5	4,4'-DDT 0.023	ND<0.05
West central and southeastern portion of property	C2 (B5, B6, B7, B8 Composite Sample)	03/27/24	0.5	ND<0.05	ND<0.05
Southwestern corner of property	C3 (B9, B10, B11, B12 Composite Sample)	03/27/24	0.5	ND<0.05	ND<0.05
Screening Levels for Protection of Human Health	DTSC-SLr		NA	4,4-DDE 2.0 4,4-DDT 1.9	NA
	EPA-RSLr		NA	4,4-DDE 23 4,4-DDT 37	NA
Screening Levels for Protection of Groundwater	SFRWQCB-ESLgw (ug/L)		NA	4,4-DDE 0.00059 4,4-DDT 0.00059	NA

Notes:

Boring ID - boring identification

feet bgs - feet below the ground surface

mg/kg - milligrams per kilogram

OCP - Organochloride Pesticide

--- - not analyzed in this sample

NA - not applicable/not available

ND - not detected at or above the laboratory detection limit provided

DTSC-SL - Department of Toxic Substances Control Human Health Risk Assessment (HHRA) Note Number 3, residential soil screening levels, dated June 2020, revised May 2022

EPA-RSL - EPA Regional Screening Levels, screening levels for residential soil, dated May 2022

SFRWQCB-ESL - San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, dated January 20

SFRWQCB-ESLgw - SFRWQCB-ESL for Leaching to Groundwater Levels (Drinking Water)

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION



Photograph 1: View of subject property building looking south.



Photograph 2: View of outbuildings north of the main church building on the subject property.



Photograph 3: View of additional outbuildings north of the church on the subject property.



Photograph 4: View of sign on NW corner of subject property.



Photograph 5: View of the interior of the main church building on the subject property.



Photograph 6: Storage of retail sized chemicals for cleaning and maintenance.



Photograph 7: View of typical storm drain on the subject property.



Photograph 8: View of potential well (round object in front of trees) on the subject property.



Photograph 9: Close up view of potential well cover on the subject property.



Photograph 10: View of an apparent previous boring performed on the subject property.



Photograph 11: View of pad mounted transformer on subject property.



Photograph 12: Roll-off box on subject property, which contains minor amounts of bagged waste, two trash cans, and assorted waste cardboard.



Photograph 13: View of interior of trash enclosure that adjoins the site of the roll-off box. The enclosure contains dumpsters for the disposal of site waste.



Photograph 14: Typical view of patched asphalt that was cored during the performance of the Phase II ESA for the subject property. This is one of 12 cored locations on the subject property.

APPENDIX B
USER PROVIDED INFORMATION

USER ENVIRONMENTAL QUESTIONNAIRE

INTRODUCTION

As noted in ASTM E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process the following questions are required "In order to qualify for one of the Landowner Liability Protections (LLPs)¹⁸⁷ offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"),¹⁸⁸ the user must conduct the following inquiries required by 40 CFR §§ 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The user should provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that "all appropriate inquiries" is not complete."

NAME: Roman Catholic Bishop of Orange (RCBO) (Doug Woodward or Rich Salmon on behalf of RCBO)

BUSINESS TITLE: _____

RELATIONSHIP TO SUBJECT PROPERTY: Owner

SUBJECT PROPERTY ADDRESS: 14010 Remington, Irvine, CA

APN and LOT SIZE: 529-401-01 6 Ac

DATE OF PURCHASE/OCCUPANCY: Purchased 7/29/1983, Occupied 2000

SUBJECT PROPERTY DESCRIPTION (ie, number buildings, date constructed, use, building sizes, utilities):

1 Building consisting of apx 7,128/sf, constructed in 2000. Normal utilities provided in the area serve the property

1.) Environmental liens that are filed or recorded against the subject property (40 C.F.R. § 312.25).

Did a search of recorded land title records (or judicial records where appropriate, see Note 1 below) identify any environmental liens filed or recorded against the subject property under federal, tribal, state or local law?

Property was deeded to RCBO from Irvine Company as vacant land.

We know of no environmental liens other than the groundwater well easement

NOTE 1 — In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

2.) Activity and use limitations that are in place on the subject property or that have been filed or recorded against the subject property.

Did a search of recorded land title records (or judicial records where appropriate, see Note 1 above) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the subject property and/or have been filed or recorded against the subject property under federal, tribal, state or local law?

RCBO operates under a CUP for the site as a religious designation

3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 C.F.R. § 312.28).

Do you have any specialized knowledge or experience related to the subject property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

N/A

4.) Relationship of the purchase price to the fair market value of the subject property if it were not contaminated (40 C.F.R. § 312.29).

Does the purchase price being paid for this subject property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject property?

N/A

5.) Commonly known or reasonably ascertainable information about the subject property (40 C.F.R. § 312.30).

Are you aware of commonly known or reasonably ascertainable information about the subject property that would help the environmental professional to identify conditions indicative of releases or threatened releases?

For example,

(a.) Do you know the past uses of the subject property?

Vacant Land from our knowledge

(b.) Do you know of specific chemicals that are present or once were present at the subject property?

don't know

(c.) Do you know of spills or other chemical releases that have taken place at the subject property?

don't know

(d.) Do you know of any environmental cleanups that have taken place at the subject property?

don't know

6.) The degree of obviousness of the presence or likely presence of contamination at the subject property, and the ability to detect the contamination by appropriate investigation (40 C.F.R. § 312.31).

Based on your knowledge and experience related to the subject property are there any obvious indicators that point to the presence or likely presence of releases at the subject property?

Don't know

To the best of my knowledge and belief, all information contained herein is true and complete.

SIGNATURE: _____

DATE: _____

Thank you for taking the time to complete the above USER ENVIRONMENTAL QUESTIONNAIRE. Below is ENERCON's standard checklist, as dictated by the ASTM E1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, used at the time of site reconnaissance. Please, provide details pertaining to these listed items, if known prior to the site inspection. Your assistance is much appreciated. If you have any questions, feel free to contact me.

Observations	No	Yes	Details
Hazardous Substances and Petroleum Products in Connection with Identified Uses — ☐ materials ☐ locations ☐ container sizes: drums, 5-gallon, 1-gallon, pint, spray cans ☐ quantity ☐ secondary containment ☐ evidence of spills/leaks	X		
Storage Tanks — Underground Storage Tanks (USTs) ☐ # of tanks ☐ locations ☐ capacities ☐ contents ☐ construction material ☐ are they double walled ☐ type of monitoring systems ☐ testing information ☐ permits	X		
Storage Tanks — Aboveground Storage Tanks (ASTs) ☐ # of tanks ☐ locations ☐ capacities ☐ contents ☐ construction material ☐ secondary containment ☐ permits	X		
Fuel Islands and Dispensers — ☐ number of dispensers ☐ locations ☐ number of nozzles ☐ equipped with vapor recovery systems ☐ UST or AST	X		
Drums, Totes, and Intermediate Bulk Containers — ☐ # of drums, totes, containers ☐ locations ☐ capacities ☐ contents ☐ construction material ☐ secondary containment	X		



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Observations	No	Yes	Details
Hazardous Substance and Petroleum Products Containers (Not Necessarily in Connection with Identified Uses) — ☐ materials ☐ locations ☐ container sizes: drums, 5-gallon, 1-gallon, pint, spray cans ☐ quantity ☐ secondary containment ☐ evidence of spills/leaks	X		
Unidentified Substance Containers — ☐ locations ☐ container sizes: drums, 5-gallon, 1-gallon, pint, spray cans ☐ quantity ☐ evidence of spills/leaks	X		
Drains — ☐ exterior ☐ interior (floor drains)	X		
Sumps — ☐ lined ☐ dimensions	X		
Clarifier, Waste Water Treatment Units, or Sewer Interceptors — ☐ lined ☐ dimensions	X		
Pits — ☐ dimensions	X		
Septic Systems — ☐ on-site septic systems ☐ cesspools	X		
Ponds, Lagoons, Wetlands —	X		
Stressed Vegetation —	X		
Herbicide or pesticide use —	X		

Observations	No	Yes	Details
Solid Waste — ☐ areas that are apparently filled or graded by non-natural causes (or filled by fill of unknown origin) suggesting trash construction debris, demolition debris, or other solid waste disposal, or mounds or depressions suggesting trash or other solid waste disposal.	X		
Odors — ☐ strong, pungent, noxious ☐ source	X		
Standing Surface Water —	X		
Pools of Liquid —	X		
Stains or Corrosion on Floors, Walls, or Ceilings —	X		
Stained Soil or Pavement —	X		
Wastewater — ☐ any discharge into a drain, ditch, underground injection system, or stream on or adjacent to the subject property shall be described in the report.	X		
Potable Water Source —	X		
Wells — ☐ dry wells ☐ irrigation wells ☐ injection wells ☐ abandoned wells ☒ groundwater monitoring wells ☐ septic wells ☐ oil wells ☐ gas wells ☐ domestic water wells ☐ vapor recovery wells ☐ other types		X	Well No. TIC-41 was destructed in 2003, active groundwater monitoring well No. IDM-3. Information Attached
PCBs — ☐ electrical ☐ hydraulic equipment known to contain PCBs or likely to contain PCBs	X		

Observations	No	Yes	Details
Hydraulic Lifts — ☐ in-ground ☐ above-ground			
Heating/Cooling — ☐ The means of heating and cooling the buildings on the subject property, including the fuel source for heating and cooling, shall be identified in the report (for example, heating oil, gas, electric, radiators from steam boiler fueled by gas)			
Railroad tracks or spurs —	X		
Chemical Processing — ☐ photo ☐ printing ☐ x-rays	X		
Dry Cleaning Operation — ☐ # machines ☐ location machines ☐ fuel source ☐ single-sourced site ☐ multi-sourced plant	X		

NAME: Jeff Geremia

SIGNATURE: *Jeff Geremia*

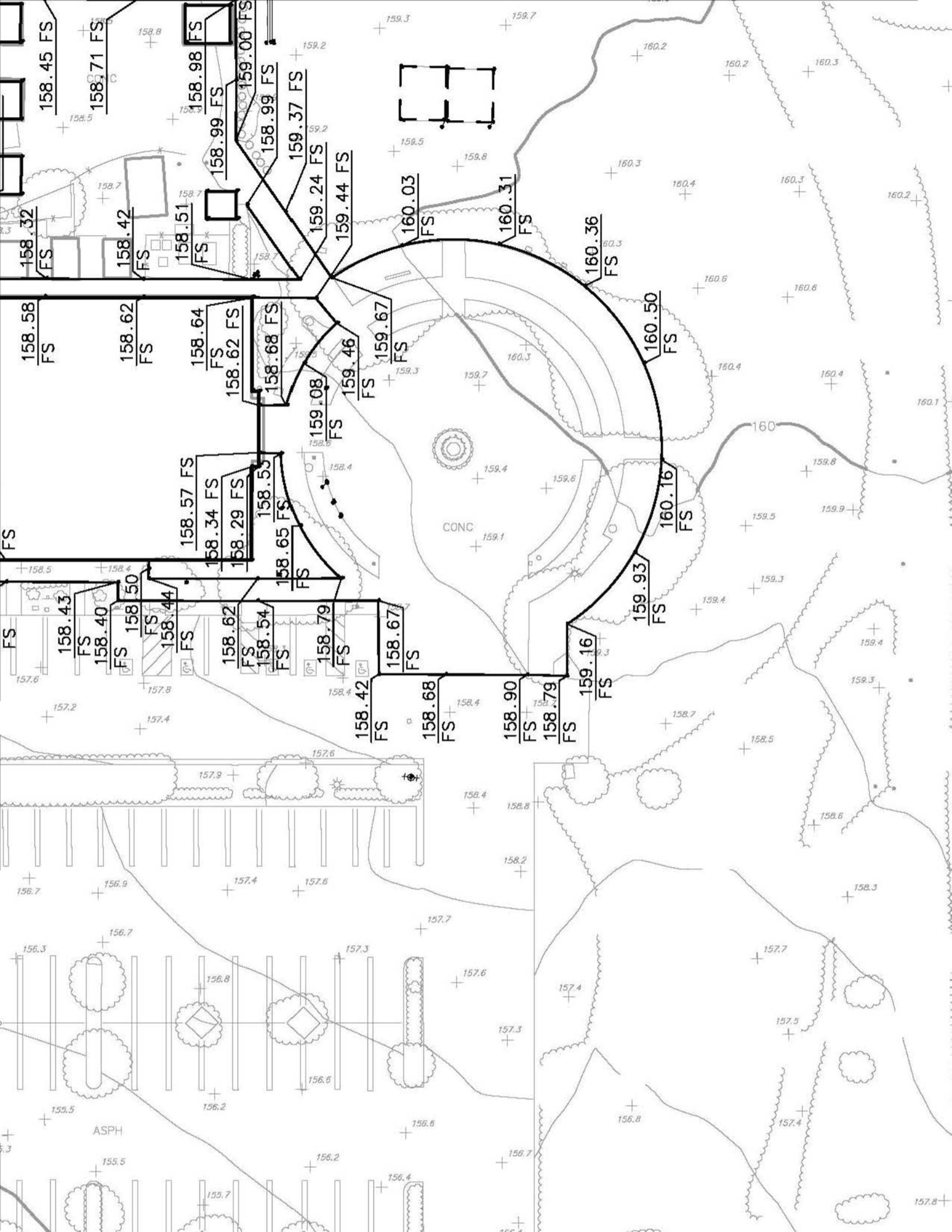
DATE: 4/3/24



3-Story 8-Plex,

Pocket Park

15 Setback to
Local Street



Directors

PHILIP L. ANTHONY
WES BANNISTER
KATHRYN L. BARR
DENIS R. BILODEAU
RICHARD CHAVEZ
PAUL COOK
JAN DEBAY
BRETT FRANKLIN
LAWRENCE P. KRAEMER JR.
SHAWN NELSON



Officers

DENIS R. BILODEAU
President
PHILIP L. ANTHONY
First Vice President
BRETT FRANKLIN
Second Vice President
VIRGINIA GREBBIEN
General Manager
JANICE DURANT
District Secretary

ORANGE COUNTY WATER DISTRICT

Orange County's Groundwater Authority

July 2, 2003

Roman Catholic Bishop of Orange
2811 E. Villa Real Dr.
Orange, CA 92863

Re: Well Destruction Report

ST. THOMAS MORE

Enclosed please find the 'owners copy' of the well completion report for the destruction of your well located on the corner of Remington and Trabuco in Irvine. The original has been sent to The Department of Water Resources and the 'drillers copy' was sent to the driller. If you have any questions or comments, please do not hesitate to contact me at (714) 378-3227 or via email at lmccconnell@ocwd.com.

Sincerely,

Lynn McConnell
Administrative Support Specialist
Orange County Water District
10500 Ellis Ave.
Fountain Valley, CA. 92708

Enclosures

Permit No. 03-04-49

No. 505933

Ended HEALTH CARE AGENCY

Permit Date **4-29-03**

DWR USE ONLY - DO NOT FILL IN											
0	5	8	0	9	W	3	6	B	0	0	1
STATE WELL NO./STATION NO.											
LATITUDE						LONGITUDE					
APN/TRS/OTHER											

WELL OWNER

[illegible]

CERTIFICATION STATEMENT

- ☐ Geologic Log
☐ Well Construction Diagram
☐ Geophysical Log(s)

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME _____
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

Lily Funk

From: Phil Ries
Sent: Monday, September 11, 2006 3:26 PM
To: Theresa Nault-St. Thomas More Catholic Church
Cc: Doug Fisher; Joe Novoa; Mickie Schinderle; Lily Funk; JoAnn Davis; jjanze@stmore-i.org
Subject: RE: Post Const. Best Practices Self Verification

Thanks Theresa,

I appreciate your getting this back into shape.

All the best,

Phil

-----Original Message-----

From: Theresa Nault-St. Thomas More Catholic Church [mailto:tnault@stmore-i.org]
Sent: Monday, September 11, 2006 2:57 PM
To: Phil Ries
Cc: Doug Fisher; Joe Novoa; Mickie Schinderle; Lily Funk; JoAnn Davis; jjanze@stmore-i.org
Subject: Post Const. Best Practices Self Verification

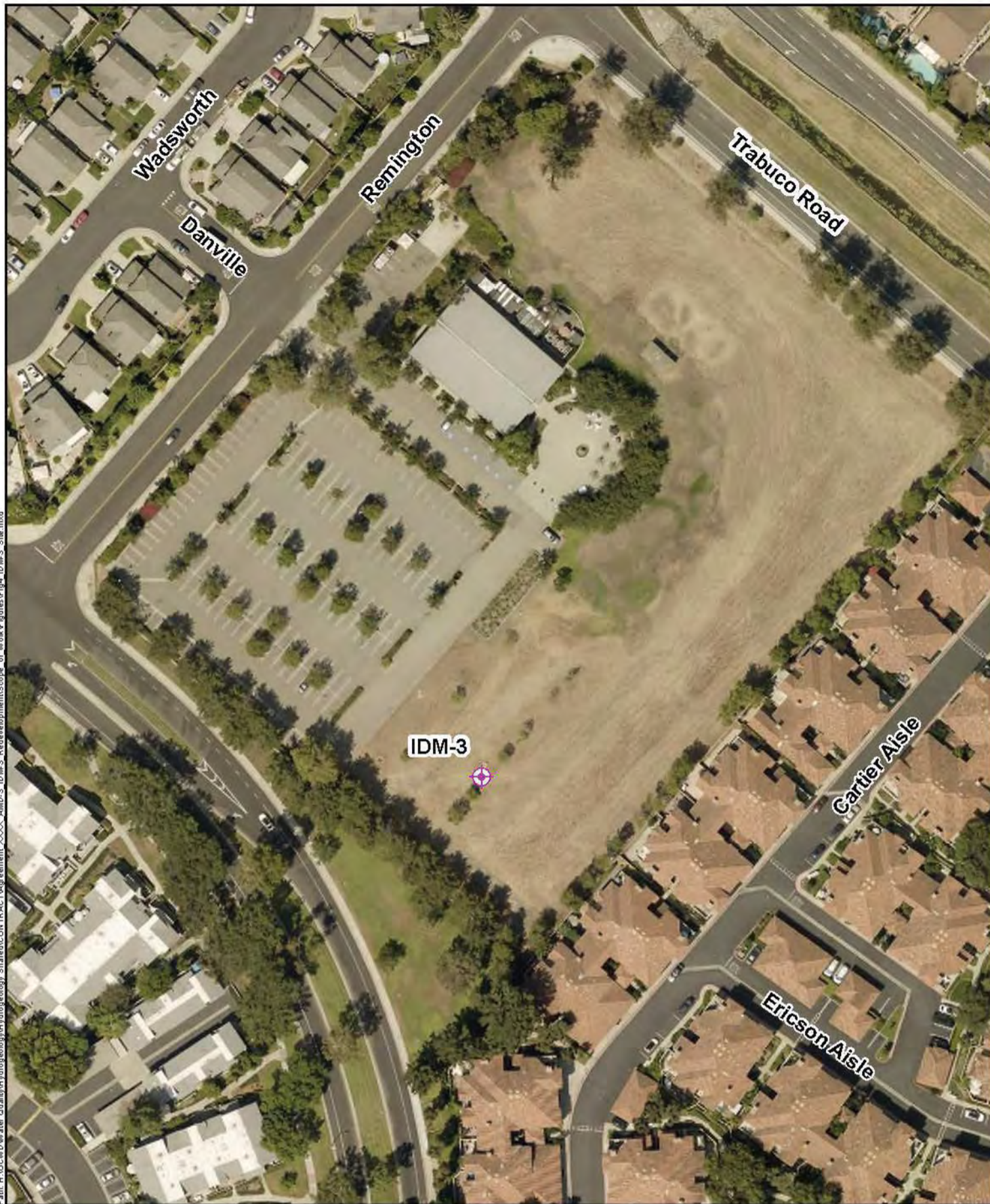
This is in response to your memo dated 8-17-2006 re.the above subject matter:

We have obtained a copy of the Basic Management Practices and are in compliance. Per my conversation with Joann Davis, I will FAX a letter with Fr. John's signature saying we are in compliance.

I have also notified the City of Irvine, Water Quality Engineer, to send all future correspondences to the attention of Fr. John Janze, St. Thomas More regarding future self verification reports as opposed to the Bishop's attention.

If any of you would like a copy of the BEST MNGT. PRACTICES for STM please notify me and I will send you a copy; it is 43 pages so I will not mail copies unless requested.

In Christ,
Theresa Nault
Bus. Mgr.



Nesting Monitoring Well

AMD-3 Site
Private Property Irvine CA

Figure 4

Recording Requested by and when
Recorded Mail this Deed and Mail
Tax Statement to:

ORANGE COUNTY WATER DISTRICT
10500 Ellis Avenue
P. O. Box 8300
Fountain Valley, CA 92728-8300

Exempt from Fee--Public Agency
(Government Code Section 6103)

Recorded in Official Records, County of Orange
Tom Daly, Clerk-Recorder

NO FEE
2003000273560 08:11am 03/13/03
117 80 E01 8
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

SPACE ABOVE FOR RECORDER'S USE ONLY

DEC - 5 2002

EASEMENT DEED
Monitoring Well Site IDM-3

FOR A VALUABLE CONSIDERATION, the receipt and adequacy of which is hereby acknowledged,

THE ROMAN CATHOLIC BISHOP OF ORANGE, a corporation sole, ("Grantor" herein),

hereby GRANTS AND CONVEYS to the

ORANGE COUNTY WATER DISTRICT, a political subdivision of the State of California ("Grantee" herein), and its successors and assigns,

a non-exclusive perpetual easement "Parcel 1" herein and an operations and maintenance easement "Parcel 2" herein and right-of-way. Parcel 1 shall be for monitoring well IDM-3, to install, construct, reconstruct, redevelop, remove and replace, inspect, maintain, operate, improve a monitoring well with incidental appurtenances and structures, on, along and under the real property situated in the City of Irvine, County of Orange, State of California, and more particularly described in Exhibits "A" and "B" to this deed, including ingress and egress to the easements from the nearest public right-of-way. It is agreed that Grantor is granting the easements described herein for monitoring well IDM-3 in exchange for the proper abandonment of inactive well TIC-41 by the Grantee in accordance with all governmental standards.

The rights being granted herein include the right to enter from the nearest public right-of-way to the easements and to deposit tools, implements and other materials thereon for use on the site by Grantee or its successors and assigns, its officers, agents and employees, and by persons or entities under contract with Grantee, its successors and assigns, wherever and whenever necessary for the purpose of constructing, reconstructing, redeveloping, renewing, inspecting, maintaining, repairing, using and operating monitoring well IDM-3. Grantee agrees, except for emergencies, that all work and equipment on the site shall be on Monday through Friday, 8AM to 5PM only.

The operations and maintenance easement, Parcel 2 herein, is for the purpose of redeveloping or refurbishing the well and access to the well site. It is anticipated that the well will periodically require the use of a well development/pump rig to perform this maintenance.

RECORD NO. 4826
OCWD DOC. R03-1-5 A
Filed w/ R03-1-5 B

The maintenance easement is required for well redevelopment or refurbishment approximately every ten years, however due to the nature of water wells, this period may be more or less. Grantee shall notify Grantor at least 30 days in advance of any maintenance using a well development/pump rig and the days and hours of use shall be limited as set forth above. Access to the well site shall be on a daily basis.

It is understood and agreed that the easements and right-of-way granted herein are subject to the rights of Grantor, its successors and assigns to use the surface of the land within the boundaries of the easements in any and all ways not inconsistent with the non-exclusive rights granted hereby, provided, however, that no buildings or structures shall be constructed, installed or situated within ten (10) feet of the easements, and provided further, that no earth be removed from the cover of the permanent easement, Parcel 1 herein. Specifically, Grantor contemplates using the operations and maintenance easement for parking.

Grantee shall indemnify, defend and hold Grantor, its agents, representatives, directors, officers, or employees harmless from and against any actions, claims, damages to persons or property, obligations or liabilities that may be asserted or claimed by any person or entity in connection with any of the rights granted to Grantee under this Easement Deed, including payment of reasonable legal expenses. At Grantor's request certificates of insurance in commercially reasonable amounts shall be furnished.

Grantee shall restore and landscape any area disturbed during construction or well redevelopment, including relocation of any lights or irrigation systems, to that condition that existed prior to the construction or well redevelopment.

This easement and the provisions contained herein shall be binding upon and inure to the benefit of Grantor, Grantee, and their respective heirs, executors, administrators, personal representatives, successors and assigns.

These easements shall terminate at such time as IDM-3 is no longer used for a monitoring well and Grantee shall take all necessary actions to abandon it, at its sole cost and expense. At such time, Grantee shall record a quit claim deed to Grantor of its rights hereunder.

Any structures shall be below grade or at grade. Grantor shall have the right, with the consent of Grantee, which consent shall not be unreasonably withheld, to relocate the specific location of the operations and maintenance easement, Parcel 2 herein.

//
//
//

IN WITNESS WHEREOF, this instrument has been executed on 12/18/, 2002.

GRANTOR

**THE ROMAN CATHOLIC
BISHOP OF ORANGE**, a corporation sole

By: [Signature], V.G.
Its: Vicar General

By: N/A per Adam Hutchinson
Its:

GRANTEE

ORANGE COUNTY WATER DISTRICT,
a political subdivision of the State of California
organized under Chapter 924 of the Statutes of 1933, as
amended

By: [Signature]
President

By: [Signature]
General Manager

APPROVED AS TO FORM:

By: [Signature]
General Counsel, Orange
County Water District

EXHIBIT 'A'

ORANGE COUNTY WATER DISTRICT

THOSE PORTIONS OF PARCEL 1 OF PARCEL MAP NO. 82-0608 IN THE CITY OF IRVINE, COUNTY OF ORANGE, STATE OF CALIFORNIA AS SHOWN ON THE MAP FILED IN BOOK 177, PAGES 37 THROUGH 39, INCLUSIVE, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BEING MORE PARTICULARLY DESCRIBED IN PARCELS AS FOLLOWS:

PARCEL 1 (PERMANENT EASEMENT)

COMMENCING AT THE MOST SOUTHERLY CORNER OF SAID PARCEL; THENCE NORTH 89°21'37" WEST 117.79 FEET ALONG THE SOUTHWESTERLY LINE OF SAID PARCEL; THENCE NORTH 40°38'23" EAST 63.94 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "A"; THENCE CONTINUING NORTH 40°38'23" EAST 25.00 FEET TO A POINT, SAID POINT BEING THE TRUE POINT OF BEGINNING; THENCE THE FOLLOWING COURSES: NORTH 49°21'37" WEST 5.00 FEET, NORTH 40°38'23" EAST 10.00 FEET, SOUTH 49°21'37" EAST 10.00 FEET, SOUTH 40°38'23" WEST 10.00 FEET AND NORTH 49°21'37" WEST 5.00 FEET TO THE TRUE POINT OF BEGINNING.

THE AREA OF THE ABOVE DESCRIBED PARCEL IS 100 SQUARE FEET.

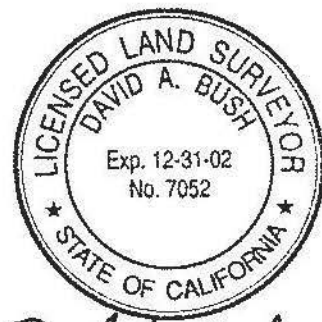
PARCEL 2 (OPERATIONS AND MAINTENANCE EASEMENT)

BEGINNING AT POINT "A" REFERRED TO HEREINBEFORE; THENCE THE FOLLOWING COURSES: NORTH 49°21'37" WEST 45.00 FEET, NORTH 40°38'23" EAST 60.00 FEET, SOUTH 49°21'37" EAST 90.00 FEET, SOUTH 40°38'23" WEST 60.00 FEET AND NORTH 49°21'37" WEST 45.00 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING WITHIN PARCEL 1 AS DESCRIBED ABOVE.

THE AREA OF THE ABOVE DESCRIBED PARCEL IS 5,300 SQUARE FEET.

ALL AS SHOWN ON EXHIBIT 'B' ATTACHED HERETO AND MADE A PART HEREOF.



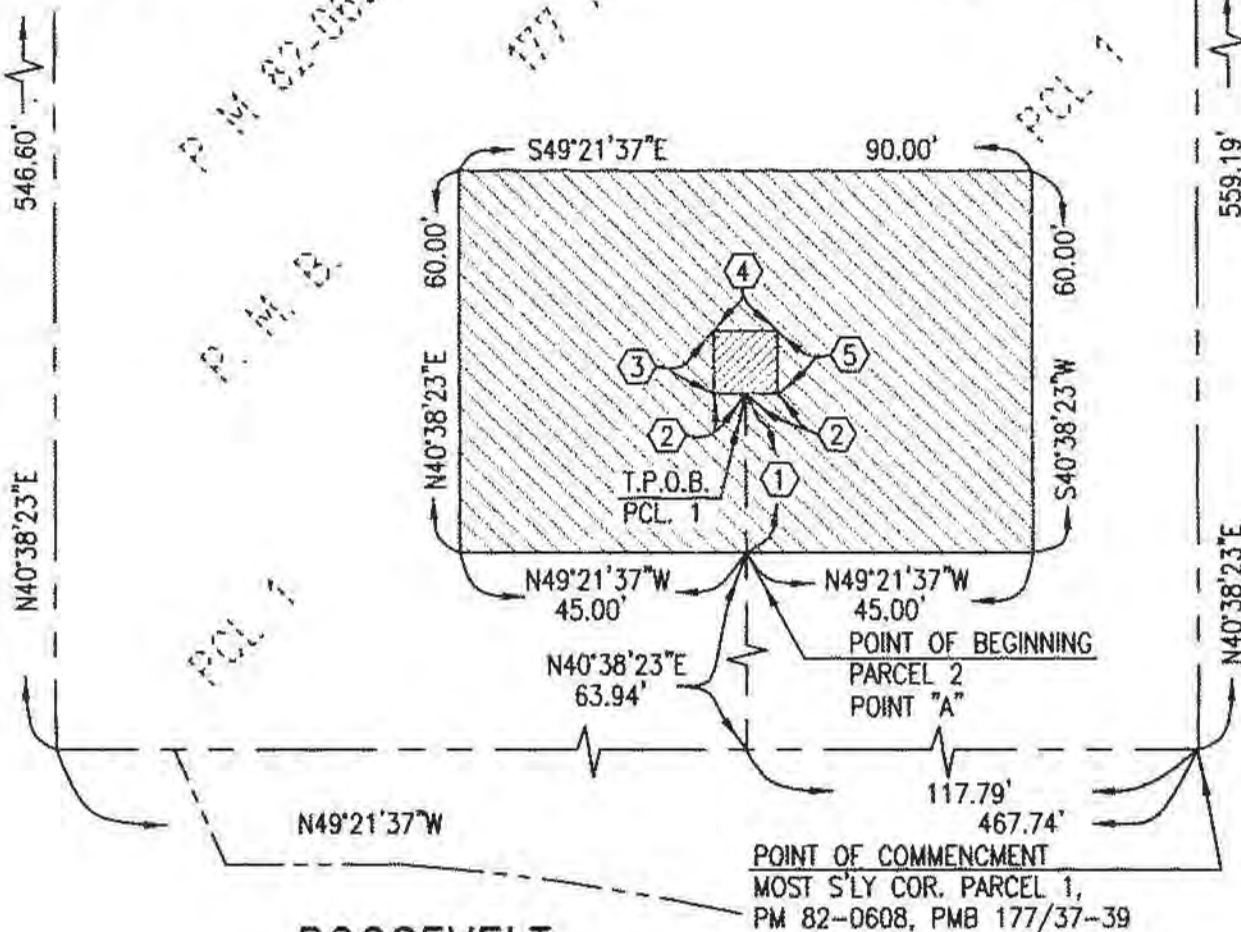
David A. Bush
11-18-02

EXHIBIT 'B'

- ①—N40°38'23"E 25.00'
- ②—N49°21'37"W 5.00'
- ③—N40°38'23"E 10.00'
- ④—S49°21'37"E 10.00'
- ⑤—S40°38'23"W 10.00'

SCALE: 1"=30'

REMINGTON



ROOSEVELT

POINT OF COMMENCEMENT
MOST S'LY COR. PARCEL 1,
PM 82-0608, PMB 177/37-39

PERMANENT EASEMENT PCL. 1
AREA = 100 SQ. FT.

OPERATION AND MAINTENANCE EASEMENT PCL. 2
AREA = 5,300 SQ. FT.



David A. Bush

STATE OF CALIFORNIA)
) ss
ORANGE COUNTY)

On December 19, 2002, before me, the undersigned, a Notary Public in and for said State,
personally appeared John W. Bell and _____, I
☒ personally known to me OR ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s)
is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their
authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of
which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Phyllis Soloy
Signature of Notary



[Seal]

STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

On FEBRUARY 18, 2003 before me, the undersigned, a Notary Public in and for said State, personally appeared Denis Bilodeau & Virginia Grebbien, [☒ personally known to me OR ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Janice M. Durant
Signature of Notary

[Seal]



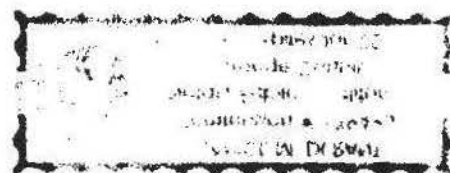
STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

On _____, _____ before me, the undersigned, a Notary Public in and for said State, personally appeared _____, [☐ personally known to me OR ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary

[Seal]



CERTIFICATE OF ACCEPTANCE

(Government Code Section 27281)

THIS IS TO CERTIFY that the interest in real property conveyed by the Deed or Grant dated 12-18, 02 from The Roman Catholic Bishop, to the ORANGE COUNTY WATER DISTRICT, a political subdivision of the State of California, is hereby accepted by the undersigned officer on behalf of the BOARD OF DIRECTORS OF THE ORANGE COUNTY WATER DISTRICT, pursuant to the authority conferred by resolution of the BOARD OF DIRECTORS OF THE ORANGE COUNTY WATER DISTRICT adopted on JANUARY 15, 2003 and the Grantee consents to recordation thereof by its duly authorized officer.

Dated: 1-15-, 2003

BY:

Jane L. Laurant

APPENDIX C
HISTORICAL LAND USE RECORDS



HISTORICAL AERIALS

Project Property: 14010 Remington, Irvine

14010 Remington

Irvine CA 92620

Project No: EG-SHEA-23-8

Requested By: Enercon Services, Inc.

Order No: 24040100864

Date Completed: April 03, 2024

Aerial Maps included in this report are produced by the sources listed above and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property. ERIS provides no warranty of accuracy or liability. The information contained in this report has been produced using aerial photos listed in above sources by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS'. The maps contained in this report do not purport to be and do not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.

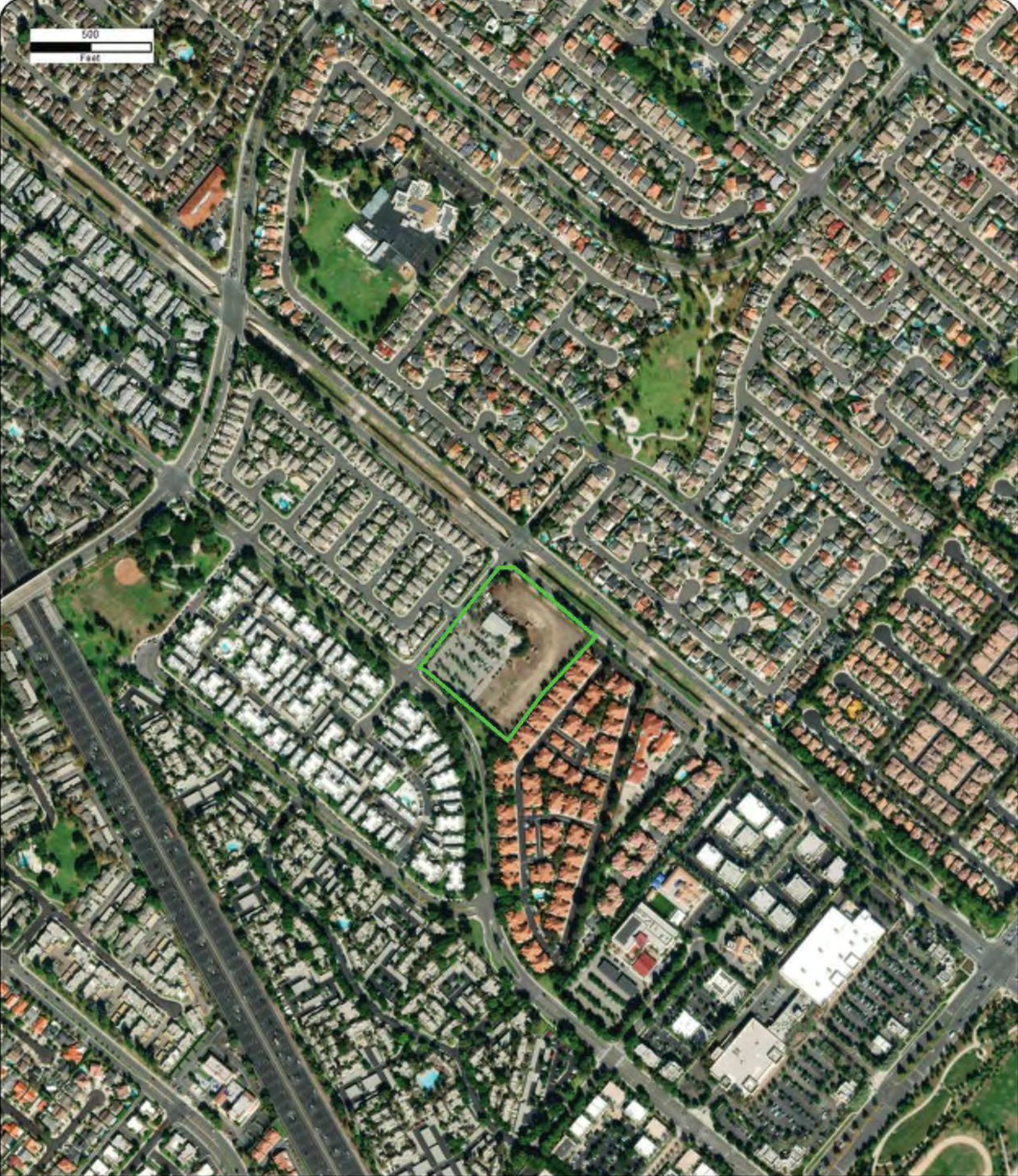
Environmental Risk Information Services

A division of Glacier Media Inc.

1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	Source	Scale	Comments
2023	Maxar Technologies	1" = 500'	
2020	United States Department of Agriculture	1" = 500'	
2018	United States Department of Agriculture	1" = 500'	
2016	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2009	United States Department of Agriculture	1" = 500'	
2002	United States Geological Survey	1" = 500'	
1994	United States Geological Survey	1" = 500'	
1986	Private	1" = 500'	
1980	United States Geological Survey	1" = 500'	
1972	United States Geological Survey	1" = 500'	
1963	United States Geological Survey	1" = 500'	
1952	Agricultural Stabilization & Conserv. Service	1" = 500'	
1947	United States Geological Survey	1" = 500'	
1938	Agricultural Stabilization & Conserv. Service	1" = 500'	

500
Feet

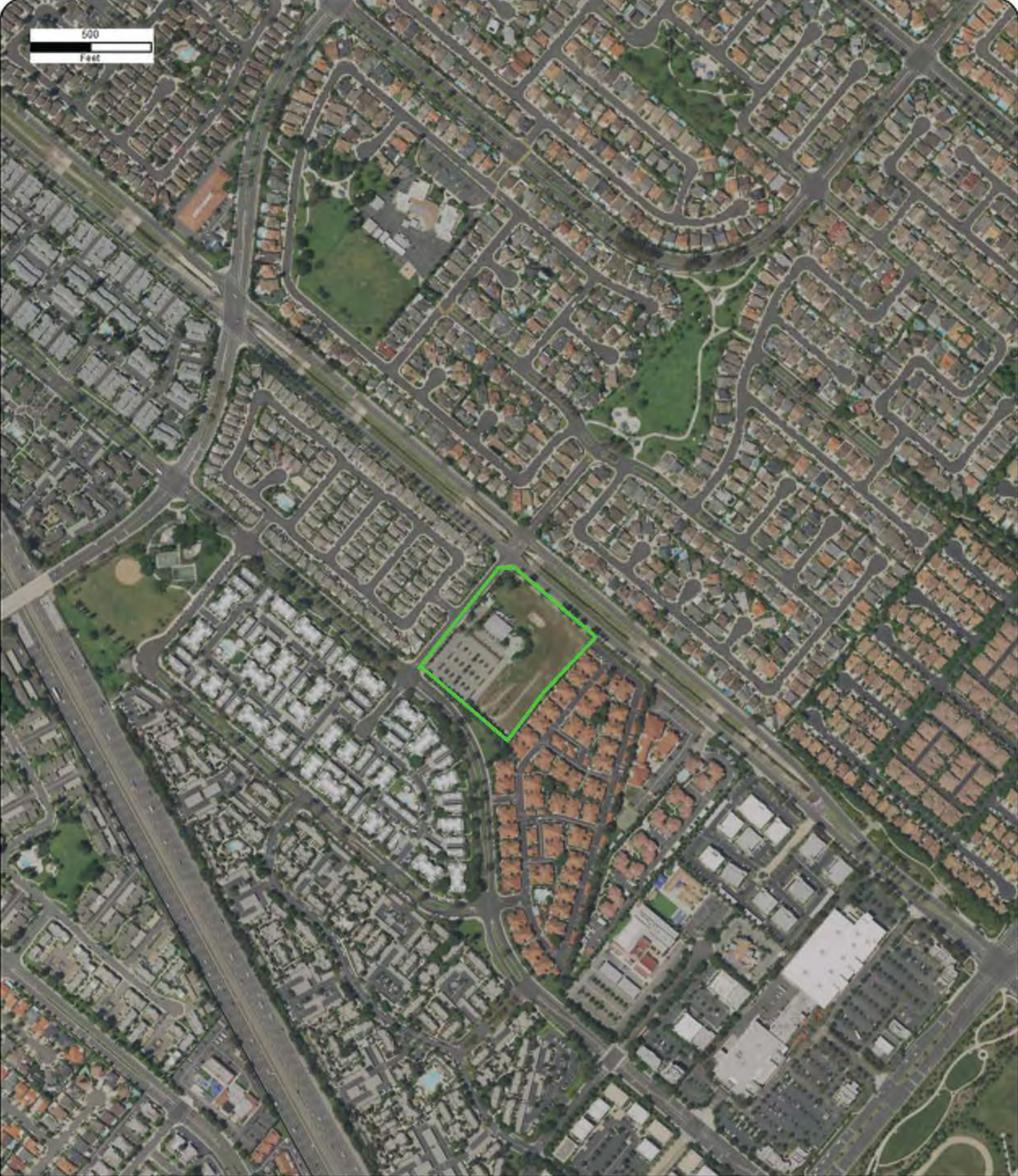
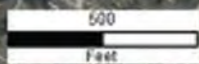


Year: 2023
Source: MAXAR
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864





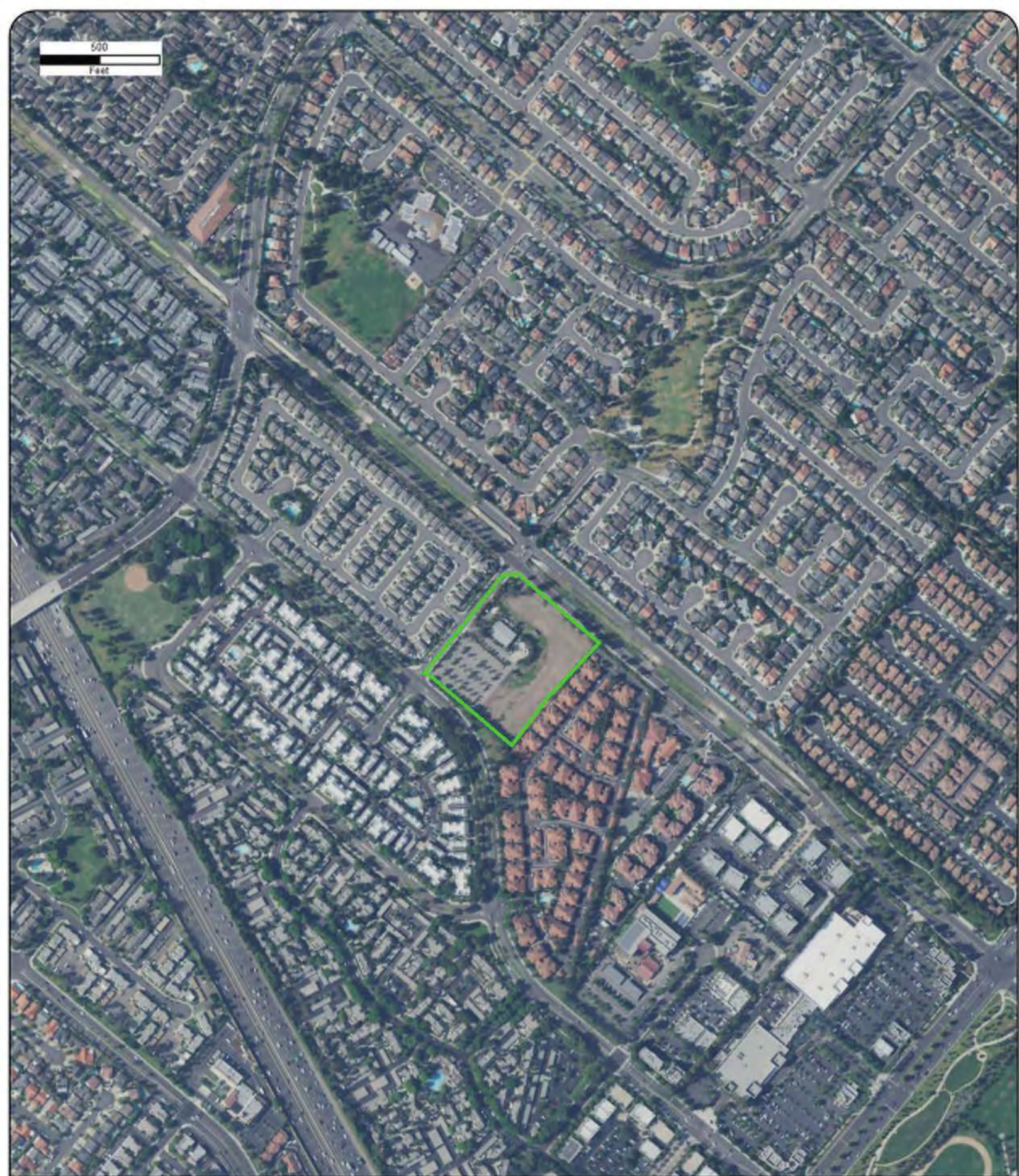
Year: 2020
Source: USDA
Scale: 1" = 500'
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Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



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Feet



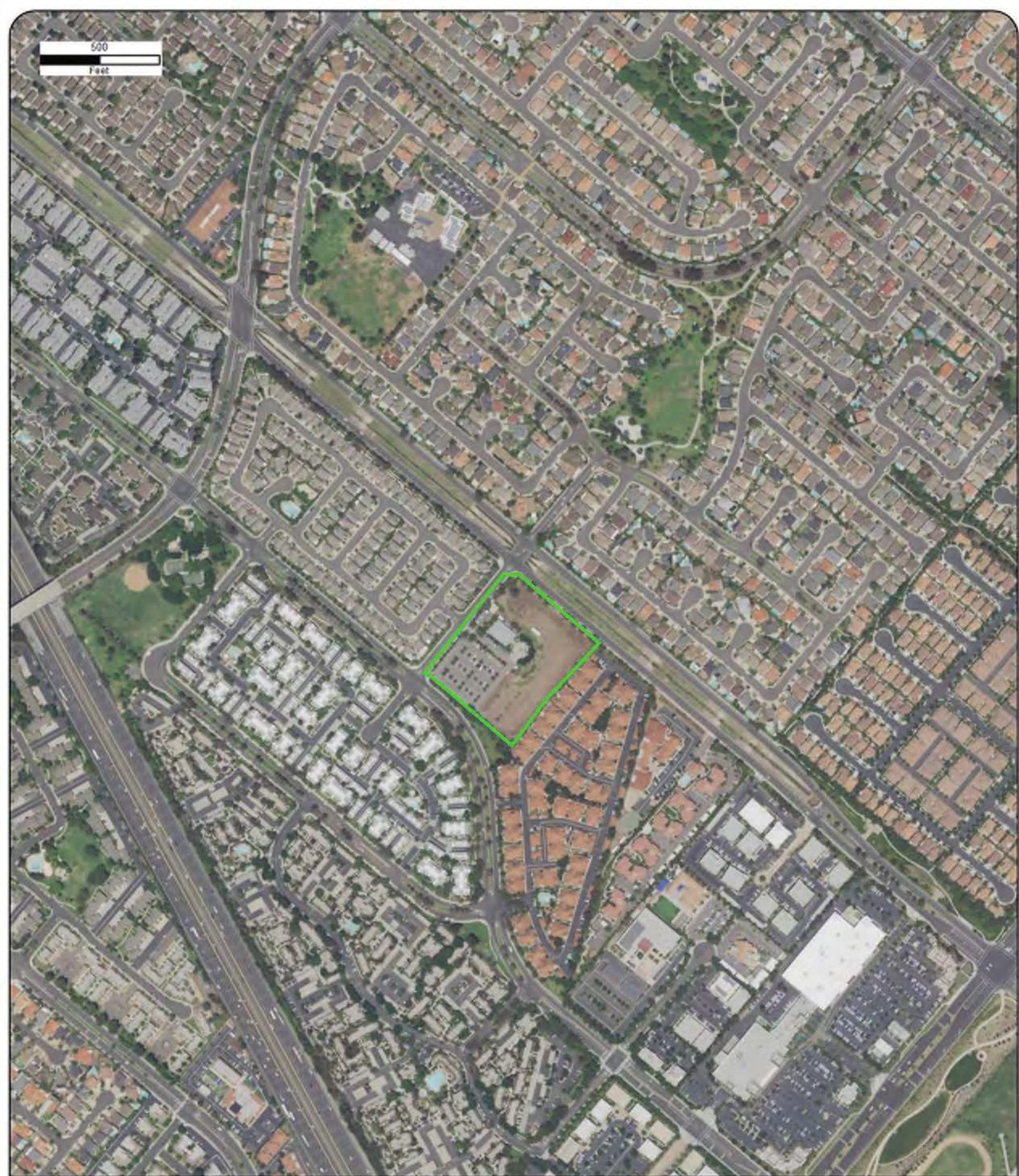
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Source: USDA
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Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



500
Feet



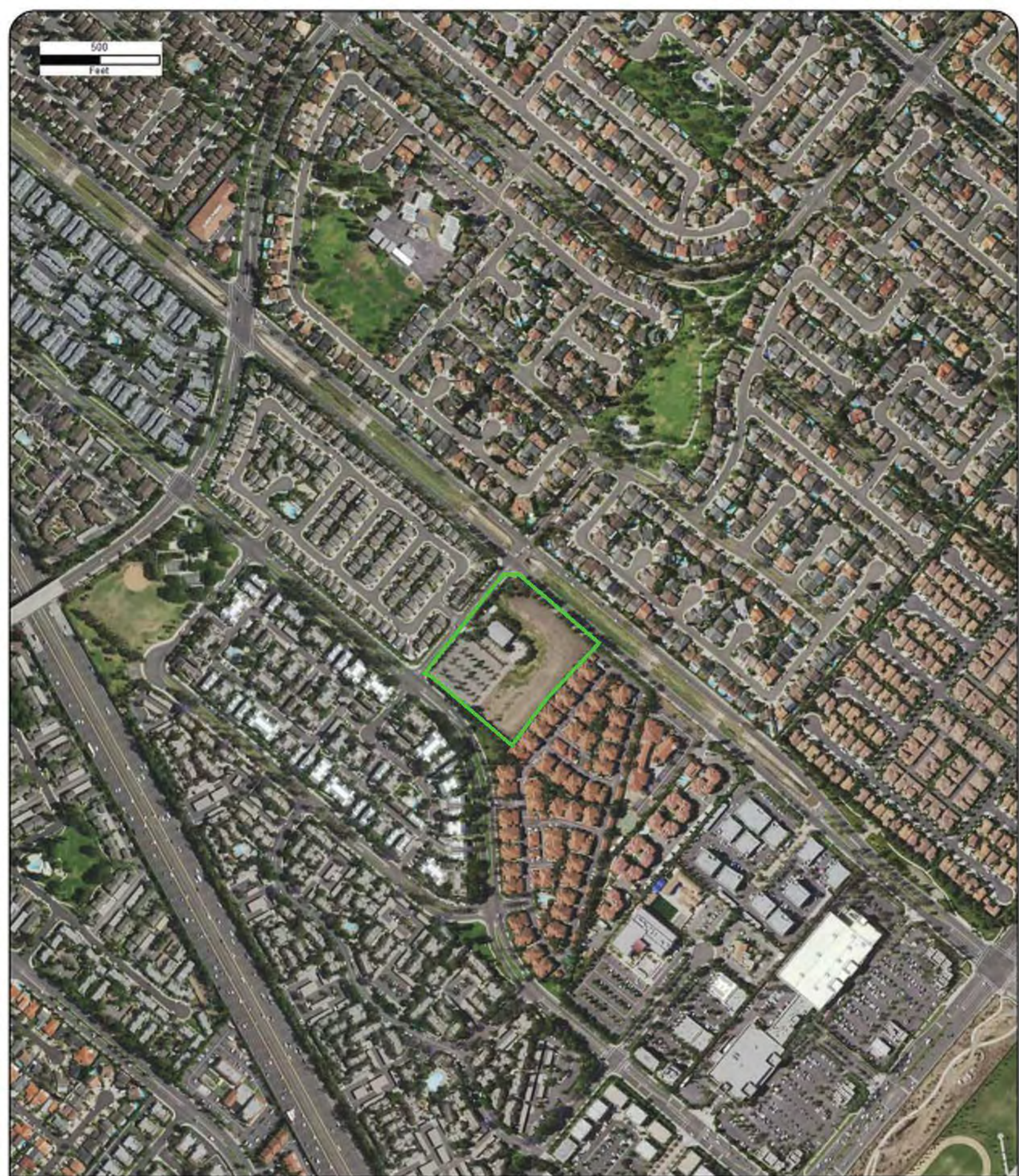
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Order No: 24040100864



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Feet

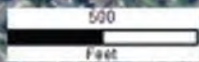


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Source: USDA
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Comment:

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Order No: 24040100864





Year: 2012
Source: USDA
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



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Feet



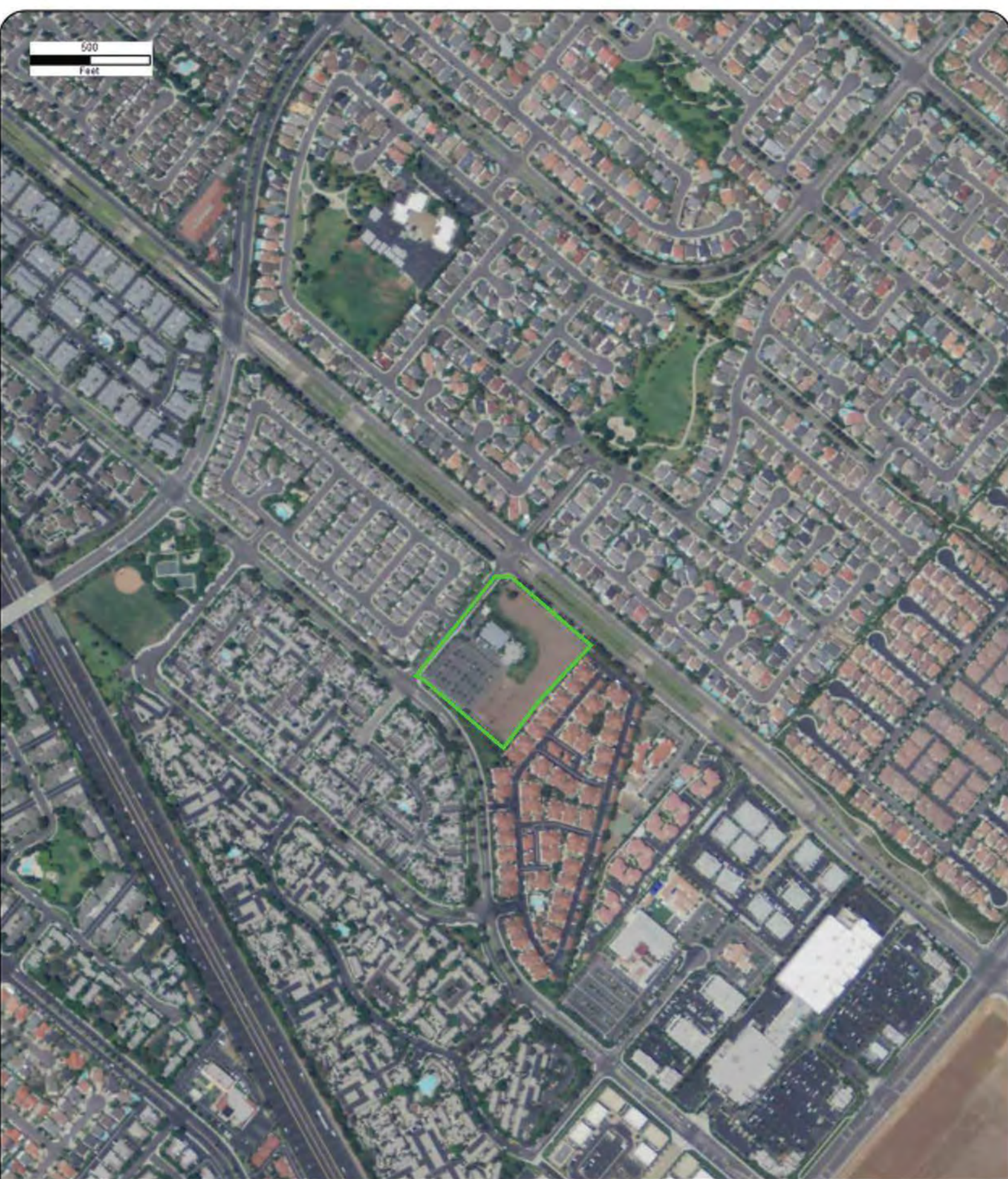
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Order No: 24040100864



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Feet

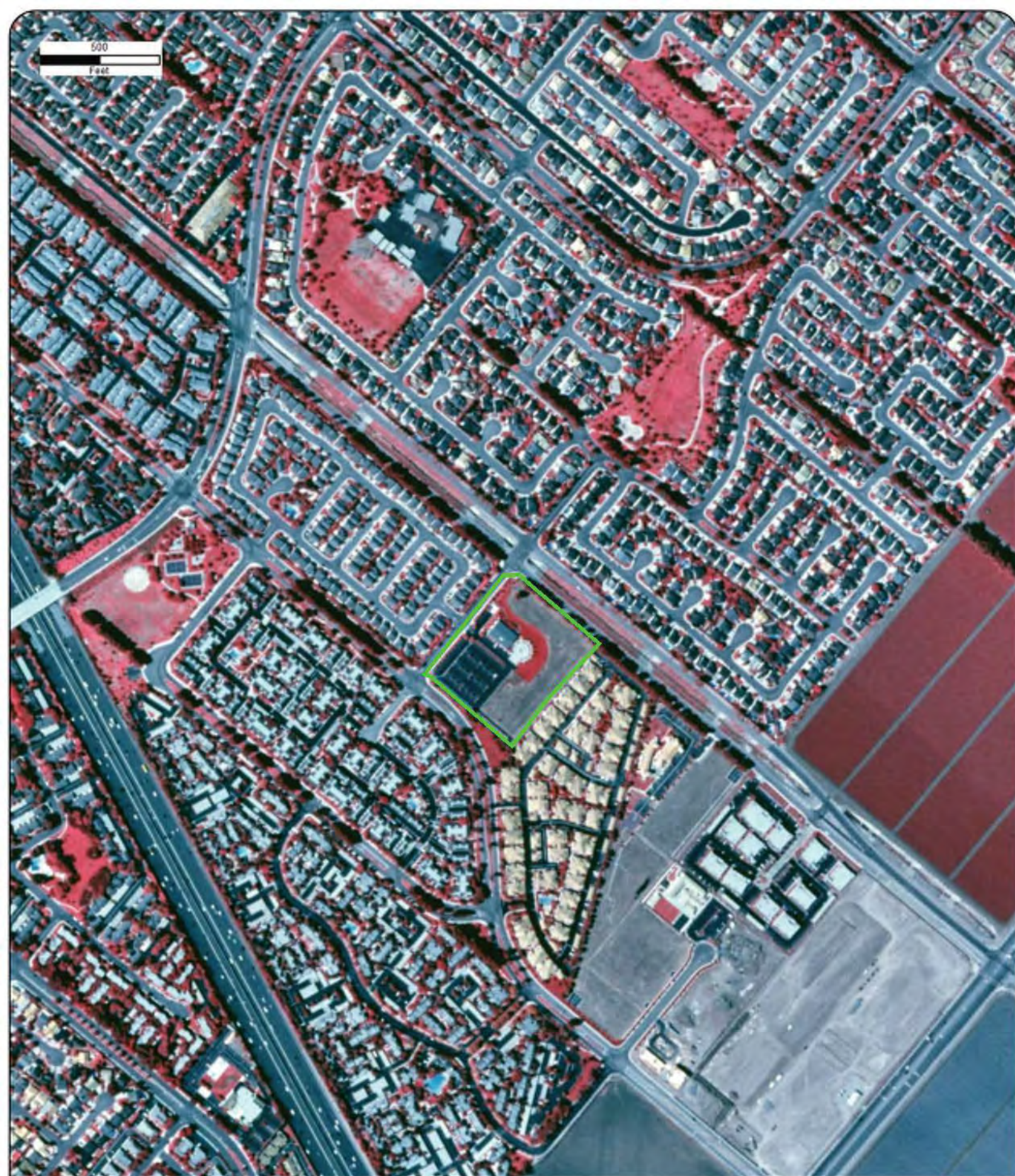


Year: 2009
Source: USDA
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864





Year: 2002
Source: USGS
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864





Year: 1994
Source: USGS
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



500
Feet

Year: 1986
Source: Private
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



500
Feet



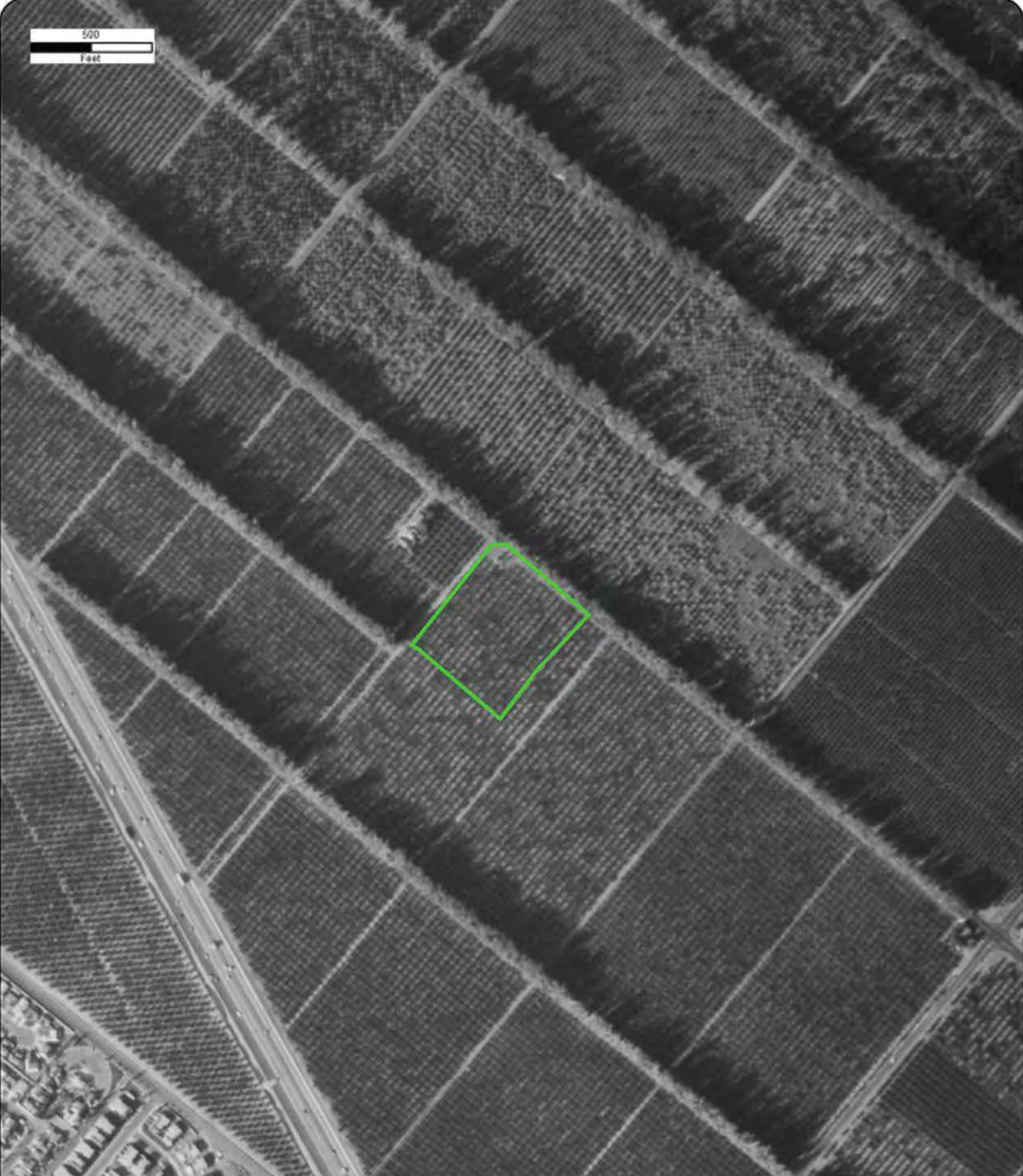
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Source: USGS
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864



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Feet

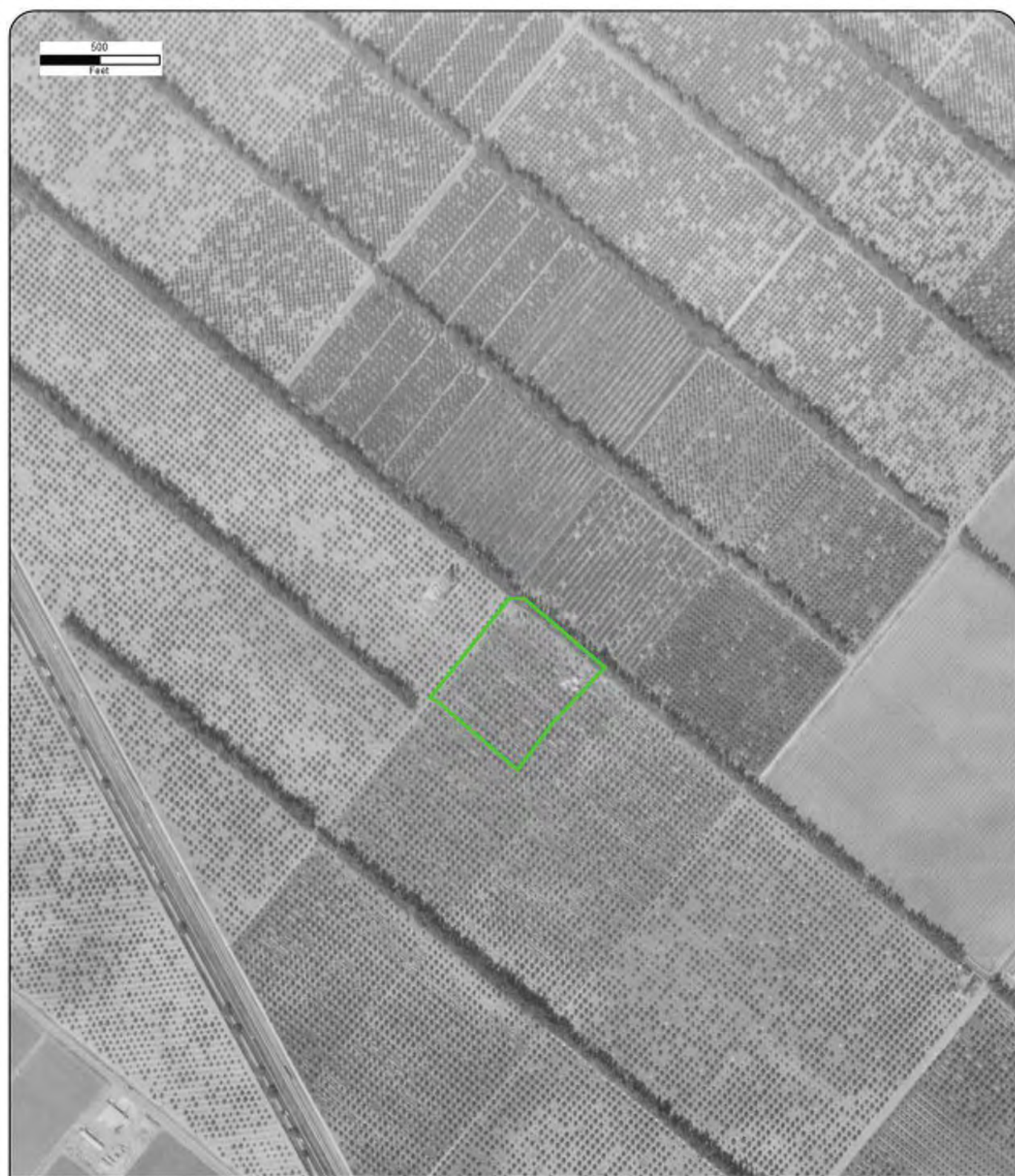
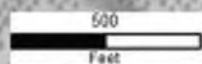


Year: 1972
Source: USGS
Scale: 1" = 500'
Comment:

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Approx Center: -117.76870659,33.69986536

Order No: 24040100864



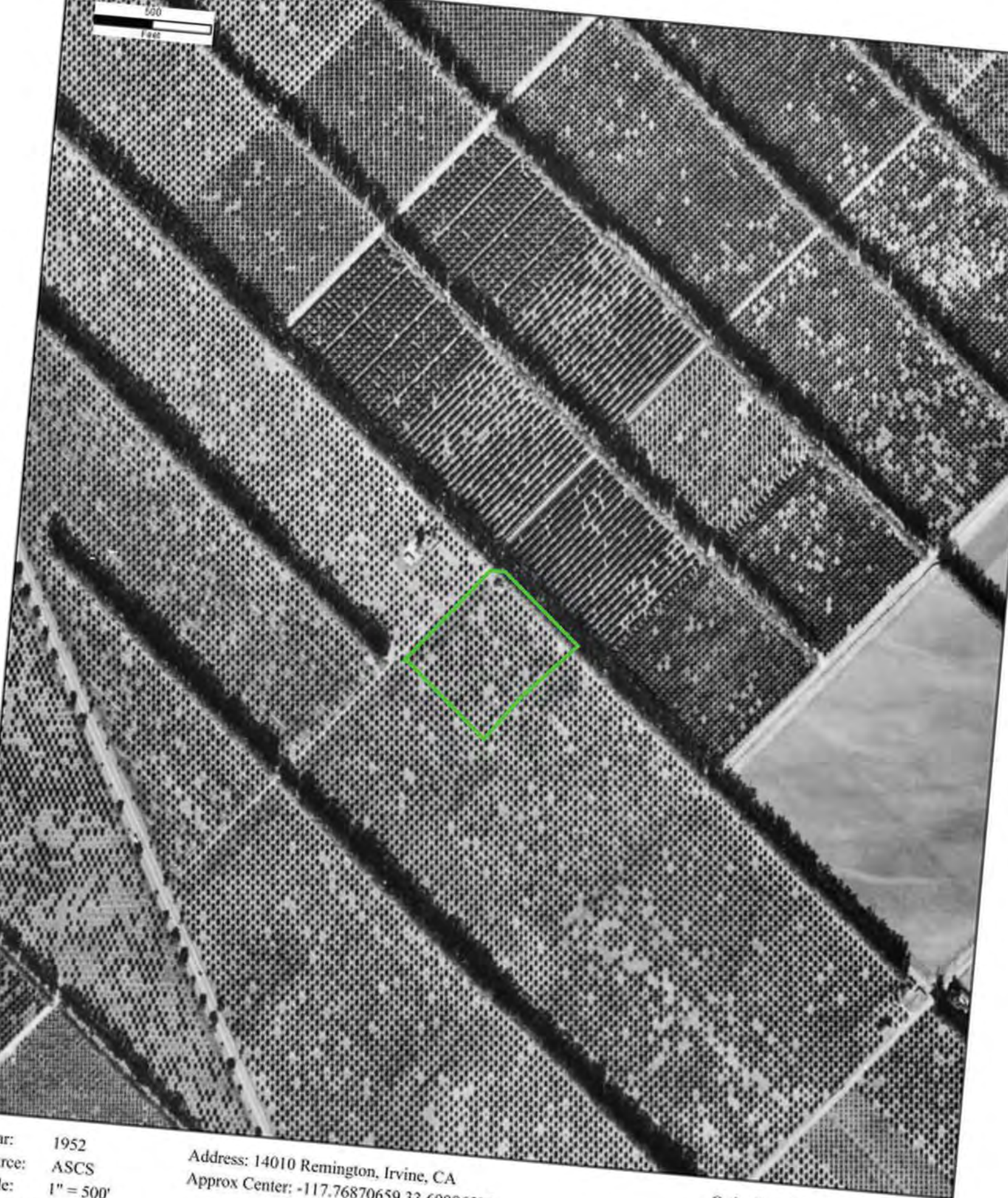


Year: 1963
Source: USGS
Scale: 1" = 500'
Comment:

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Approx Center: -117.76870659,33.69986536

Order No: 24040100864

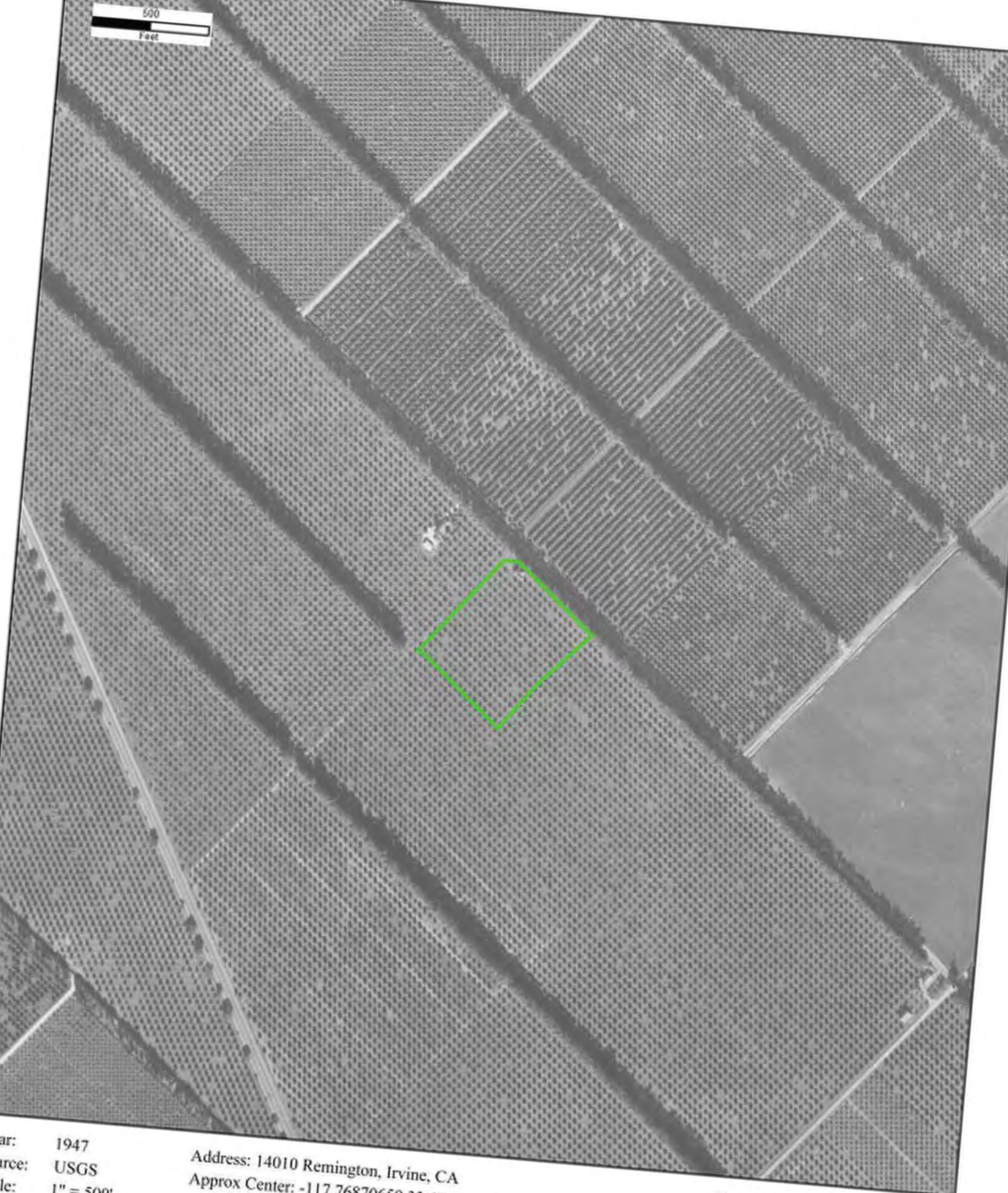




Year: 1952
Source: ASCS
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Document:

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Approx Center: -117.76870659, 33.69986536

Order No: 24040100864



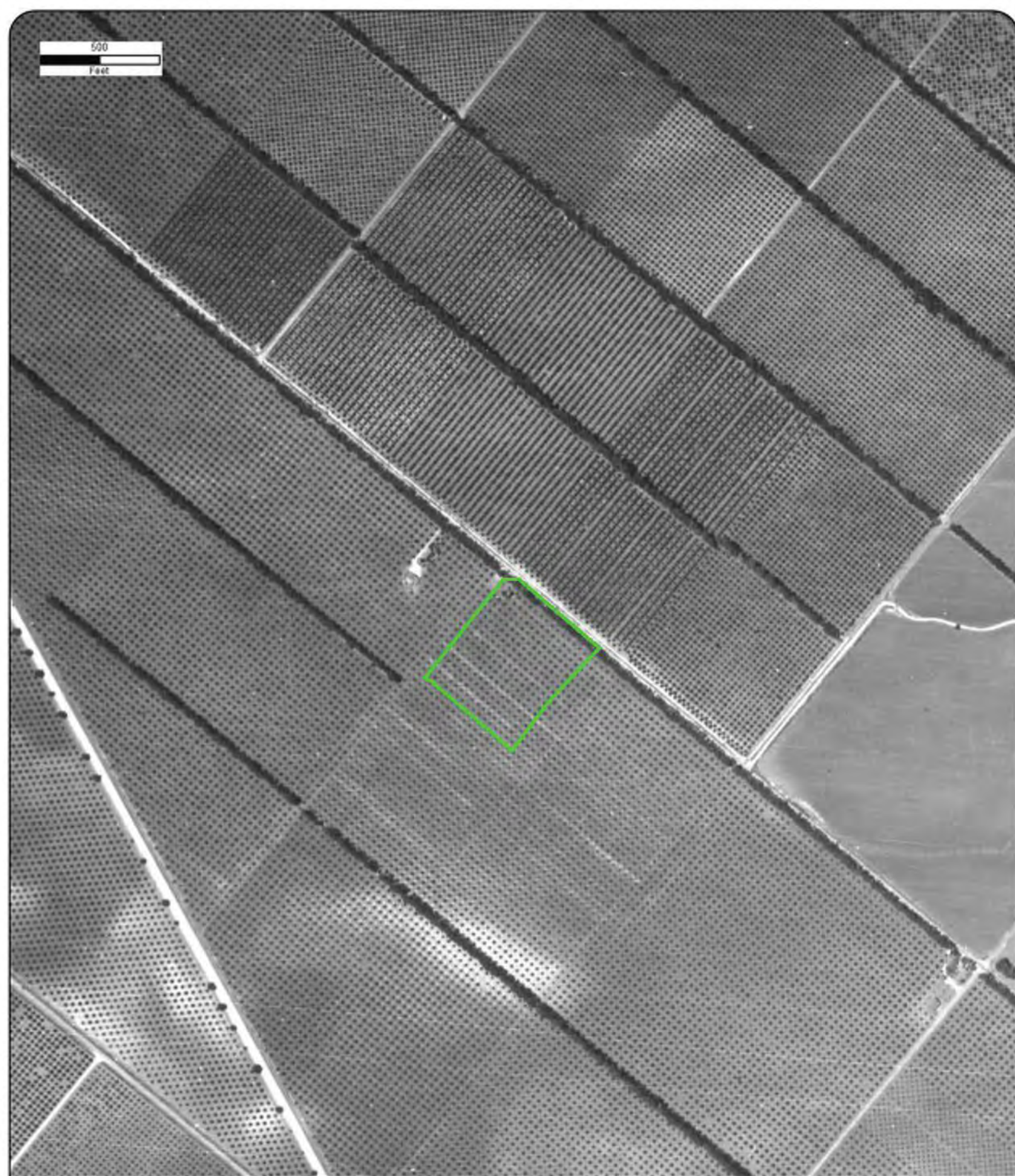
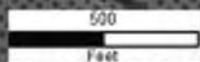
500
Feet

ar: 1947
rce: USGS
le: 1" = 500'
ment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864





Year: 1938
Source: ASCS
Scale: 1" = 500'
Comment:

Address: 14010 Remington, Irvine, CA
Approx Center: -117.76870659,33.69986536

Order No: 24040100864





CITY DIRECTORY

Project Property: 14010 Remington, Irvine
14010 Remington
Irvine, CA 92620

Project No: EG-SHEA-23-8

Requested By: Enercon Services, Inc.

Order No: 24040100864

Date Completed: April 08, 2024

April 08, 2024

RE: CITY DIRECTORY RESEARCH

14010 Remington

Irvine, CA 92620

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

ALL of Remington

4500-5500 of Trabuco Rd

Search Notes:

Search Results Summary

Date	Source	Comment
2022	DIGITAL BUSINESS DIRECTORY	
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2001-02	HAINES	
1996-97	HAINES	
1991-92	HAINES	
1986	HAINES	
1981	HAINES	
1975	PACIFIC TELEPHONE	
1970	PACIFIC TELEPHONE	
1964	PACIFIC TELEPHONE	
1958	PACIFIC TELEPHONE	
1955	PACIFIC TELEPHONE	
1951	LUSKEYS	

87 total records. Part 1 of 2

2 KANDIE MCSHANE...RESIDENTIAL
 3 SCOTT SMITH...RESIDENTIAL
 4 FRANCES CAPORASO...RESIDENTIAL
 4 WREGG IMPORTS...GIFTWARES-WHOLESALE
 7 CAROLLE DALLEY...RESIDENTIAL
 11 KIMBERLY HOGAN...RESIDENTIAL
 15 FELIPE PEROSSIO...RESIDENTIAL
 16 RUTHERFORD CHAVOUS...RESIDENTIAL
 18 KENNETH KONDO...RESIDENTIAL
 19 MARY BOGARD...RESIDENTIAL
 21 STEPHANIE MONTGOMERY...RESIDENTIAL
 24 JOHN LOWE JR...RESIDENTIAL
 25 ERICA FORAL...RESIDENTIAL
 27 CAROL PHELPS...RESIDENTIAL
 29 ENRIQUE CARDONA...RESIDENTIAL
 30 KENNETH MACDONALD...RESIDENTIAL
 31 CHRISTOPHER JOHNSTON CONSLTNG...COMPUTER & EQUIPMENT DEALERS
 32 KIMBERLY ALEXANDER...RESIDENTIAL
 32 PATIENCE KUPRATIS...RESIDENTIAL
 32 TYLER ALEXANDER...RESIDENTIAL
 35 JANICE DOWNING...RESIDENTIAL
 36 SOFIA ZASLAVSKY...RESIDENTIAL
 37 DEAN VOYER...RESIDENTIAL
 39 HU PEN MEDIA...NONCLASSIFIED ESTABLISHMENTS
 40 EDWARD GEORGE...RESIDENTIAL
 40 MARCO CASTANEDA...RESIDENTIAL
 42 ALBA ANTON...RESIDENTIAL
 49 KYUNG YOON...RESIDENTIAL
 50 MELODIE DAVIS...RESIDENTIAL
 52 ANGELA QUIJANO...RESIDENTIAL
 53 SALLY KENT...RESIDENTIAL
 54 JESSE AQUINO...RESIDENTIAL
 62 TERRY PRELL...RESIDENTIAL
 63 JASON TURNER...RESIDENTIAL
 64 JERRY DEMING...RESIDENTIAL
 66 JAMES BERRIER...RESIDENTIAL
 67 JUDY CHEN...RESIDENTIAL
 68 GARRICK HIGA...RESIDENTIAL
 69 ARUN MALHOTRA...RESIDENTIAL
 70 GEORGE LORD...RESIDENTIAL
 72 NAYER KASHANCHI...RESIDENTIAL
 73 ANN NGUYEN...RESIDENTIAL
 73 ELIZABETH IREDALE...RESIDENTIAL
 74 MARY WEBBER...RESIDENTIAL
 76 JULIANA MOKREVA...RESIDENTIAL
 78 PATRICK HAAS...RESIDENTIAL
 79 DENEAN NELSON...RESIDENTIAL
 82 KAREN ALBERT...RESIDENTIAL
 83 HOMAYOUN SOHRAB...RESIDENTIAL
 84 EMILY ESQUEDA...RESIDENTIAL
 84 GIDEON SEGAL...RESIDENTIAL
 86 DIANE SNEED...RESIDENTIAL
 88 KWANG HWANG...RESIDENTIAL
 89 MICHELLE SHOBE...RESIDENTIAL
 90 ANH NGUYEN...RESIDENTIAL
 92 YOSHIE OHGI...RESIDENTIAL
 93 DEBRA CHRISTIANSEN...RESIDENTIAL
 98 ANTHONY RAPOZA...RESIDENTIAL
 102 KEVIN OH...RESIDENTIAL
 102 SUNGNAM OH...RESIDENTIAL
 103 RAEANN LEVEY...RESIDENTIAL
 106 ANDREW MARKUSON...RESIDENTIAL
 108 ARA CALIBASI...RESIDENTIAL
 110 JULIE CHEN...RESIDENTIAL
 110 PAULA HEGYES...RESIDENTIAL
 112 KA LIO...RESIDENTIAL
 113 ERIC HALL...RESIDENTIAL
 114 EARMA THOMPSON...RESIDENTIAL

Part 2 of 2

116 JULIE VASQUEZ...RESIDENTIAL
 118 ALI SADOUGH...RESIDENTIAL
 119 JENNIFER MONTGOMERY...RESIDENTIAL
 119 RICHARD SUSSMAN...RESIDENTIAL
 125 CHANG CHING CHEN...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 127 WILLIAM WRIGHT...RESIDENTIAL
 129 LINDA JONES...RESIDENTIAL
 131 LINDSAY WONG...RESIDENTIAL
 137 HI KIM...RESIDENTIAL
 137 JIAJIE LI...RESIDENTIAL
 143 ANN DONAHUE...RESIDENTIAL
 147 DAVE OVENTHAL...RESIDENTIAL
 149 SYLVIA VEGA...RESIDENTIAL
 161 KATHERINE THOMPSON...RESIDENTIAL
 161 SHELLEY THOMPSON...RESIDENTIAL
 163 ALVARO ZINOS-AMARO...RESIDENTIAL
 167 CHRISTOPHER TEDFORD...RESIDENTIAL
 14010 OUR LADY PEACE KOREAN CTHLC...CHURCHES

103 total records. Part 1 of 2

4200 ANIMAL HOSPITAL OF IRVINE...VETERINARIANS
 4200 ANIMAL HOSPITAL OF IRVINE...ANIMAL HOSPITALS
 4200 BELLINGER, MIKE AGT...INSURANCE
 4200 BRENT M SMITH CHIRO CORP...MASSAGE THERAPISTS
 4200 BRENT M SMITH CHIRO CORP...CHIROPRACTORS DC
 4200 CARMONA, HEATHER LYN DC...CHIROPRACTORS DC
 4200 CHIROPRACTIC SPORTS INJURY...OFFICES OF CHIROPRACTORS
 4200 DIAL RIGHT SOFTWARE INC...RECORDS TAPES & COMPACT DISCS-RETAIL
 4200 DORNER PHYSICAL THERAPY...EXERCISE & PHYSICAL FITNESS PROGRAMS
 4200 DORNER PHYSICAL THERAPY...SPORTS MEDICINE & INJURIES
 4200 DORNER PHYSICAL THERAPY...ECOMMERCE
 4200 DORNER PHYSICAL THERAPY...PHYSICAL THERAPISTS
 4200 FARMERS INSURANCE...INSURANCE
 4200 IRVINE ACADEMY OF MUSIC...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 IRVINE ACUPUNCTURE CTR...ACUPUNCTURE
 4200 IRVINE NAILS SPA...MANICURING
 4200 IRVINE QUALITY DISCOUNT CLNRS...CLEANERS
 4200 JALATY, CHUCK AGT...INSURANCE
 4200 JOHNSON, DAVID AGT...INSURANCE
 4200 LAM, ESTHER G DDS...DENTISTS
 4200 MUSIC TOWN...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 OPTIMAL HEALTHCARE SOLUTIONS...ALL OTHER MISC AMBULATORY
 4200 HEALTH CARE SERVICES
 4200 OPTIMAL WELLNESS PHARMACY...PHARMACIES & DRUG STORES
 4200 ORANGE COUNTY OPTOMETRIC CTR...HEALTH SERVICES
 4200 REPIT J HAIR SALON...BEAUTY SALONS
 4200 TECH COAST REHAB INC...REHABILITATION SERVICES
 4200 VAPE CO...ELECTRONIC EQUIPMENT & SUPPLIES-RETAIL
 4200 VEGAS VOICE INSTITUTE...MUSIC INSTRUCTION-VOCAL
 4200 VIENNA STRING INSTITUTE...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 WORLD AIR TRAVEL TOUR...TRAVEL AGENCIES & BUREAUS
 4200 YANG, REGINA DDS...DENTISTS
 4200 YANG, REGINA M DDS...DENTISTS
 4200 YOYO TEA SHOPPE...COFFEE SHOPS
 5200 SILVER CREEK INVSTMNT MGMT INC...MISCELLANEOUS INTERMEDIATION
 5200 TRUE JESUS CHURCH IN IRVINE...CHURCHES
 5300 AWAY GOAL...NONCLASSIFIED ESTABLISHMENTS
 5300 BABY ANGEL CARE...CHILD CARE SERVICE
 5300 CAROLINA BARRANTES...RESIDENTIAL
 5300 DAVAR SOBHANI...RESIDENTIAL
 5300 E T R SVC INC...AIR CARGO SERVICE
 5300 E T R SVC INC...SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION
 5300 FARAHNAZ MEHRSHAH...RESIDENTIAL
 5300 FARSHID NAMIRANIAN...RESIDENTIAL
 5300 FERNANDO BRAVO...RESIDENTIAL
 5300 IRENE CORONA...RESIDENTIAL
 5300 JULIO MONTERO...RESIDENTIAL
 5300 JUNAID SAMLA...RESIDENTIAL
 5300 MAJID DERKSHANIAN...RESIDENTIAL
 5300 MARYAM HOZOURI...RESIDENTIAL
 5300 NILMINI DAHANAYAKE...RESIDENTIAL
 5300 PAUL CHOI GARDENING...LAWN & GROUNDS MAINTENANCE
 5300 PENNY WHITE...RESIDENTIAL
 5300 RAFAT RASTEGARI...RESIDENTIAL
 5300 SHAHIN BAGHERI...RESIDENTIAL
 5300 SUN HUH...RESIDENTIAL
 5300 SUNG LIM LEE...RESIDENTIAL
 5400 CHA TRADITIONAL CHINESE...ACUPUNCTURE
 5400 CL WELLNESS INC...WELLNESS PROGRAMS
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE INSPECTION
 5400 GARY FALLIS...NONCLASSIFIED ESTABLISHMENTS
 5400 LEE, CHRISTINE H...ACUPUNCTURE
 5400 MZ INVESTMENT...INVESTMENTS
 5400 PARK, MERCY...ACUPUNCTURE
 5410 DADU USA CORP...EXPORTERS (WHLS)
 5410 EDWARD JONES...FINANCIAL ADVISORY SERVICES
 5410 I LEARN EDUCATION...EDUCATIONAL SERVICE-BUSINESS

Part 2 of 2

5410 MSA PARTNERS LLC...NONCLASSIFIED ESTABLISHMENTS
 5410 STATE FARM INSURANCE...INSURANCE
 5410 STATE FARM INSURANCE...INSURANCE-AUTOMOBILE
 5420 C H BEAUTY SKIN CARE...SKIN TREATMENTS
 5420 ERSI...BUSINESS MANAGEMENT CONSULTANTS
 5420 GREG BERK LAW OFFICES...ATTORNEYS
 5420 IRVINE HEALTH CLINIC...CLINICS
 5420 IRVINE HEALTH CLINIC...FEDERAL GOVERNMENT CONTRACTORS
 5420 IRVINE HEALTH CLINIC...DENTISTS
 5420 IRVINE HEALTH CLINIC...HEALTH SERVICES
 5420 P I PHYSIC INSTRUMENTE LP...REFRIGERATING EQUIP-COMMERCIAL (WHLS)
 5420 P I PHYSIC INSTRUMENTE LP...DENTAL EQUIPMENT & SUPPLIES-WHOLESALE
 5420 P I PHYSIC INSTRUMENTE LP...WHOLESALE
 5420 P I PHYSIC INSTRUMENTE LP...PHYSICIANS & SURGEONS EQUIP & SUPPL-
 5420 WHLS
 5420 TING, JUK L MD...MEDICAL & SURGICAL SVC ORGANIZATIONS
 5420 TING, JUK L MD...PHYSICIANS & SURGEONS
 5430 GOLDEN SUNSHINE CHINESE SCHOOL...SCHOOLS
 5430 PASCOE DIRPES & ASSOC INC...ENGINEERS-CONSULTING
 5430 PASCOE DIRPES & ASSOC INC...ENGINEERS
 5430 ZALDIVAR SATTAR ASSOC LLC...ACCOUNTING & BOOKKEEPING GENERAL SVC
 5440 CONSULTANTS OF WU CORP...CONSULTANTS-BUSINESS NEC
 5450 BARNETT & RUBIN...MUSIC INSTRUCTION-VOCAL
 5450 BARNETT & RUBIN...ATTORNEYS
 5450 SECURE DOCK LLC...BUSINESS SERVICES NEC
 5450 TANNER, GREGORY...ACCOUNTANTS
 5450 TANNER, GREGORY...TAX RETURN PREPARATION & FILING
 5450 TRANK, MICHAEL A CPA...ACCOUNTANTS
 5450 WOLFE JOHN M TRUSTEE...TRUST COMPANIES
 5450 WOLFE JOHN M TRUSTEE...INVESTMENT SECURITIES
 5500 GOLDEN BRIDGE ENTERPRISES...IMPORTERS (WHLS)
 5500 IRVINE HEALTH CTR...CHIROPRACTORS DC
 5500 LOAN SCORE DECISIONING SYSTEMS...FINANCIAL ADVISORY SERVICES
 5500 MOBILOGIX INC...NONCLASSIFIED ESTABLISHMENTS
 5510 KIMBALL TIREY & ST JOHN...MUSIC INSTRUCTION-VOCAL
 5510 KIMBALL TIREY & ST JOHN...ATTORNEYS
 5510 WROTEN ASSOC APC...ATTORNEYS

82 total records. Part 1 of 2

2 KANDIE MCSHANE...RESIDENTIAL
 3 SCOTT SMITH...RESIDENTIAL
 4 FRANCES CAPORASO...RESIDENTIAL
 7 CAROLLE DALLEY...RESIDENTIAL
 11 KIMBERLY HOGAN...RESIDENTIAL
 12 V YAKEL...RESIDENTIAL
 15 FELIPE PEROSSIO...RESIDENTIAL
 16 HAL CHAVOUS...RESIDENTIAL
 18 KENNETH KONDO...RESIDENTIAL
 19 MARY BOGARD...RESIDENTIAL
 21 STEPHANIE MONTGOMERY...RESIDENTIAL
 24 JOHN LOWE JR...RESIDENTIAL
 25 ERICA FORAL...RESIDENTIAL
 27 CAROL PHELPS...RESIDENTIAL
 29 ENRIQUE CARDONA...RESIDENTIAL
 30 KENNETH MACDONALD...RESIDENTIAL
 31 CHRISTOPHER JOHNSTON CONSLTNG...COMPUTER & EQUIPMENT DEALERS
 31 JEREMY COOPER...RESIDENTIAL
 32 KIMBERLY ALEXANDER...RESIDENTIAL
 32 PATIENCE KUPRATIS...RESIDENTIAL
 35 JANICE DOWNING...RESIDENTIAL
 36 SOFIA ZASLAVSKY...RESIDENTIAL
 37 DEAN VOYER...RESIDENTIAL
 39 HU PEN MEDIA...NONCLASSIFIED ESTABLISHMENTS
 40 EDWARD GEORGE...RESIDENTIAL
 40 MARCO CASTANEDA...RESIDENTIAL
 43 DREW CHESEN...RESIDENTIAL
 49 KYUNG YOON...RESIDENTIAL
 50 MELODIE DAVIS...RESIDENTIAL
 53 SALLY KENT...RESIDENTIAL
 54 ESTER AQUINO...RESIDENTIAL
 54 JESSE AQUINO...RESIDENTIAL
 62 TERRY PRELL...RESIDENTIAL
 63 JASON TURNER...RESIDENTIAL
 64 JERRY DEMING...RESIDENTIAL
 66 JAMES BERRIER...RESIDENTIAL
 67 JUDY CHEN...RESIDENTIAL
 68 GARRICK HIGA...RESIDENTIAL
 70 GEORGE LORD...RESIDENTIAL
 72 NAYER KASHANCHI...RESIDENTIAL
 73 ANN NGUYEN...RESIDENTIAL
 73 ELIZABETH IREDALE...RESIDENTIAL
 74 MARY WEBBER...RESIDENTIAL
 76 JULIANA MOKREVA...RESIDENTIAL
 78 PATRICK HAAS...RESIDENTIAL
 79 DENEAN NELSON...RESIDENTIAL
 82 KAREN ALBERT...RESIDENTIAL
 83 HOMAYOUN SOHRAB...RESIDENTIAL
 84 EMILY ESQUEDA...RESIDENTIAL
 84 GIDEON SEGAL...RESIDENTIAL
 86 DIANE SNEED...RESIDENTIAL
 89 MICHELLE SHOBE...RESIDENTIAL
 90 ANH NGUYEN...RESIDENTIAL
 92 YOSHIE OHGI...RESIDENTIAL
 93 DEBRA CHRISTIANSEN...RESIDENTIAL
 95 BECKY KRIEG...RESIDENTIAL
 98 ANTHONY RAPOZA...RESIDENTIAL
 102 KEVIN OH...RESIDENTIAL
 103 RAEANN LEVEY...RESIDENTIAL
 106 ANDREW MARKUSON...RESIDENTIAL
 106 CHRISTINE MARKUSON...RESIDENTIAL
 108 ALEX CALIBASI...RESIDENTIAL
 108 ARA CALIBASI...RESIDENTIAL
 110 PAULA HEGYES...RESIDENTIAL
 112 KA LIO...RESIDENTIAL
 114 EARMA THOMPSON...RESIDENTIAL
 114 KATIE LAHOOD...RESIDENTIAL
 119 JENNIFER MONTGOMERY...RESIDENTIAL

Part 2 of 2

119 RICHARD SUSSMAN...RESIDENTIAL
 125 CHANG CHING CHEN...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 127 WILLIAM WRIGHT...RESIDENTIAL
 129 ALGENE JONES...RESIDENTIAL
 129 LINDA JONES...RESIDENTIAL
 137 HI KIM...RESIDENTIAL
 137 JIAJIE LI...RESIDENTIAL
 143 ANN DONAHUE...RESIDENTIAL
 149 SYLVIA VEGA...RESIDENTIAL
 161 KATHERINE THOMPSON...RESIDENTIAL
 163 ALVARO ZINOS-AMARO...RESIDENTIAL
 167 CHRISTOPHER TEDFORD...RESIDENTIAL
 14010 OUR LADY-PEACE KOREAN CTHLC...CHURCHES

108 total records. Part 1 of 2

4200 ANIMAL HOSPITAL OF IRVINE...VETERINARIANS
 4200 ANIMAL HOSPITAL OF IRVINE...ANIMAL HOSPITALS
 4200 BELLINGER, MIKE AGT...INSURANCE
 4200 BRENT M SMITH CHIRO CORP...CHIROPRACTORS DC
 4200 BRENT M SMITH CHIRO CORP...MASSAGE THERAPISTS
 4200 BRIGHT HOUSE CLEANING SVC...CARPET & RUG CLEANERS
 4200 CARMONA, HEATHER LYN DC...CHIROPRACTORS DC
 4200 CHIROPRACTIC SPORTS INJURY...OFFICES OF CHIROPRACTORS
 4200 DIAL RIGHT SOFTWARE INC...RECORDS TAPES & COMPACT DISCS-RETAIL
 4200 DORNER PHYSICAL THERAPY...EXERCISE & PHYSICAL FITNESS PROGRAMS
 4200 DORNER PHYSICAL THERAPY...ECOMMERCE
 4200 DORNER PHYSICAL THERAPY...SPORTS MEDICINE & INJURIES
 4200 DORNER PHYSICAL THERAPY...PHYSICAL THERAPISTS
 4200 FARMERS INSURANCE...INSURANCE
 4200 GREENE, JOHN C DC...CHIROPRACTORS DC
 4200 IRVINE ACADEMY OF MUSIC...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 IRVINE ACUPUNCTURE CTR...ACUPUNCTURE
 4200 IRVINE NAILS SPA...MANICURING
 4200 IRVINE PREMIRE ACADEMY...SCHOOLS
 4200 IRVINE QUALITY DISCOUNT CLNRS...CLEANERS
 4200 JOHNSON, DAVID...INSURANCE
 4200 LAM, ESTHER G DDS...DENTISTS
 4200 MUSIC TOWN...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 OPTIMAL HEALTHCARE SOLUTIONS...ALL OTHER MISC & AMBULATORY
 HEALTH CARE SERVICES
 4200 OPTIMAL WELLNESS PHARMACY...PHARMACIES & DRUG STORES
 4200 ORANGE COUNTY OPTOMETRIC CTR...HEALTH SERVICES
 4200 PERLE USA...HEALTH SERVICES
 4200 REPIT J HAIR SALON...BEAUTY SALONS
 4200 UNITY CHURCH...CHURCHES
 4200 VAPE CO...ELECTRONIC EQUIPMENT & SUPPLIES-RETAIL
 4200 VEGAS VOICE INSTITUTE...MUSIC INSTRUCTION-VOCAL
 4200 VIENNA STRING INSTITUTE...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 WAKABAYASHI, DAVID T OD...OPTOMETRISTS OD
 4200 WORLD AIR TRAVEL TOUR...TRAVEL AGENCIES & BUREAUS
 4200 YANG, REGINA DDS...DENTISTS
 4200 YANG, REGINA M DDS...DENTISTS
 5200 SILVER CREEK INVSTMNT MGMT INC...MISCELLANEOUS INTERMEDIATION
 5200 TRUE JESUS CHURCH IN IRVINE...CHURCHES
 5300 ANGIE HUH...RESIDENTIAL
 5300 AWAY GOAL...NONCLASSIFIED ESTABLISHMENTS
 5300 CAROLINA BARRANTES...RESIDENTIAL
 5300 CHUNG LEE...RESIDENTIAL
 5300 DAVAR SOBHANI...RESIDENTIAL
 5300 E T R SVC INC...SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION
 5300 E T R SVC INC...AIR CARGO SERVICE
 5300 FARAHNAZ MEHRSHAH...RESIDENTIAL
 5300 FERNANDO BRAVO...RESIDENTIAL
 5300 IRENE CORONA...RESIDENTIAL
 5300 JULIO MONTERO...RESIDENTIAL
 5300 JUNAID SAMLA...RESIDENTIAL
 5300 MARYAM HOZOURI...RESIDENTIAL
 5300 NADIRA SIDDIQI...RESIDENTIAL
 5300 NICOLE WHITE...RESIDENTIAL
 5300 NILMINI DAHANAYAKE...RESIDENTIAL
 5300 PAUL CHOI GARDENING...LAWN & GROUNDS MAINTENANCE
 5300 RAFAT RASTEGARI...RESIDENTIAL
 5300 SHAHIN BAGHERI...RESIDENTIAL
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE INSPECTION
 5400 GARY FALLIS...NONCLASSIFIED ESTABLISHMENTS
 5400 MZ INVESTMENT...INVESTMENTS
 5410 CHABAD OF NORTH IRVINE...FEDERAL GOVERNMENT CONTRACTORS
 5410 CHABAD OF NORTH IRVINE...ASSOCIATIONS
 5410 CHABAD OF NORTH IRVINE...CHURCHES
 5410 CHABAD OF NORTH IRVINE...RELIGIOUS ORGANIZATIONS
 5410 DADU USA CORP...EXPORTERS (WHLs)
 5410 EDWARD JONES...FINANCIAL ADVISORY SERVICES

Part 2 of 2

5410 I LEARN EDUCATION...EDUCATIONAL SERVICE-BUSINESS
 5410 MSAA PARTNERS LLC...NONCLASSIFIED ESTABLISHMENTS
 5410 STATE FARM INSURANCE...INSURANCE
 5410 STATE FARM INSURANCE...INSURANCE-AUTOMOBILE
 5420 C H BEAUTY SKIN CARE...SKIN TREATMENTS
 5420 ERSI...BUSINESS MANAGEMENT CONSULTANTS
 5420 GREG BERK LAW OFFICES...ATTORNEYS
 5420 IRVINE HEALTH CLINIC...DENTISTS
 5420 IRVINE HEALTH CLINIC...HEALTH SERVICES
 5420 IRVINE HEALTH CLINIC...CLINICS
 5420 IRVINE HEALTH CLINIC...FEDERAL GOVERNMENT CONTRACTORS
 5420 P I PHYSIC INSTRUMENTE LP...PHYSICIANS & SURGEONS EQUIP & SUPPL -
 WHLS
 5420 P I PHYSIC INSTRUMENTE LP...DENTAL EQUIPMENT & SUPPLIES-WHOLESALE
 5420 P I PHYSIC INSTRUMENTE LP...REFRIGERATING EQUIP-COMMERCIAL (WHLs)
 5420 P I PHYSIC INSTRUMENTE LP...WHOLESALE
 5420 SEN CHIN YANG CHIRO CORP...SPORTS MEDICINE & INJURIES
 5420 SEN CHIN YANG CHIRO CORP...CHIROPRACTORS DC
 5420 SEN CHIN YANG CHIRO CORP...MASSAGE THERAPISTS
 5420 TING, JUK L MD...PHYSICIANS & SURGEONS
 5420 TING, JUK L MD...MEDICAL & SURGICAL SVC ORGANIZATIONS
 5430 BRAINSTORM STUDIOS...CONTROLS CONTROL SYSTEMS/REGULATORS-NFRS
 5430 BRAINSTORM STUDIOS...OTHER ELECTRONIC PARTS & EQUIPMENT-MERCHANT
 WHLSRS
 5430 PASCOE-DIRPES & ASSOC INC...ENGINEERS-CONSULTING
 5430 PASCOE-DIRPES & ASSOC INC...ENGINEERS
 5430 ZALDIVAR SATTAR ASSOC LLC...ACCOUNTING & BOOKKEEPING GENERAL SVC
 5440 BOSZ ARCH INC...ARCHITECTS
 5450 BARNETT & RUBIN...MUSIC INSTRUCTION-VOCAL
 5450 BARNETT & RUBIN...ATTORNEYS
 5450 SECURE DOCK LLC...BUSINESS SERVICES NEC
 5450 TANNER, GREGORY...ACCOUNTANTS
 5450 TANNER, GREGORY...TAX RETURN PREPARATION & FILING
 5450 TRANK, MICHAEL A CPA...ACCOUNTANTS
 5450 WOLFE JOHN M TRUSTEE...TRUST COMPANIES
 5450 WOLFE JOHN M TRUSTEE...INVESTMENT SECURITIES
 5500 GOLDEN BRIDGE ENTERPRISES...IMPORTERS (WHLs)
 5500 IRVINE HEALTH CTR...CHIROPRACTORS DC
 5500 LOAN-SCORE DECISIONING SYSTEMS...FINANCIAL ADVISORY SERVICES
 5500 MOBILIGIX INC...NONCLASSIFIED ESTABLISHMENTS
 5510 KIMBALL TIREY & ST JOHN...MUSIC INSTRUCTION-VOCAL
 5510 KIMBALL TIREY & ST JOHN...ATTORNEYS
 5510 WROTEN ASSOC APC...ATTORNEYS

91 total records. Part 1 of 2

1 BLANCA BLACK...RESIDENTIAL
 2 KANDIE MCSHANE...RESIDENTIAL
 3 SCOTT SMITH...RESIDENTIAL
 4 FRANCES CAPORASO...RESIDENTIAL
 7 CAROLLE DALLEY...RESIDENTIAL
 8 SHERYL PEREZ...RESIDENTIAL
 9 SAMANTHA COHEN...RESIDENTIAL
 11 KIMBERLY HOGAN...RESIDENTIAL
 12 V YAKEL...RESIDENTIAL
 14 SUSAN LABAR...RESIDENTIAL
 16 HAL CHAVOUS...RESIDENTIAL
 16 RUTHERFORD CHAVOUS...RESIDENTIAL
 18 KENNETH KONDO...RESIDENTIAL
 18 SAM KONDO...RESIDENTIAL
 19 MARY BOGARD...RESIDENTIAL
 21 STEPHANIE MONTGOMERY...RESIDENTIAL
 23 MUHAMMAD FARHEEN...RESIDENTIAL
 24 JOHN LOWE JR...RESIDENTIAL
 25 ERICA FORAL...RESIDENTIAL
 27 CAROL PHELPS...RESIDENTIAL
 29 ENRIQUE CARDONA...RESIDENTIAL
 30 KENNETH MACDONALD...RESIDENTIAL
 31 CHRISTOPHER JOHNSTON CONSLTNG...ELECTRONIC STORES
 31 MIDDLE RIDGE INC...ELECTRONIC STORES
 32 KIMBERLY ALEXANDER...RESIDENTIAL
 32 PATIENCE KUPRATIS...RESIDENTIAL
 32 TYLER ALEXANDER...RESIDENTIAL
 35 JANICE DOWNING...RESIDENTIAL
 37 DEAN VOYER...RESIDENTIAL
 37 LANA VOYER...RESIDENTIAL
 40 EDWARD GEORGE...RESIDENTIAL
 43 DREW CHESEN...RESIDENTIAL
 47 TRAINING CONSULTANTS & SOLUTIO...TRAINING CONSULTANTS
 49 KYUNG YOON...RESIDENTIAL
 53 SALLY KENT...RESIDENTIAL
 54 ESTER AQUINO...RESIDENTIAL
 54 JESSE AQUINO...RESIDENTIAL
 61 MARCELO, ADELINE...OFFICES OF ALL OTHER MISC HEALTH PRACTITIONERS
 62 TERRY PRELL...RESIDENTIAL
 63 JASON TURNER...RESIDENTIAL
 63 WILLIAM SHENG...RESIDENTIAL
 64 JERRY DEMING...RESIDENTIAL
 66 JAMES BERRIER...RESIDENTIAL
 67 JUDY CHEN...RESIDENTIAL
 68 GARRICK HIGA...RESIDENTIAL
 70 GEORGE LORD...RESIDENTIAL
 70 MARIANNE LORD...RESIDENTIAL
 72 NAYER KASHANCHI...RESIDENTIAL
 73 ANN NGUYEN...RESIDENTIAL
 73 ELIZABETH IREDALE...RESIDENTIAL
 74 MARY WEBBER...RESIDENTIAL
 76 JULIANA MOKREVA...RESIDENTIAL
 78 PATRICK HAAS...RESIDENTIAL
 79 DENEAN NELSON...RESIDENTIAL
 82 KAREN ALBERT...RESIDENTIAL
 83 HOMAYOUN SOHRAB...RESIDENTIAL
 84 EMILY ESQUEDA...RESIDENTIAL
 86 DIANE SNEED...RESIDENTIAL
 89 MICHELLE SHOBE...RESIDENTIAL
 90 ANH NGUYEN...RESIDENTIAL
 90 BO NGUYEN...RESIDENTIAL
 92 YOSHIE OHGI...RESIDENTIAL
 93 DEBRA CHRISTIANSEN...RESIDENTIAL
 96 CHAD THOMAS...RESIDENTIAL
 98 ANTHONY RAPOZA...RESIDENTIAL
 102 KEVIN OH...RESIDENTIAL
 102 KYUNG OH...RESIDENTIAL
 102 SUNGNAM OH...RESIDENTIAL

Part 2 of 2

103 RAEANN LEVEY...RESIDENTIAL
 106 ANDREW MARKUSON...RESIDENTIAL
 106 CHRISTINE MARKUSON...RESIDENTIAL
 108 ALEX CALIBASI...RESIDENTIAL
 108 ALIN CALIBASI...RESIDENTIAL
 108 ARA CALIBASI...RESIDENTIAL
 110 PAULA HEGYES...RESIDENTIAL
 113 CLAUDETTE BIANCHI...RESIDENTIAL
 114 KATIE LAHOOD...RESIDENTIAL
 119 RICHARD SUSSMAN...RESIDENTIAL
 119 RONDA SUSSMAN...RESIDENTIAL
 125 CHANG CHING CHEN...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 127 WILLIAM WRIGHT...RESIDENTIAL
 129 ALGENE JONES...RESIDENTIAL
 129 LINDA JONES...RESIDENTIAL
 137 HI KIM...RESIDENTIAL
 137 JIAJIE LI...RESIDENTIAL
 143 ANN DONAHUE...RESIDENTIAL
 149 SYLVIA VEGA...RESIDENTIAL
 161 KATHERINE THOMPSON...RESIDENTIAL
 161 SHELLEY THOMPSON...RESIDENTIAL
 14010 OUR LADY-PEACE KOREAN CTHLC...CHURCHES

91 total records. Part 1 of 2

4200 ADRIENNE'S BEAUTY CARE...BEAUTY SALONS
 4200 ANIMAL HOSPITAL OF IRVINE...VETERINARIANS
 4200 ANIMAL HOSPITAL OF IRVINE...ANIMAL HOSPITALS
 4200 BELLINGER, MIKE...INSURANCE
 4200 BRENT M SMITH CHIRO CORP...CHIROPRACTORS DC
 4200 CARMONA, HEATHER LYN DC...CHIROPRACTORS DC
 4200 CHIROPRACTIC SPORTS INJURY...OFFICES OF CHIROPRACTORS
 4200 DIAL RIGHT SOFTWARE INC...RECORDS TAPES & COMPACT DISCS:RETAIL
 4200 DORNER PHYSICAL THERAPY...PHYSICAL THERAPISTS
 4200 DORNER PHYSICAL THERAPY...SPORTS MEDICINE & INJURIES
 4200 FARMERS INSURANCE...INSURANCE
 4200 GREENE, JOHN C DC...CHIROPRACTORS DC
 4200 IRVINE ACUPUNCTURE CTR...ACUPUNCTURE
 4200 IRVINE NAILS SPA...MANICURING
 4200 IRVINE QUALITY DISCOUNT CLNRS...CLEANERS
 4200 JOHN GREENE SPORTS INJURY...OFFICES OF CHIROPRACTORS
 4200 JOHNSON, DAVID...INSURANCE
 4200 LAM, ESTHER G DDS...DENTISTS
 4200 OPTIMAL HEALTHCARE SOLUTIONS...ALL OTHER MISC AMBULATORY
 HEALTH CARE SERVICES
 4200 OPTIMAL WELLNESS PHARMACY...PHARMACIES & DRUG STORES
 4200 S M VERMA...ACCOUNTANTS
 4200 VAPE CO...ELECTRONIC EQUIPMENT & SUPPLIES:RETAIL
 4200 VIENNA STRING INSTITUTE...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 WAKABAYASHI, DAVID T OD...OPTOMETRISTS OD
 4200 WORLD AIR TRAVEL & TOUR...TRAVEL AGENCIES & BUREAUS
 4200 WORLDAIR TRAVEL TOUR...TRAVEL AGENCIES & BUREAUS
 4200 WORLDAIR TRAVEL & TOUR...TRAVEL AGENCIES & BUREAUS
 4200 YANG, REGINA DDS...DENTISTS
 5200 SILVER CREEK INVSTMNT MGMT INC...MISCELLANEOUS INTERMEDIATION
 5200 TRUE JESUS CHURCH IN IRVINE...CHURCHES
 5300 ANGIE HUH...RESIDENTIAL
 5300 AWAY GOAL...NONCLASSIFIED ESTABLISHMENTS
 5300 CAROLINA BARRANTES...RESIDENTIAL
 5300 CHUNG LEE...RESIDENTIAL
 5300 DARLENE POLFER...RESIDENTIAL
 5300 DUNG BUI...RESIDENTIAL
 5300 E T R SVC INC...SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION
 5300 EP SIGNINGS...SERVICES NEC
 5300 FARAHNAZ MEHRSHAHI...RESIDENTIAL
 5300 GRAFTEC...NONCLASSIFIED ESTABLISHMENTS
 5300 IRENE CORONA...RESIDENTIAL
 5300 JULIO MONTERO...RESIDENTIAL
 5300 JUNE LEE...RESIDENTIAL
 5300 LUCKY SHUTTLE...TRANSPORTATION
 5300 MARYAM HOZOURI...RESIDENTIAL
 5300 NADIRA SIDDIQI...RESIDENTIAL
 5300 NICOLE WHITE...RESIDENTIAL
 5300 NILMINI DAHANAYAKE...RESIDENTIAL
 5300 PAUL CHOI GARDENING...LAWN & GROUNDS MAINTENANCE
 5300 PENNY WHITE...RESIDENTIAL
 5300 RAFAT RASTEGARI...RESIDENTIAL
 5300 SHAHIN BAGHERI...RESIDENTIAL
 5300 SUN HUH...RESIDENTIAL
 5300 SUNG LIM LEE...RESIDENTIAL
 5400 BERKLEY LEARNING CTR...SCHOOLS
 5400 BERKLEY LEARNING CTR...TUTORING
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE
 5400 GARY FALLIS...NONCLASSIFIED ESTABLISHMENTS
 5400 RE/MAX PREMIER REALTY...REAL ESTATE LOANS
 5400 RE/MAX PREMIER REALTY...REAL ESTATE
 5410 BUDGET AUTO GLASS INC LAKE...AUTOMOTIVE GLASS REPLACEMENT SHOPS
 5410 CANMAY GROUP USA INC...COSMETICS-WHOLESALE
 5410 CHABAD OF NORTH IRVINE...CHURCHES
 5410 DADU USA CORP...EXPORTERS (WHLs)
 5410 HIGGS, REBECCA...INSURANCE
 5410 MOBILE SAFE GLASS...GLASS-AUTO PLATE & WINDOW & ETC
 5410 MSAA PARTNERS LLC...NONCLASSIFIED ESTABLISHMENTS

Part 2 of 2

5410 SAMTEC...ELECTRONIC EQUIPMENT & SUPPLIES:MFRS
 5410 STATE FARM INSURANCE...INSURANCE
 5410 STATE FARM INSURANCE...INSURANCE-AUTOMOBILE
 5420 GREG BERK LAW OFFICES...ATTORNEYS
 5420 IRVINE HEALTH CLINIC...CLINICS
 5420 LEE SEOK...NONCLASSIFIED ESTABLISHMENTS
 5420 LEUNG, PATRICIA...BUSINESS SERVICES NEC
 5420 P I PHYSIC INSTRUMENTE LP...PHYSICIANS & SURGEONS EQUIP & SUPPL-
 WHLS
 5420 P I PHYSIC INSTRUMENTE LP...WHOLESALE
 5420 SEN CHIN YANG CHIRO CORP...CHIROPRACTORS DC
 5420 TING, JUK L MD...PHYSICIANS & SURGEONS
 5420 YANG, SEN C MD...PHYSICIANS & SURGEONS
 5430 BRAINSTORM STUDIOS...OTHER ELECTRONIC PARTS & EQUIPMENT MERCHANT
 WHLSRS
 5430 PASCOE-DIRPES & ASSOC INC...ENGINEERS-CONSULTING
 5430 PASCOE-DIRPES & ASSOC INC...ENGINEERS
 5440 LOAN PROCESSING CTR...REAL ESTATE LOANS
 5450 BARNETT & RUBIN...ATTORNEYS
 5450 SECURE DOCK LLC...BUSINESS SERVICES NEC
 5450 TANNER, GREGORY...ACCOUNTANTS
 5450 TRANK, MICHAEL A CPA...ACCOUNTANTS
 5450 WOLFE JOHN M TRUSTEE...TRUST COMPANIES
 5500 GOLDEN BRIDGE ENTERPRISES...IMPORTERS (WHLs)
 5500 IRVINE HEALTH CTR...CHIROPRACTORS DC
 5510 KIMBALL TIREY & ST JOHN...ATTORNEYS

85 total records. Part 1 of 2

4 FRANCES CAPORASO...RESIDENTIAL
 11 BRYAN FREDERICKSON...RESIDENTIAL
 12 ELAINE YAKEL...RESIDENTIAL
 12 V ELAINE YAKEL...RESIDENTIAL
 14 SUSAN LABAR...RESIDENTIAL
 16 HAROLD CHAVOUS...RESIDENTIAL
 16 R HAROLD CHAVOUS...RESIDENTIAL
 19 MARY BOGARD...RESIDENTIAL
 29 ANNE CARDONA...RESIDENTIAL
 31 CHRISTOPHER JOHNSTON...RESIDENTIAL
 31 MIDDLE RIDGE INC...COMPUTER & EQUIPMENT DEALERS
 32 PATIEN KUPRATIS...RESIDENTIAL
 33 TAMMY RAMSAY...RESIDENTIAL
 34 DONNA MEAD...RESIDENTIAL
 37 LANA VOYER...RESIDENTIAL
 47 TRAINING CONSULTANTS & SOLUTIO...TRAINING CONSULTANTS
 48 SHIRI PALERMO...RESIDENTIAL
 50 TAYLOR DAVIS...RESIDENTIAL
 56 BILLIE BRUNK...RESIDENTIAL
 56 MICHAEL BRUNK...RESIDENTIAL
 57 CHARLOTTE LOONTIENS...RESIDENTIAL
 59 ALLAN PLENCE...RESIDENTIAL
 59 MARITZA PLENCE...RESIDENTIAL
 68 GARRICK HIGA...RESIDENTIAL
 68 ROY HIGA...RESIDENTIAL
 70 GEORGE LORD...RESIDENTIAL
 70 MARIANNE LORD...RESIDENTIAL
 70 MARK LORD...RESIDENTIAL
 72 NAYER KASHANCHI...RESIDENTIAL
 74 MARY WEBBER...RESIDENTIAL
 74 WEBBER MARY...RESIDENTIAL
 75 DAVID NICKOLS...RESIDENTIAL
 75 JANICE NICKOLS...RESIDENTIAL
 76 JULIANA MOKREVA...RESIDENTIAL
 76 MOKREVA JULIANA...RESIDENTIAL
 78 JOSEPH JOHNSON...RESIDENTIAL
 78 JUDY JOHNSON...RESIDENTIAL
 83 VIDA SOHRAB...RESIDENTIAL
 84 DONNA SEGAL...RESIDENTIAL
 84 NADINE SEGAL...RESIDENTIAL
 84 SEGAL NADINE...RESIDENTIAL
 86 DIANE SNEED...RESIDENTIAL
 86 DIANNE SNEED...RESIDENTIAL
 86 THOMAS SNEED...RESIDENTIAL
 87 GEORGE BARROWCLIFF...RESIDENTIAL
 91 JANICE BREEN...RESIDENTIAL
 92 AIZUMI OHGI...RESIDENTIAL
 92 AKIZUMI OHGI...RESIDENTIAL
 92 YOSHIE OHGI...RESIDENTIAL
 93 DEBRA CHRISTIANSEN...RESIDENTIAL
 93 GARY CHRISTIANSEN...RESIDENTIAL
 100 JANET JOHNSON...RESIDENTIAL
 100 ROLAND JOHNSON...RESIDENTIAL
 100 RONALD JOHNSON...RESIDENTIAL
 103 RAEANN LEVEY...RESIDENTIAL
 106 MARKUSON CHRISTINE...RESIDENTIAL
 106 TIM RUIZ...RESIDENTIAL
 108 A CALIBASI...RESIDENTIAL
 108 ALIN CALIBASI...RESIDENTIAL
 108 ARA CALIBASI...RESIDENTIAL
 108 LARA CALIBASI...RESIDENTIAL
 115 JEAN LORUSSO...RESIDENTIAL
 116 JOEL DEJESUS...RESIDENTIAL
 116 ROWENA DEJESUS...RESIDENTIAL
 117 CHE TEOH...RESIDENTIAL
 119 DAVID SUSSMAN...RESIDENTIAL
 119 JACK MONTGOMERY...RESIDENTIAL
 119 RICHARD SUSSMAN...RESIDENTIAL
 119 RONDA SSUSSNAN...RESIDENTIAL

Part 2 of 2

119 RONDA SUSSMAN...RESIDENTIAL
 125 CHANG CHEN...RESIDENTIAL
 125 WENDY CHEN...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 137 JULIE WALKER...RESIDENTIAL
 137 MICHAEL WALKER...RESIDENTIAL
 143 ANN DONAHUE...RESIDENTIAL
 147 DEAN MANRIQUEZ...RESIDENTIAL
 151 ANDREA HOWLETT...RESIDENTIAL
 151 DEAN HOWLETT...RESIDENTIAL
 153 M CHO...RESIDENTIAL
 153 RYAN GREEN...RESIDENTIAL
 161 SHELLEY THOMPSON...RESIDENTIAL
 161 WENDELL THOMPSON...RESIDENTIAL
 163 VALERIE VAUGHN...RESIDENTIAL
 14010 OUR LADY-PEACE KOREAN CTHLC...CHURCHES

4200 A CHIROPRACTIC CORP...CHIROPRACTORS DC
 4200 ANIMAL HOSPITAL OF IRVINE...ANIMAL HOSPITALS
 4200 BAUMANN, STACY DVM...VETERINARIANS
 4200 CHOW, CREIGHTON S DDS...DENTISTS
 4200 DIAL RIGHT SOFTWARE INC...COMPUTER SOFTWARE
 4200 DORNER PHYSICAL THERAPY...PHYSICAL THERAPISTS
 4200 FARMERS INSURANCE...INSURANCE
 4200 GREENE, JOHN C DC...CHIROPRACTORS DC
 4200 IRVINE ACUPUNCTURE CTR...ACUPUNCTURE
 4200 IRVINE QUALITY DISCOUNT CLNRS...CLEANERS
 4200 JALATY, CHUCK...INSURANCE
 4200 JEAN, CHARNG-SHIN DDS...DENTISTS
 4200 JOHN GREENE...RESIDENTIAL
 4200 JOHNSON, DAVID...INSURANCE
 4200 KING LEARNING CTR...TUTORING
 4200 L KING...RESIDENTIAL
 4200 LAM, ESTHER G DDS...DENTISTS
 4200 LEE, HANK C DDS...DENTISTS
 4200 SHAW, MICHAEL S DDS...DENTISTS
 4200 SMITH, LISA P DC...CHIROPRACTORS DC
 4200 UNITED SECURITY SVC...SECURITY GUARD & PATROL SERVICE
 4200 VIENNA STRING INSTITUTE...MUSIC INSTRUCTION-INSTRUMENTAL
 4200 WAKABAYASHI, DAVID T OD...OPTOMETRISTS OD
 4200 WANG & JEAN INC...DENTISTS
 4200 WANG, CHONG-SHU DDS...DENTISTS
 4200 WORLD AIR TRAVEL & TOUR...TRAVEL AGENCIES & BUREAUS
 4200 WORLDWIDE TRAVEL & TOUR...TRAVEL AGENCIES & BUREAUS
 4200 YANG, REGINA DDS...DENTISTS
 5200 TRUE JESUS CHURCH IN IRVINE...CHURCHES
 5300 F RAZANI...RESIDENTIAL
 5300 FARAHNAZ MEHRSHAI...RESIDENTIAL
 5300 HAYDEE CORONA...RESIDENTIAL
 5300 JOSEPHINE MUCHIRU...RESIDENTIAL
 5300 JONES JACKSON...RESIDENTIAL
 5300 LUCKY SHUTTLE...TRANSPORTATION
 5300 MARYAM HOZOURI...RESIDENTIAL
 5300 MORVARID KHORAMI...RESIDENTIAL
 5300 NEDA AGAHI...RESIDENTIAL
 5300 NILMINI DAHANAYAKE...RESIDENTIAL
 5300 SHAHIN BAGHERI...RESIDENTIAL
 5300 SONYONG LEE...RESIDENTIAL
 5300 SUNG LEE...RESIDENTIAL
 5300 ZHENG DAHANAYAKE...RESIDENTIAL
 5300 ZHENG DONG...RESIDENTIAL
 5400 CORNERSTONE REAL ESTATE INTL...REAL ESTATE
 5400 HILLCREST PARTNERS INC...PROPERTY MAINTENANCE
 5400 JEI LEARNING CTR...TUTORING
 5410 STATE FARM INSURANCE...INSURANCE
 5418 HIGGS, REBECCA...INSURANCE
 5420 BEST USA TUTOR...TUTORING
 5420 LEE & SEOK...NONCLASSIFIED ESTABLISHMENTS
 5420 MATH ZOOM ACADEMY...EDUCATIONAL SERVICE-BUSINESS
 5420 P I PHYSIC INSTRUMENTE LP...WHOLESALE
 5440 LOAN PROCESSING CTR...REAL ESTATE LOANS
 5450 BARNETT & RUBIN...ATTORNEYS
 5450 SECURE DOCK LLC...BUSINESS SERVICES NEC
 5450 TANNER, GREGORY...ACCOUNTANTS
 5450 WERTZ & CO LLP...ACCOUNTANTS
 5500 IRVINE HEALTH CTR...CHIROPRACTIC DOCTOR INFO BUREAUS
 5500 LOAN-SCORE DECISIONING SYSTEMS...COMPUTER SOFTWARE
 5500 MENDOZA BERGER CO LLC...FINANCIAL ADVISORY SERVICES
 5510 KIMBALL TIREY & ST JOHN...ATTORNEYS

1 BLANCA BLACK...RESIDENTIAL
 2 KANDIE MCSHANE...RESIDENTIAL
 5 SHIGES PIANO SVC...PIANO/ORG TUNING SER
 15 S CONNOLLY...RESIDENTIAL
 16 HAL CHAVOUS...RESIDENTIAL
 18 FRANK QUATTROCCHI...RESIDENTIAL
 24 J SAUBER...RESIDENTIAL
 26 ROBERT EGAN...RESIDENTIAL
 31 CHRISTOPHER D JOHNSTON...RESIDENTIAL
 31 M JOHNSTON...RESIDENTIAL
 32 PATIENCE I KUPRATIS...RESIDENTIAL
 34 YU S KUO...RESIDENTIAL
 35 GENE THOMPSON...RESIDENTIAL
 37 DEAN & LANA VOYER...RESIDENTIAL
 41 WENDY RICAPITO...RESIDENTIAL
 43 DRAGON WHEELS...UNCLASSIFIED
 43 ISAAC YI...RESIDENTIAL
 47 SUSAN S KNOX...RESIDENTIAL
 47 TRAINING CONSULTANTS & SOLUTIO...HUM RES CONSULT SVCS
 52 ANGELA QUIJANO...RESIDENTIAL
 57 C A LOONTIENS...RESIDENTIAL
 58 BILL T MALOHN...RESIDENTIAL
 59 RICHARD PLENGE...RESIDENTIAL
 69 JASON & ADAM DELUCCA...RESIDENTIAL
 73 ELIZABETH IREDALE...RESIDENTIAL
 80 BHAVANA BHATT...RESIDENTIAL
 87 GEORGE W BARROWCLIFF...RESIDENTIAL
 88 DENISE ELY...RESIDENTIAL
 93 DEBRA CHRISTIANSEN...RESIDENTIAL
 97 MARJANEH MINAEL...RESIDENTIAL
 98 M WIELAND...RESIDENTIAL
 101 M HEWELL...RESIDENTIAL
 101 MICHAEL L HEWELL...RET MAIL-ORDER HOUSE
 106 CHRISTINE A MARKUSON...RESIDENTIAL
 107 BEITOLLAHI NAZI...RESIDENTIAL CARE SERVICES
 111 RICHARD & JOANNE ORTNER...RESIDENTIAL
 115 J LORUSSO...RESIDENTIAL
 118 STEVE JOSTROM...RESIDENTIAL
 119 RICHARD & RONDA SUSSMAN...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 137 SHUMEI M SHEPHERD...RESIDENTIAL
 153 CHRISTINE LANG...RESIDENTIAL
 161 SHELLEY A THOMPSON...RESIDENTIAL
 14010 ST THOMAS MORE CATHOLIC CHURCH...CATHOLIC CHURCH

4200 A CHIROPRACTIC CORP...CHIROPRACTORS DC
 4200 ADRIENNES BEAUTY CARE...BEAUTY SALONS
 4200 ANIMAL HOSPITAL OF IRVINE...VETERINARIANS
 4200 ANIMAL HOSPITAL OF IRVINE...VETERINARY SPC SVS
 4200 BRIGHT HOUSE CLEANING SVC...MAID & BUTLER SERV
 4200 CREIGHTON S CHOW DDS...DENTISTS OFF,CLINIC
 4200 DAVE JOHNSON INSURANCE...INSURANCE AGENTS,BRKR
 4200 DAVE JOHNSON INSURANCE AGENCY...INSURANCE AGENT/BROKER
 4200 DAVID T WAKABAYASHI OD...OPTOMETRISTS OFFICE
 4200 DIAL RIGHT SOFTWARE INC...COMP.SFTWRE & ACC
 4200 DORNER PHYSICAL THERAPY...PHYSICAL THERAPISTS
 4200 DORNER PHYSICAL THERAPY...MEDICAL GRPS & CLNCS
 4200 ETUM ACADEMY...SCH,EDUCTL SV NEC
 4200 FAMILY & SPORTS CHIROPRACTIC...PODIATRISTS OFFICE
 4200 FARMERS INSURANCE...INSURANCE AGENT/BROKER
 4200 FARMERS INSURANCE GROUP...INSURANCE AGENTS,BRKR
 4200 FARMERS INSURANCE GROUP...INSURANCE
 4200 IRVINE ACUPUNCTURE CTR...MEDICAL DOCTORS OFF
 4200 IRVINE QUALITY DISCOUNT CLNRS...GMT PRESSG,CLNRS AGT
 4200 JOHN C GREENE DC...CHIROPRACTORS OFF
 4200 JOHN C GREENE DC...CHIROPRACTORS DC
 4200 MATHNASIUN IRVINE...SCH,EDUCTL SV NEC
 4200 MEDIX AMBULANCE SERVICE INC...LOCAL PASSENGER TRANSPORTATION
 4200 MIKE BELLINGER...INSURANCE AGENT/BROKER
 4200 MIKE BELLINGER INSURANCE...INSUR AGTS, BRKS, SVS
 4200 S M VERMA CPA...ACCTG,AUDIT,BKKEEP
 4200 SUNG YOUNG LEE...MEDICAL GRPS & CLNCS
 4200 TECH COAST REHAB...JOB TRAINING,REL SV
 4200 UNITED SECURITY SVC...GUARD & PATROL SERV
 4200 VIENNA STRING INSTITUTE...MUSIC, DRAMA SCHOOLS
 4200 WANG & JEAN...SPECIALTY UNKNOWN
 4200 WORLD AIR TRAVEL...TRAVEL AGENCY
 4200 WORLD AIR TRAVEL & TOUR...TRAVEL AGENCIES
 4200 WORLD AIR TRAVEL & TOUR...TRAVEL AGENCIES
 5200 TRUE JESUS CHURCH IN IRVINE...RELIGIOUS ORGANIZ
 5300 NORTHWOOD HOUSING ASSOC...REAL ESTATE AGT,MGR
 5400 BRICKSTONE ESCROW INC...ESCROW SERVICE
 5400 JUNGKEIT JOHN G-SENR LN CNSLT...FEDERAL SAVINGS INSTITUTION
 5400 MONICA SONG REALTY...REAL ESTATE AGT,MGR
 5400 PREMIER REALTY...REAL ESTATE AGT,MGR
 5400 RE/MAX PREMIER REALTY...REAL ESTATE AGT,MGR
 5400 REMAX...REAL ESTATE AGT,MGR
 5410 CASSANDRA BEAUVOIR...PSYCHIATRIC HOSP
 5410 ISRA MIRAJ INC...UNCLASSIFIABLE ESTAB
 5410 MSAA PARTNERS LLC...UNCLASSIFIABLE ESTAB
 5410 STATE FARM INSURANCE...INSURANCE AGENTS,BRKR
 5420 AMERICAN MORTGAGE EXPRESS...REAL ESTATE LOANS
 5420 ERSI...MGMT CONSULTING
 5420 GREG BERK LAW OFFICES...LEGAL SERVICES
 5420 MILLENNIUM CAPITAL FUNDING...MORTGAGE BANKERS
 5420 P I PHYSIC INSTRUMENTE LP...DURABLE GOODS NEC
 5430 IFG MORTGAGE SVC...MORTGAGE BANKERS
 5430 PASCOE-DIRPES & ASSOC INC...CONSULTING ENGINEER
 5440 RESIDENTIAL MORTGAGE FUND...MORTGAGE BANKERS
 5450 BARNETT & RUBIN...ATTORNEYS
 5450 BARNETT & RUBIN...LEGAL SERVICES
 5450 SECURE DOCK LLC...BUSINESS SVS NEC
 5450 WERTZ & CO LLP...ACCTG,AUDIT,BKKEEP
 5500 BOURESTON DEVELOPMENT...REAL ESTATE
 5500 BOURESTON DEVELOPMENT...REAL ESTATE AGT,MGR
 5500 LOAN-SCORE DECISIONING SYSTEMS...COMPUTER SVS DESIGN
 5500 O C EXIT REALTY...REAL ESTATE AGT,MGR
 5500 O C REAL ESTATE SVC INC...REAL ESTATE AGT,MGR
 5500 TODD BOURESTON DEVELOPMENT INC...SUBDIVIDERS & DEVEL
 5510 KIMBALL TIREY & ST JOHN...LEGAL SERVICES

1 RON BLACK...RESIDENTIAL
 14 BAR S B LA...RESIDENTIAL
 14 S B LABAR...RESIDENTIAL
 16 HAL CHAVOUS...RESIDENTIAL
 17 MARK SIEGERT...RESIDENTIAL
 17 PETER SENKBEIL...RESIDENTIAL
 20 ROLAND WANNENMACHER...RESIDENTIAL
 24 GERALD & GEANINE CANNON...RESIDENTIAL
 26 JAMES & JENNIFER MEYER...RESIDENTIAL
 32 PATIENCE I KUPRATIS...RESIDENTIAL
 32 PATIENCE I KUPRATIS...RESIDENTIAL
 37 DEAN & LANA VOYER...RESIDENTIAL
 40 STEPHANIE GIDLUND...RESIDENTIAL
 41 FRANK & WENDY RICAPITO...RESIDENTIAL
 43 DAVID & LORI CANTRELL...RESIDENTIAL
 44 SUSAN E CEREGHINO...RESIDENTIAL
 47 GIFTED POOCH
 47 TRAINING CONSULTANTS & SOLUTIO...URBAN PLANNING AND CONSULTING
 SERVICES
 63 EDDIE NAKASONE...RESIDENTIAL
 69 NEIL & MICHAEL RIORDAN...RESIDENTIAL
 72 KATSUSUKE TAKAHASHI...RESIDENTIAL
 78 JENNIFER MARKS...RESIDENTIAL
 80 S & J STEWART...RESIDENTIAL
 81 R D PACE...RESIDENTIAL
 96 JEANNE & JULIE MCWAIN...RESIDENTIAL
 98 DONDON MUSIC CO
 99 MARC CORRADINI...RESIDENTIAL
 101 M HEWELL...RESIDENTIAL
 110 DAVID MORI...RESIDENTIAL
 111 RICHARD & JOANNE ORTNER...RESIDENTIAL
 113 J MOO...RESIDENTIAL
 114 MIKE & MARGIE MCCUNE...RESIDENTIAL
 118 ELEANOR REYNOLDS...RESIDENTIAL
 127 GABRIEL TOOLEY...RESIDENTIAL
 129 MIKE & CAROL SEATON...RESIDENTIAL
 131 SCOTT R WHISLER...RESIDENTIAL
 165 SYED A MEHDI...RESIDENTIAL
 14010 ST THOMAS MORE CATHOLIC CHURCH

4200 A ADVANCED FOOT & ANKLE CTR...PSYCHIATRISTS AND PSYCHOANALYSTS
 4200 A CHIROPRACTIC CORP
 4200 ADRIENNE'S BEAUTY CARE
 4200 BOB'S TV SHOP
 4200 CHOW CREIGHTON S DDS...SPECIALIZED DENTAL PRACTITIONERS
 4200 COLANDO PAT MS & CCC JACKSON...RESIDENTIAL
 4200 COLANDO PAT MS JACKSON...RESIDENTIAL
 4200 CREIGHTON S CHOW...RESIDENTIAL
 4200 CREIGHTON S DDS CHOW...RESIDENTIAL
 4200 DAVE JOHNSON INSURANCE
 4200 DOCTOR JAY KIM IRVINE ACADEMY
 4200 DORNER PHYSICAL THERAPY
 4200 FARMERS INSURANCE GROUP
 4200 GREENE JOHN C DC
 4200 HUNTINGTON LEARNING CTR
 4200 IRVINE ACUPUNCTURE CTR
 4200 IRVINE THERAPY SVC
 4200 JALATY CHUCK
 4200 LINDA DC SAMUELS...RESIDENTIAL
 4200 LISA DC PERLE...RESIDENTIAL
 4200 LISA'S SKIN CARE CLINIC
 4200 MIKE BELLINGER...RESIDENTIAL
 4200 MIKE BELLINGER INSURANCE
 4200 PARKSON DPM LIN...RESIDENTIAL
 4200 PERLE LISA DC
 4200 S M CPA VERMA...RESIDENTIAL
 4200 S M VERMA...RESIDENTIAL
 4200 TECH COAST REHAB
 4200 UNITED SECURITY SVC...DETECTIVE SERVICES
 4200 VERMA S M CPA...AUDITING SERVICES
 4200 WAKABAYASHI DAVID T OD...SPECIALIZED OPTOMETRISTS
 4200 WANG & JEAN...SPECIALIZED DENTAL PRACTITIONERS
 4200 WANG CHONG-SHU DDS...SPECIALIZED DENTAL PRACTITIONERS
 4200 WORLD AIR TRAVEL & TOUR INC
 5200 TRUE JESUS CHURCH IN IRVINE
 5400 RE/MAX PREMIER REALTY
 5400 REMAX PREMIERE REALTY
 5400 SAKAI KEIKO
 5410 BRICKSTONE ESCROW INC
 5410 STATE FARM INSURANCE
 5420 AMERICAN MORTGAGE EXPRESS
 5420 HOUSER & ALLISON
 5430 PASCOE DIRPES & ASSOC
 5600 BOURESTON DEVELOPMENT
 5600 HAL WOLOWSKI LAW OFFICES
 5600 TODD BOURESTON DEVELOPMENT INC
 5610 ANDRADE & ASSOC
 5610 ANDRADE & MUZI
 5610 SATALINO FRANK A ATTY
 5610 TAVARES JR ABILIO ATTY

REMBRANDT DR 92651 LAGUNA BEACH

WEALTH CODE 9-0

X VANDYKE DR

729 *HARRIS John 00
 736 *HARRIS John 00
 751 *JOYCE Deborah 00
 757 *KUTCHENSON 00
 760 *LOOKIS Steve 949-487-2282
 *LOOKIS Steve 949-487-2282
 *RADMACHER John 949-487-1321
 776 *WEISS 949-487-4255
 *GEFFREY BASC 00
 *HARRIS John 00
 788 *SADLER Richard 00
 802 *BOYER Alice 00
 800 *LAMBERTS Frances 00
 808 *CHARE John S 949-484-5135
 800 *VETH John 949-487-3043
 808 *MADDA David 949-484-2108
 *MULLER Virginia 949-484-2108
 814 *DINGO Joseph 00
 826 *GORDON Harvey 949-484-0274
 832 *ANDERSON Dick 949-484-0271
 *PUGL John 949-487-7087
 *RENTZEL Alexander J 949-484-0271
 945 *RENDALL Sam 949-484-2103
 980 *KXIA 00
 980 *LEWIS Steve 949-484-2713
 1000 *WATKINS Robert 949-487-5786
 *1 BUS 24 RES 3 NEW

REMESA DR 92691 MISSION VIEJO

WEALTH CODE 9-0

25241 *PEREZ O J 949-487-2999
 *PEREZ G A 949-487-2999
 25242 *CHAPMAN Richard 00
 25254 *DARCA David 949-484-7030
 25261 *FAULS Mary Ann 949-484-7030
 25262 *PEREZ Robert L Col 949-481-8887
 25271 *SCHAUER John 949-484-7030
 25281 *COLE Gregory G 949-481-1252
 25282 *JOHNSON John 00
 25291 *KATZON Conrad E 949-484-2194

X POSADA LN

25302 *RICH John 00
 25311 *CHRISTON Dave 00
 25312 *ZYBIA Edward 00
 25322 *MONTGOMERY 949-484-1942
 25321 *SHEPHERD Janet 00
 25343 *CAGGAS Juan 00
 25361 *FARMER Bryan D 949-484-8882
 25362 *KANDON Terry 949-484-8111
 25371 *KOTTER Raymond 00
 25372 *Thurman Ed 949-487-9479
 25381 *HICKS David 949-586-2187
 25382 *GUTH Thomas 00

X PEPITA DR

25401 *LECHNER Paul 00
 25411 *GORDON John 00
 25412 *GALLAGHER John 00
 25413 *HARRIS Thomas 00
 25418 *HALL Jacqueline 00
 25421 *RODRIGUEZ Juan 00
 25422 *MULINO Paul 949-484-8025
 25431 *CARRIS Peter 949-484-4446
 25432 *SESSONS Ronald 00
 25441 *SULLIVAN Dennis 00
 25442 *THOMAS TOLA Michael 00
 25452 *WELER Donald L 949-481-2778
 25462 *BOYD Frank 949-778-8153
 *BOYD Jeanette 949-778-8153
 25471 *JOHNSON Paul 00
 25472 *JOHNSON Paul 00
 25481 *JOHNSON Peter 00
 25482 *SANDORE Dale 00
 25491 *WELSON Kathleen 00
 25501 *BOND Michael T 949-385-7887

X TERRENO DR

*2 BUS 43 RES 5 NEW

REMINGTON 92620 IRVINE

WEALTH CODE 9-5

X TRABUCO RD

1 *BLACK Sandra 949-481-1182
 2 *MCNANE Karla 949-484-5952
 *MCNANE Karla 949-484-5955
 3 *KULAN Stephen 00
 4 *CARPANO Frances 00
 6 *MCCULLOCH Wendy 00
 7 *GALLEY Carol 00
 10 *HARRIS Steven 00
 11 *FREEDRICKSON 00
 12 *HARRIS V 00
 14 *LAWSON S E 949-581-4028
 15 *CONOLLY S 949-484-1142
 *OTA Robert 00
 16 *CHOUVONNE 00
 17 *HOTTAR Robert 00
 18 *KATZON Robert 949-778-8335
 19 *GORDON Eugene 00
 20 *SCUTTO R 00
 21 *FOLKSON Karen 00
 23 *FILLIE Alvin 00
 24 *LOVE John 00
 *SALBER J 949-778-3443
 25 *MORSE Robert 00
 26 *EGAN Robert 949-484-8281
 27 *BERMANSON Julie 00
 28 *LEVY Ima 00
 29 *CARRON Enrique 00
 30 *CARRON Enrique 00
 31 *BROOKS Wendy 00
 *JOHNSON Christopher 949-778-8340
 *JOHNSON 949-778-8340
 *THOMAS Robert 00
 33 *GORDON Timothy 00
 34 *KUD Fu Shun 949-484-0188
 *MEAD Donna 00
 35 *THOMPSON Gene 949-778-9478
 36 *BUS 00
 37 *VOYER Owen 949-484-1028
 *VOYER Lane 949-484-1028
 38 *HARRIS Lee 00
 39 *HARRIS Lee 00
 40 *HARRIS Lee 00

*DO NOT CALL

REMINGTON 92620 IRVINE

WEALTH CODE 9-5

81 *HARRIS Wendy 949-481-1623
 82 *HARRIS Robert 00
 83 *HARRIS Robert 949-778-2416
 84 *HARRIS Robert 00
 85 *HARRIS Robert 00
 86 *HARRIS Robert 949-778-0738
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**+REMINGTON LN (01)
92656 ALISO VIEJO**

1 *HARRIS Robert 949-484-8888
 2 *HARRIS Robert 949-484-8888
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TRABUCO RD 92620 IRVINE

WEALTH CODE 8.0

4182	• IRVINE SHELL SERV	949-559-8780	8
	• PENNER Walter	OO	0
	• SHELL SERVICE STN	949-559-8780	8
	DLRS		
4200	 BUILDING		
	• A ADVANCED	949-552-1172	7
	FOOT&ANKLE		
	CENTERS		
	• BELLINGER MIKE	949-857-0566	
	• CHOW CREIGHTON S	949-559-1178	
	DOO		
	• DORNER PHYSCL	949-651-9199	
	THRPY		
	• FARMERS INS AGENT	949-857-0566	
	• FARMERS INS AGENT	949-857-0148	
	• GREENE JOHN C DC	949-857-6631	9
	• HEAVEN&EARTH NAIL	949-651-6468	+1
	SPA		
	• HUNTINGTON	949-733-2101	9
	LEARNING CENTER		
	THE		
	• IRVINE HEALTH	949-551-0194	0
	CENTER		
	• IRVINE THERAPY SRV	949-857-0325	
	• JALATY CHUCK	949-857-0139	
	• JALATY CHUCK	949-857-0148	
	• JOHNSON DAVE INS AG	949-651-1026	2
	• LISAS SKIN CARE	949-857-6957	0
	CLINIC		
	• OMEGA CLEANERS	949-559-1216	2
	• PERLE LISA DC	949-552-1172	
	• RAWLINGS ANDREW W	949-551-0194	0
	DC		
	• SHUVAH YISRAEL	949-551-5797	9
	• SMITH BRENT M DC	949-552-1172	
	• TECH COAST REHAB	949-654-1369	0
	• VERMA S M CPA	949-551-1070	
	• WAKABAYASHI DAVID	949-552-2020	4
	T		
	• WANG AND JEAN DMD	949-551-4737	7
	INC		
	• WORLD AIR TRAVEL	949-451-1689	0

X REMINGTON

5200 • TRUE JESUS CHURCH 949-651-0091 9
IN IRVINE

X JEFFREY RD

5777 • NORTHWOOD GOLF 949-559-8816 8
CENTER

5951 • ORANGE COUNTY 949-651-9106 7
PRODUCE

ZIP CODE 92618 IRVINE

WEALTH CODE 2.0

6952	• IRVINE GARAGE	949-551-2030	
	• RYDER TRUCK RENTAL	949-551-6394	7
	• RYDER TRUCK RENTAL	949-222-1216	7
	ONE WAY INC		
6968	• A D WELDING	949-786-9665	6
	• GEM DEGRASSING	949-551-8114	6
	• IRVINE WELDING	949-551-0902	8
	• JEM CRANE SERVICE	949-551-8114	6
	• JEM DEGRASSING	949-551-8114	7
	• JEM INDUSTRIAL	949-551-8114	+1
	SERVICE CO INC		

REMBRANDT DR 92651 LAGUNA BEACH

WEALTH CODE 8.8

728	• FALCONE Mark A	494-2371	
	• FALCONE Teresa	494-8271	
751	XXXX	OO	
757	• MICHAELWICZ Paul	494-8278	+6
780	• LOOMIS CONSTRUCTION	497-3282	
	• LOOMIS RICHARD A	497-3282	
779	• WESSER GEOFFREY BASC	497-1281	
786	XXXX	OO	
802	XXXX	OO	
880	• CHAURET Sam S	494-5125	5
900	• VETH Carolyn	494-4880	
	• VETH John	494-4880	
908	• HANNA David	497-8548	1
	• MILLER Virginia	494-2428	+6
914	XXXX	OO	
921	• CRINGRICH Harvey	494-8274	
932	• ANDERSON Dick	494-8271	
	• PUCK Allen	497-7087	4
	• WENTZEL Alexander J	494-8271	
940	XXXX	OO	
945	• KRENGALL Ken	494-2100	
954	XXXX	OO	
960	XXXX	OO	
960	• LEWIS Steve	494-2713	3
1000	• HATHAWAY Clifford	497-5780	7
	• 3 BUS	20 RES	2 NEW

REMESA DR 92691 MISSION VIEJO

WEALTH CODE 8.0

25241	• PEREZ D J	857-2058	+6
	• PEREZ G A	857-2058	
25242	XXXX	OO	
25251	XXXX	OO	
25281	• FRANK David	494-7020	
	• FRANK Mary Ann	494-7020	
25282	• PERRY Robert L Col	351-4807	
25271	• SCHNEIDER Jeff	380-7086	+6
25282	XXXX	OO	
25281	• MATSON Corral E	850-2194	
25302	XXXX	OO	
25311	XXXX	OO	
25321	XXXX	OO	
25322	• MONTEER Harold	850-1842	
25331	XXXX	OO	
25332	• BERTILL Richard G	857-4408	
25345	XXXX	OO	
25346	XXXX	OO	
25351	XXXX	OO	
25362	• SHANNON Terry	850-9111	8
25371	XXXX	OO	
25372	• THORNE Edw	857-3475	
25381	• A Y S D	859-1788	+6
	• HICKS David L	598-3107	
25382	XXXX	OO	
25411	XXXX	OO	
25412	• PEAFAY Arthur W	850-2450	
25413	XXXX	OO	
25421	XXXX	OO	
25422	XXXX	OO	
25431	• Gomez Peter	850-4488	
25432	XXXX	OO	
25441	• GALLEGO Dennis	779-7958	
25452	• WELLS Gerald L	951-2778	2
25471	• WICKMAN Dale	855-3848	
	• WICKMAN Kelly	855-3848	
25472	XXXX	OO	
25481	XXXX	OO	
25482	XXXX	OO	
25481	XXXX	OO	
25501	• BOND Michael T	380-7887	8
	• 1 BUS	40 RES	4 NEW

REMINGTON (88) 92620 IRVINE

WEALTH CODE 8.8

1	BLACK Ron	855-1180	1
2	XXXX	OO	
3	XXXX	OO	
4	XXXX	OO	
5	XXXX	OO	
14	• LADAR S B	551-4428	9
15	XXXX	OO	
16	• CHAVOUT Hal	852-8834	3
17	• SENNEL Peter	730-9411	5
	• SEGERT Mark	730-9411	5
20	XXXX	OO	
23	XXXX	OO	
24	• CANNON George	551-5375	5
	• CANNON Gerald	551-5375	5
25	XXXX	OO	
26	XXXX	OO	
28	XXXX	OO	
31	XXXX	OO	
32	• RUPATIS Patricia I	551-8418	8
35	XXXX	OO	
36	XXXX	OO	
40	XXXX	OO	
42	• MUTO Takuya	786-7388	+6
43	• EVANS W L	552-5882	
45	• SODOM Brad	851-1885	2
47	XXXX	OO	
48	XXXX	OO	
51	XXXX	OO	
52	XXXX	OO	
59	• ROEDER Michael	851-0154	
	• ROEDER Neil	851-0154	
70	• MELNICK Mark	559-9184	+6
72	• TANAKASHI Katsuhiko	851-6480	5
73	XXXX	OO	
74	XXXX	OO	
75	• MARIN Jennifer	786-3022	+6
76	• MILLHOUSE Michelle	553-3307	
	• MILLHOUSE Richard	553-3307	
80	• STEWART Janet	552-8129	
	• STEWART Scott	552-8129	
83	XXXX	OO	
84	XXXX	OO	
87	XXXX	OO	
87	• BARNHARTT George	851-6282	8
90	XXXX	OO	
90	XXXX	OO	
92	• MCNARY Jeanne	551-8172	
	• MCNARY John	551-8172	
97	XXXX	OO	
98	• CORRADINI Marc	786-6380	2
100	XXXX	OO	
101	• HENRILL M	730-0182	4
102	XXXX	OO	

REMINGTON

105	XXXX	OO	
107	XXXX	OO	
108	XXXX	OO	
109	• BOYD William D	551-0242	9
110	• MORRIS David	551-4354	2
111	• ORTNER Joanne	559-5202	
	• ORTNER Robert	559-5202	
112	XXXX	OO	
113	• YIN Tom	786-1138	1
114	• MCCUNE Marge	559-7982	
	• MCCUNE Mike	559-7982	
115	XXXX	OO	
118	• SMITH Frank	857-8544	+6
118	• REYNOLDS Eleanor	857-8505	+6
121	XXXX	OO	
123	XXXX	OO	
125	XXXX	OO	
127	• TOOLEY Gabriel	551-4572	1
131	• WHISLER Scott R	851-1338	8
132	XXXX	OO	
135	XXXX	OO	
136	XXXX	OO	
141	XXXX	OO	
149	• OLSSON Norman	559-7134	4
152	XXXX	OO	
158	• MCKINLEY Diane	733-3274	5
	• MCKINLEY James	733-3274	5
157	XXXX	OO	
158	• GAIN Eileen V	851-4040	2
181	XXXX	OO	
183	• MCHX Scott Asst	559-1328	0
	• 0 BUS	84 RES	5 NEW

REMME RIDGE 92630 EL TORO

23882	• LEGENDS U S A	479-1940	+6
	• NOVA MFG	484-1404	5
23901	• V M TECHNOLOGY INC	857-1880	5
23902	• VALLEY AUTO COLLUS	479-1948	
	• 4 BUS	0 RES	1 NEW

REMORA DR 92649 HUNTINGTON BCH

WEALTH CODE 8.0

3181	• BUTI Barbara	592-2335	5
3181	XXXX	OO	
3201	• HUSKIN Michael C	592-5441	+6
	• 0 BUS	3 RES	1 NEW

REN CIR 92780 TUSTIN

WEALTH CODE 2.0

1051	• SHORA John R	771-5083	4
1060	XXXX	OO	
1062	XXXX	OO	
1071	XXXX	OO	
1072	• HEARER Susako	858-0382	8
1081	XXXX	OO	
1082	XXXX	OO	
	• 0 BUS	7 RES	0 NEW

RENE DR S 92704 SANTA ANA

WEALTH CODE 5.3

1101	XXXX	OO	
1102	• PERALES Anibal	341-8132	7
1106	• GUILLEN Magisterio G	751-8551	
1110	XXXX	OO	
1111	XXXX	OO	
1112	• CASTILLO Leonor	557-3417	+6
1121	XXXX	OO	
1122	• PALAFORCES PABLO R	540-2362	5
1125	XXXX	OO	
1126	• BORRERO Chas	546-6328	
1130	• LUCERO Sever	857-2571	+6
	• ORTEGA Adolfo	857-3750	+6
1131	XXXX	OO	
1134	• GONZALES Pedro	857-7128	2
	• SALAS Miriam	435-9074	+6
1137	XXXX	OO	
1138	XXXX	OO	
1141	• ACEVEDO Aurora	754-7940	+6
1142	• GUILLEN Jose	549-0548	
	• GUILLEN Thomas	549-0548	
1202	• DURAN John J	540-7580	0
1203	XXXX	OO	
1206	XXXX	OO	
1210	XXXX	OO	
1212	XXXX	OO	
1218	• DOMINGO Anibal	857-3888	4
1230	XXXX	OO	
1234	XXXX	OO	
1302	• AGUILAR Eleazar	850-4782	+6
1306	XXXX	OO	
1314	• GUTIERREZ Celso	857-3036	5
1317	• FRANCO Anibal	540-6528	
1318	XXXX	OO	
1321	XXXX	OO	
1322	XXXX	OO	
1325	XXXX	OO	
1342	• MORGAL Martha	545-7414	0
1343	XXXX	OO	
1347	• VAQUERO Juan	888-2881	5
1388	XXXX	OO	
1401	XXXX	OO	
1402	XXXX	OO	
1405	XXXX	OO	
1406	• AGUILAR Felipe	444-3713	+6
1410	• BEJNAL Flavio	546-4725	+6
1414	• JACOBS William M Jr	751-1986	
1415	XXXX	OO	
1418	• ANTHONY Carlos	441-6125	4
1419	XXXX	OO	
1422	• MURCE Vivian	540-6283	
1423	• SCHAFER Ben C	546-5178	
1426	XXXX	OO	
1427	XXXX	OO	
1438	• PUTER Ross Val	751-6338	0
1439	• WENDLANDT Earl	554-8825	
1413	• FERNANDEZ Jose L	546-1557	1
1413	• FERNANDEZ Victor	751-4656	
1414	XXXX	OO	
1417	• ASAD Ven S	546-0859	
1418	XXXX	OO	
1421	• PUENTES Florio	551-8188	+6
1422	• BANKS Gen Willa P	888-0881	
1701	XXXX	OO	
1702	XXXX	OO	
1703	• CARRILLO Maribel	545-3413	5
1708	• HANAURO Jorge	545-7717	+6
1708	• MOLINA Anibal	857-6227	

TRABUCO RD 92620 IRVINE

WEALTH CODE 5 0

4182	• IRVINE SHELL SERV	959-8790	+6
	• SHELL IRVINE SERV	959-8790	+6
	• SHELL SV STA DEALER	959-1311	
4200	BUILDING		
	• A PLACE IN THE SUN	951-1288	5
	• BELLINGER MIKE	957-0606	
	• BOBS TV SHOP	951-3232	1
	• CHOW CRIGHTN S DOB	959-1178	
	• DONS TOP DART SPLY	959-8840	3
	• DORNER PHYSCL THERPY	951-4189	7
	• FARMERS INS AGENCY	957-0148	
	• FARMERS INS AGENT	957-0148	
	• FARMERS INS AGENT	957-0686	
	• IRVINE THERAPY SVY	957-0328	
	• JALATY CHUCK	957-0138	
	• JALATY CHUCK	957-0148	
	• JAZAYERI N DOB	959-1178	2
	• JOHNSON DAVE INS AG	951-1028	3
	• LIN PARKSON DR DPM	952-1172	4
	• NEW SOUL RECORDS	786-7611	+6
	• OMEGA CLEANERS	959-1218	2
	• PERLE LISA DC	952-1172	1
	• PLACE IN THE SUN A	951-1288	+6
	• SMITH BRENT M DC	952-1172	
	• STEINHOUSER J DC	952-1172	
	• VERMA S M CPA	951-1078	
	• WAKABAYASHI DAVID T	952-2020	4
	• WANGJEAN DMD INC	951-4727	0
	• WELAND R R ATTY	951-4428	+6

4200

..TRABUCO RD

92620 CONT..

ZIP CODE 92618

WEALTH CODE 2 0

8852	• IRVINE GARAGE	951-2030	7
8868	• A D WELDING	786-9685	+6
	• GEM DEGLASSING	951-8114	+6
	• INDSTRIL TANK SERV	957-8048	+6
	• JEM CRANE SERVICE	951-8114	+6
8878	• EL TORO CLNRS&LDTRY	959-1518	
7000	• AVTELL SERVICES INC	786-4087	5
	• M C A S HISTORICAL	959-8796	2
	• SOUTHRN IL UNIV	959-1757	4
8171	• IRVINE SC EL TORO	959-0818	5
8501	XXXX	00	
8551 1/2	THOMPSON Bryan	957-8979	5
8561 1/2	GARCIA Donna	786-6282	+6
	GARCIA Gilbert	786-6282	+6

STREET NOT LISTED

RANGE NOT LISTED

STREET NOT LISTED

RANGE NOT LISTED

STREET NOT LISTED

RANGE NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

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STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED



FIRE INSURANCE MAPS

Project Property: 14010 Remington, Irvine
14010 Remington
Irvine CA 92620

Project No: EG-SHEA-23-8

Requested By: Enercon Services, Inc.

Order No: 24040100864

Date Completed: April 02, 2024

Please note that no information was found for your site or adjacent properties.



Property Information

Order Number: 24040100864p
Date Completed: April 2, 2024
Project Number: EG-SHEA-23-8
Project Property: 14010 Remington, Irvine
14010 Remington Irvine CA 92620
Coordinates:
Latitude: 33.69986536
Longitude: -117.76870659
UTM Northing: 3729143.61361 Meters
UTM Easting: 428762.094144 Meters
UTM Zone: UTM Zone 11S
Elevation: 158.74 ft
Slope Direction: WSW

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The ERIS **Physical Setting Report - PSR** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

APPENDIX D
DATABASE REPORT



DATABASE REPORT

Project Property: 14010 Remington, Irvine
14010 Remington
Irvine CA 92620

Project No: EG-SHEA-23-8

Report Type: Database Report

Order No: 24040100864

Requested by: Enercon Services, Inc.

Date Completed: April 3, 2024

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

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Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	1	-	1
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	5	14	-	-	19
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
DOE FUSRAP	Y	1	0	0	0	0	0	0

State

RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	2	3	5
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
WMUD	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	0	0	0	-	0
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	0	-	0
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	1	2	-	3
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	0	0	0	-	-	0
UST SWEEPS	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
CERS TANK	Y	0.25	0	0	0	-	-	0
DELISTED CTNK	Y	0.25	0	0	0	-	-	0
HIST TANK	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
CLEANUP SITES	Y	0.5	0	0	0	2	-	2
DELISTED CLEANUP	Y	0.5	0	0	0	0	-	0
DELISTED COUNTY	Y	0.25	0	0	1	-	-	1

Tribal

INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0

County

ICP ORANGE	Y	0.25	0	0	0	-	-	0
LOP ORANGE	Y	0.5	0	0	0	0	-	0
NPUT ORANGE	Y	0.5	0	0	0	0	-	0
UST ORANGE	Y	0.25	0	0	0	-	-	0
AST ORANGE	Y	0.25	0	0	0	-	-	0
UST CLP ANAHEIM	Y	0.5	0	0	0	0	-	0
UST ANAHEIM	Y	0.25	0	0	0	-	-	0
AST ANAHEIM	Y	0.25	0	0	0	-	-	0

Additional Environmental Records

Federal

PFAS GHG	Y	0.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PFAS TSCA	Y	0.5	0	0	0	0	-	0
PFAS E-MANIFEST	Y	0.5	0	0	0	0	-	0
PFAS IND	Y	0.5	0	0	0	3	-	3
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FUDS MRS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	2	-	-	2
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0

State

PFAS SAMPLING	Y	0.5	0	0	0	1	-	1
DRYCLEANERS	Y	0.25	0	0	1	-	-	1
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PFAS GT CLEANUPS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	1	-	1
PFAS INVEST	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
TOXIC PITS	Y	1	0	0	0	0	0	0
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	1	3	4
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HAZ GEN	Y	PO	0	-	-	-	-	0
HAZ TSD	Y	0.5	0	0	0	0	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	0	-	-	-	0
DELISTED HAZ	Y	0.5	0	0	1	0	-	1
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	0	0	-	-	0
CDL	Y	0.125	0	0	-	-	-	0

Tribal *No Tribal additional environmental record sources available for this State.*

County

HW ORANGE	Y	0.125	0	0	-	-	-	0
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Total: 0 5 20 13 6 44

* PO – Property Only

* 'Property and adjoining properties' database search radii are set at 0.25 miles.

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
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No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
<u>1</u>	RCRA NON GEN	ALBERT TEDIDOR	8 SALK IRVINE CA 92620 <i>EPA Handler ID: CAC003179731</i>	ENE	0.09 / 455.93	7	<u>25</u>
<u>2</u>	RCRA NON GEN	MIRA DE	23 LINDBERG IRVINE CA 92620 <i>EPA Handler ID: CAC003154180</i>	N	0.10 / 511.71	-3	<u>26</u>
<u>3</u>	RCRA NON GEN	HENG LIU	3 LINDBERG IRVINE CA 92620 <i>EPA Handler ID: CAC003170423</i>	NNE	0.10 / 524.38	3	<u>27</u>
<u>4</u>	RCRA NON GEN	JI WON MICHAEL SHIN	285 HUNTINGTON IRVINE CA 92620 <i>EPA Handler ID: CAC003136208</i>	SW	0.12 / 615.88	-11	<u>28</u>
<u>5</u>	RCRA NON GEN	AMIR KIAI	51 CARVER IRVINE CA 92620 <i>EPA Handler ID: CAC003130177</i>	E	0.12 / 621.04	11	<u>29</u>
<u>6</u>	RCRA NON GEN	JERRY BOAZ	1 DEFOREST IRVINE CA 92620 <i>EPA Handler ID: CAC002973736</i>	ENE	0.15 / 767.84	14	<u>30</u>
<u>7</u>	RCRA NON GEN	STEVE STACHOWSKI	9 CROCKETT IRVINE CA 92620-3330 <i>EPA Handler ID: CAC003039029</i>	E	0.16 / 824.04	13	<u>31</u>
<u>8</u>	RCRA NON GEN	EVA HO	6 WRIGHT IRVINE CA 92620 <i>EPA Handler ID: CAC003162291</i>	NNW	0.16 / 831.63	-5	<u>32</u>
<u>9</u>	LUST	ORANGE COUNTY FIRE STATION #15	3202 SANTIAGO CANYON IRVINE CA 92720 <i>Global ID Status: T0605900414 Completed - Case Closed</i>	N	0.17 / 908.42	4	<u>33</u>
<u>10</u>	RCRA NON GEN	HARRY HUANG	4 MCCORMICK IRVINE CA 92620 <i>EPA Handler ID: CAC003210056</i>	ENE	0.18 / 950.19	15	<u>36</u>
<u>11</u>	RCRA NON GEN	EUGENE LIU	8 MCCORMICK IRVINE CA 92620 <i>EPA Handler ID: CAC003091728</i>	ENE	0.20 / 1,030.08	16	<u>37</u>
<u>12</u>	RCRA NON GEN	TERRY STEYER	10 MCCORMICK IRVINE CA 92620 <i>EPA Handler ID: CAC003075494</i>	ENE	0.20 / 1,072.19	15	<u>38</u>
<u>13</u>	ALT FUELS	SCCCA EVCHARGER STATION 2	9 Truman St Irvine CA 92620	SSE	0.20 / 1,080.73	11	<u>39</u>

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			ID: 159144				
<u>13</u>	ALT FUELS	SCCCA EVCHARGER STATION 1	9 Truman St Irvine CA 92620	SSE	0.20 / 1,080.73	11	<u>40</u>
			ID: 176686				
<u>13</u>	RCRA NON GEN	SOUTH COAST CHINESE CULTURAL ASSOCIATION	9 TRUMAN IRVINE CA 92620	SSE	0.20 / 1,080.73	11	<u>40</u>
			EPA Handler ID: CAC003126489				
<u>14</u>	DRYCLEANERS	NABEELA CHAUDRY	13 FULTON IRVINE CA	NE	0.22 / 1,184.16	14	<u>41</u>
<u>15</u>	RCRA NON GEN	BRENT REGAN	5 BOONE IRVINE CA 92620	N	0.23 / 1,194.66	-1	<u>42</u>
			EPA Handler ID: CAC003114983				
<u>16</u>	RCRA NON GEN	CHETAN KATARIYA	17 FIELD IRVINE CA 92620-3344	ENE	0.23 / 1,207.70	16	<u>43</u>
			EPA Handler ID: CAC003057206				
<u>17</u>	RCRA NON GEN	GUSTAVO RODRIGUEZ	8 BOONE STREET IRVINE CA 92620	N	0.24 / 1,249.54	-2	<u>44</u>
			EPA Handler ID: CAC002974731				
<u>18</u>	DELISTED COUNTY	ORANGE COUNTY PRODUCE LLC	5491 TRABUCO RD FLD 235 IRVINE CA 92620	ESE	0.24 / 1,252.17	22	<u>45</u>
<u>19</u>	RCRA NON GEN	DEBBIE SMITH	1 BOONE IRVINE CA 92620	N	0.24 / 1,259.38	-3	<u>45</u>
			EPA Handler ID: CAC003241755				
<u>20</u>	DELISTED HAZ	Northwood Place Apartment Homes	1300 HAYES IRVINE CA 92620	S	0.24 / 1,286.32	-2	<u>46</u>
<u>20</u>	RCRA NON GEN	NORTHWOOD PLACE APARTMENTS	1300 HAYES IRVINE CA 92620	S	0.24 / 1,286.32	-2	<u>46</u>
			EPA Handler ID: CAC003065001				
<u>20</u>	RCRA NON GEN	NORTHWOOD PLACE APARTMENT HOMES	1300 HAYES UNIT #900 IRVINE CA 92620	S	0.24 / 1,286.32	-2	<u>47</u>
			EPA Handler ID: CAC003159546				
<u>21</u>	RCRA NON GEN	GREGORY LEE	27 FIELD IRVINE CA 92602	ENE	0.25 / 1,308.04	19	<u>48</u>
			EPA Handler ID: CAC003048521				

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
<u>22</u>	ENVIROSTOR	TRABUCO CLEANERS	13925 YALE AVE., SUITE 145 IRVINE CA 92620	NW	0.31 / 1,637.54	-14	<u>50</u>
<i>Estor/EPA ID Cleanup Status:</i> 60001106 REFER: LOCAL AGENCY AS OF 1/11/2011							
<u>23</u>	CLEANUP SITES	TRABUCO CLEANERS	13925 YALE AVE IRVINE CA 92620	NW	0.33 / 1,745.84	-13	<u>50</u>
<i>Global ID:</i> T10000018491							
<u>24</u>	PFAS IND	ANDERSON, AUBREY	IRVINE CA	WSW	0.34 / 1,792.91	-26	<u>52</u>
<u>25</u>	LUST	TREASURE FARM WINDMACHINE 227	14503 TRABUCO RD IRVINE CA 92720	ESE	0.41 / 2,148.68	30	<u>53</u>
<i>Global ID Status:</i> T0605901751 Open - Site Assessment							
<u>26</u>	CLEANUP SITES	TREASURE FARMS	0 NE JEFFREY & TRABUCO RD IRVINE CA 92720	ESE	0.41 / 2,183.80	30	<u>56</u>
<i>Global ID:</i> T10000020533							
<u>27</u>	SCH	PROPOSED PA 40 MIDDLE SCHOOL	TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618	ESE	0.42 / 2,226.88	29	<u>57</u>
<i>Estor/EPA ID Cleanup Status:</i> 60000561 NO FURTHER ACTION AS OF 4/16/2007							
<u>27</u>	ENVIROSTOR	PROPOSED PA 40 MIDDLE SCHOOL	TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618	ESE	0.42 / 2,226.88	29	<u>58</u>
<i>Estor/EPA ID Cleanup Status:</i> 60000561 NO FURTHER ACTION AS OF 4/16/2007							
<u>28</u>	PFAS IND	TRI-COUNTY SANBLASTING INC	IRVINE CA	ENE	0.43 / 2,261.83	34	<u>59</u>
<u>28</u>	PFAS IND	KARCHER ENVIRONMENTAL INC	ORANGE COUNTY CA	ENE	0.43 / 2,261.83	34	<u>60</u>
<u>29</u>	RCRA TSD	RASHED ARBI	65 KAZAN ST IRVINE CA 92604	SW	0.45 / 2,399.37	-20	<u>61</u>
<i>EPA Handler ID:</i> CAC003017558							
<u>30</u>	PFAS GW		CA	W	0.47 / 2,491.26	-38	<u>62</u>
<u>30</u>	PFAS SAMPLING	WELL 76	IRVINE CA	W	0.47 / 2,491.26	-38	<u>99</u>
<u>31</u>	LUST	OR. CO. FIRE STATION #26-57/58	4691 WALNUT AVE IRVINE CA 92714	W	0.49 / 2,583.75	-39	<u>121</u>
<i>Global ID Status:</i> T0605901530 Completed - Case Closed							

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
<u>32</u>	SCH	WOODBURY (AREA 9) MIDDLE SCHOOL	JEFFREY ROAD / BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status:</i> 30000005 NO FURTHER ACTION AS OF 10/13/2004	E	0.69 / 3,632.38	54	<u>123</u>
<u>32</u>	ENVIROSTOR	WOODBURY (AREA 9) MIDDLE SCHOOL	JEFFREY ROAD / BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status:</i> 30000005 NO FURTHER ACTION AS OF 10/13/2004	E	0.69 / 3,632.38	54	<u>124</u>
<u>33</u>	SCH	IRVINE HIGH SCHOOL EXPANSION PROJECT	4321 WALNUT AVENUE IRVINE CA 92604 <i>Estor/EPA ID Cleanup Status:</i> 60001920 NO FURTHER ACTION AS OF 3/18/2014	W	0.75 / 3,983.58	-49	<u>126</u>
<u>33</u>	ENVIROSTOR	IRVINE HIGH SCHOOL EXPANSION PROJECT	4321 WALNUT AVENUE IRVINE CA 92604 <i>Estor/EPA ID Cleanup Status:</i> 60001920 NO FURTHER ACTION AS OF 3/18/2014	W	0.75 / 3,983.58	-49	<u>127</u>
<u>34</u>	SCH	WOODBURY (AREA 9) ELEMENTARY SCHOOL	JEFFREY ROAD/BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status:</i> 30010020 NO FURTHER ACTION AS OF 6/6/2005	E	0.96 / 5,044.90	76	<u>128</u>
<u>34</u>	ENVIROSTOR	WOODBURY (AREA 9) ELEMENTARY SCHOOL	JEFFREY ROAD/BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status:</i> 30010020 NO FURTHER ACTION AS OF 6/6/2005	E	0.96 / 5,044.90	76	<u>129</u>

Executive Summary: Summary by Data Source

Standard

Federal

RCRA TSD - RCRA non-CORRACTS TSD Facilities

A search of the RCRA TSD database, dated Jan 1, 2024 has found that there are 1 RCRA TSD site(s) within approximately 0.50miles of the project property

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
RASHED ARBI	65 KAZAN ST IRVINE CA 92604	SW	0.45 / 2,399.37	<u>29</u>
<i>EPA Handler ID: CAC003017558</i>				

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Jan 1, 2024 has found that there are 19 RCRA NON GEN site(s) within approximately 0.25miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ALBERT TEDIDOR	8 SALK IRVINE CA 92620	ENE	0.09 / 455.93	<u>1</u>
<i>EPA Handler ID: CAC003179731</i>				
HENG LIU	3 LINDBERG IRVINE CA 92620	NNE	0.10 / 524.38	<u>3</u>
<i>EPA Handler ID: CAC003170423</i>				
AMIR KIAI	51 CARVER IRVINE CA 92620	E	0.12 / 621.04	<u>5</u>
<i>EPA Handler ID: CAC003130177</i>				
JERRY BOAZ	1 DEFOREST IRVINE CA 92620	ENE	0.15 / 767.84	<u>6</u>
<i>EPA Handler ID: CAC002973736</i>				
STEVE STACHOWSKI	9 CROCKETT IRVINE CA 92620-3330	E	0.16 / 824.04	<u>7</u>
<i>EPA Handler ID: CAC003039029</i>				
HARRY HUANG	4 MCCORMICK IRVINE CA 92620	ENE	0.18 / 950.19	<u>10</u>
<i>EPA Handler ID: CAC003210056</i>				
EUGENE LIU	8 MCCORMICK IRVINE CA 92620	ENE	0.20 / 1,030.08	<u>11</u>
<i>EPA Handler ID: CAC003091728</i>				

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Feb 15, 2024 has found that there are 5 ENVIROSTOR site(s) within approximately 1.00miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
PROPOSED PA 40 MIDDLE SCHOOL	TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618	ESE	0.42 / 2,226.88	<u>27</u>
<i>Estor/EPA ID Cleanup Status: 60000561 NO FURTHER ACTION AS OF 4/16/2007</i>				
WOODBURY (AREA 9) MIDDLE SCHOOL	JEFFREY ROAD / BRYAN AVENUE IRVINE CA 92620	E	0.69 / 3,632.38	<u>32</u>
<i>Estor/EPA ID Cleanup Status: 30000005 NO FURTHER ACTION AS OF 10/13/2004</i>				
WOODBURY (AREA 9) ELEMENTARY SCHOOL	JEFFREY ROAD/BRYAN AVENUE IRVINE CA 92620	E	0.96 / 5,044.90	<u>34</u>
<i>Estor/EPA ID Cleanup Status: 30010020 NO FURTHER ACTION AS OF 6/6/2005</i>				
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TRABUCO CLEANERS	13925 YALE AVE., SUITE 145 IRVINE CA 92620	NW	0.31 / 1,637.54	<u>22</u>
<i>Estor/EPA ID Cleanup Status: 60001106 REFER: LOCAL AGENCY AS OF 1/11/2011</i>				
IRVINE HIGH SCHOOL EXPANSION PROJECT	4321 WALNUT AVENUE IRVINE CA 92604	W	0.75 / 3,983.58	<u>33</u>
<i>Estor/EPA ID Cleanup Status: 60001920 NO FURTHER ACTION AS OF 3/18/2014</i>				

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Nov 30, 2023 has found that there are 3 LUST site(s) within approximately 0.50miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORANGE COUNTY FIRE STATION #15	3202 SANTIAGO CANYON IRVINE CA 92720	N	0.17 / 908.42	<u>9</u>
<i>Global ID Status: T0605900414 Completed - Case Closed</i>				
TREASURE FARM WINDMACHINE 227	14503 TRABUCO RD IRVINE CA 92720	ESE	0.41 / 2,148.68	<u>25</u>
<i>Global ID Status: T0605901751 Open - Site Assessment</i>				
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
OR. CO. FIRE STATION #26-57/58	4691 WALNUT AVE IRVINE CA 92714	W	0.49 / 2,583.75	<u>31</u>
<i>Global ID Status: T0605901530 Completed - Case Closed</i>				

CLEANUP SITES - GeoTracker Cleanup Program Sites

A search of the CLEANUP SITES database, dated Nov 30, 2023 has found that there are 2 CLEANUP SITES site(s) within approximately 0.50miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TREASURE FARMS	0 NE JEFFREY & TRABUCO RD IRVINE CA 92720 <i>Global ID: T10000020533</i>	ESE	0.41 / 2,183.80	<u>26</u>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TRABUCO CLEANERS	13925 YALE AVE IRVINE CA 92620 <i>Global ID: T10000018491</i>	NW	0.33 / 1,745.84	<u>23</u>

DELISTED COUNTY - Delisted County Records

A search of the DELISTED COUNTY database, dated Mar 20, 2024 has found that there are 1 DELISTED COUNTY site(s) within approximately 0.25miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORANGE COUNTY PRODUCE LLC	5491 TRABUCO RD FLD 235 IRVINE CA 92620	ESE	0.24 / 1,252.17	<u>18</u>

Non Standard

Federal

PFAS IND - PFAS Industry Sectors

A search of the PFAS IND database, dated Dec 4, 2023 has found that there are 3 PFAS IND site(s) within approximately 0.50miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
KARCHER ENVIRONMENTAL INC	ORANGE COUNTY CA	ENE	0.43 / 2,261.83	<u>28</u>
TRI-COUNTY SANBLASTING INC	IRVINE CA	ENE	0.43 / 2,261.83	<u>28</u>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ANDERSON, AUBREY	IRVINE CA	WSW	0.34 / 1,792.91	<u>24</u>

ALT FUELS - Alternative Fueling Stations

A search of the ALT FUELS database, dated Nov 27, 2023 has found that there are 2 ALT FUELS site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
SCCCA EVCHARGER STATION 1	9 Truman St Irvine CA 92620 <i>ID: 176686</i>	SSE	0.20 / 1,080.73	<u>13</u>
SCCCA EVCHARGER STATION 2	9 Truman St Irvine CA 92620 <i>ID: 159144</i>	SSE	0.20 / 1,080.73	<u>13</u>

State

DRYCLEANERS - Dry Cleaning Facilities

A search of the DRYCLEANERS database, dated Dec 20, 2021 has found that there are 1 DRYCLEANERS site(s) within approximately 0.25miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
NABEELA CHAUDRY	13 FULTON IRVINE CA	NE	0.22 / 1,184.16	<u>14</u>

PFAS GW - PFOA/PFOS Groundwater

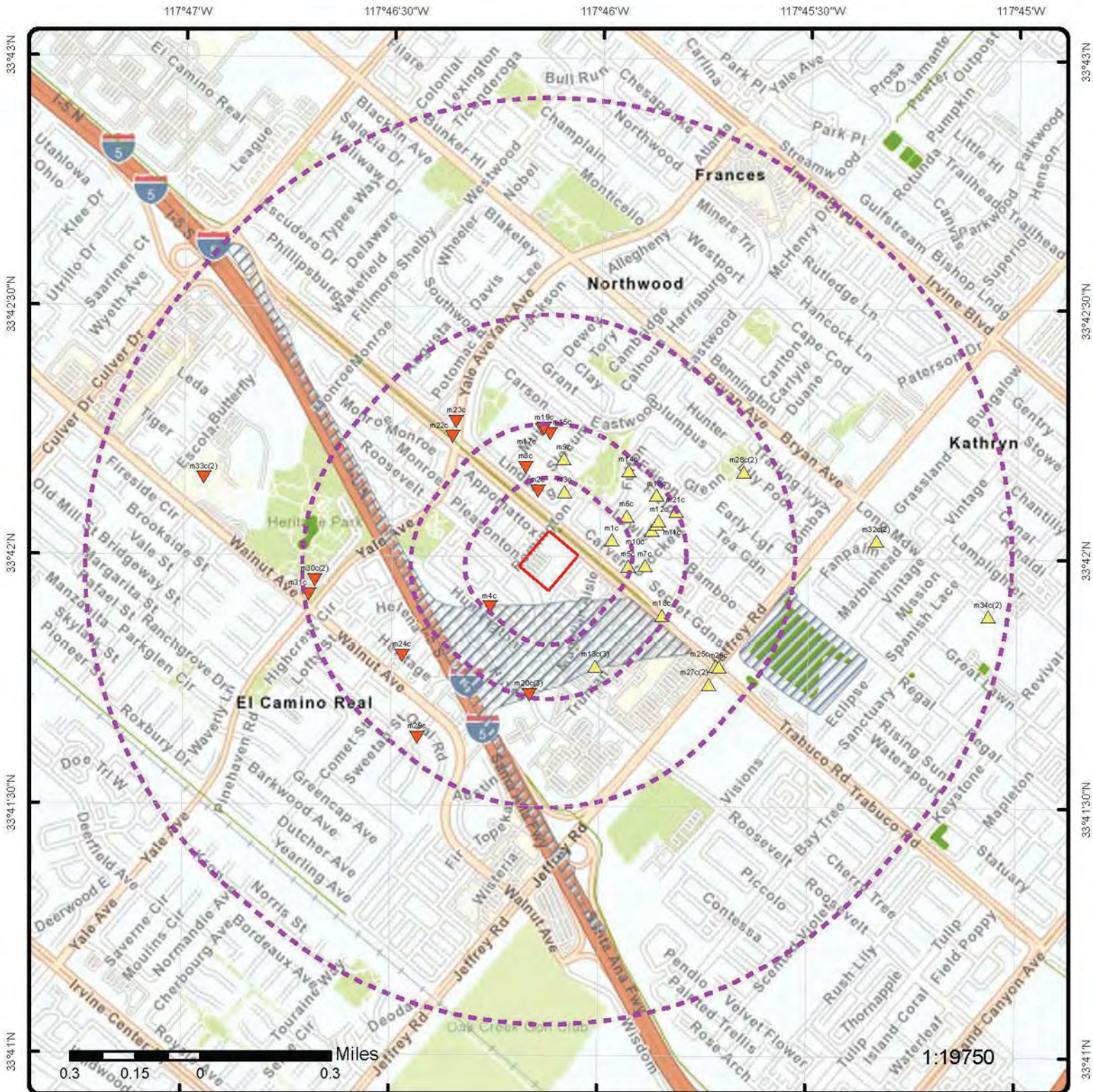
A search of the PFAS GW database, dated Jan 7, 2024 has found that there are 1 PFAS GW site(s) within approximately 0.50miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
	CA	W	0.47 / 2,491.26	<u>30</u>

SCH - School Property Evaluation Program Sites

A search of the SCH database, dated Feb 15, 2024 has found that there are 4 SCH site(s) within approximately 1.00miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
PROPOSED PA 40 MIDDLE SCHOOL	TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618 <i>Estor/EPA ID Cleanup Status: 60000561 NO FURTHER ACTION AS OF 4/16/2007</i>	ESE	0.42 / 2,226.88	<u>27</u>
WOODBURY (AREA 9) MIDDLE SCHOOL	JEFFREY ROAD / BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status: 30000005 NO FURTHER ACTION AS OF 10/13/2004</i>	E	0.69 / 3,632.38	<u>32</u>
WOODBURY (AREA 9) ELEMENTARY SCHOOL	JEFFREY ROAD/BRYAN AVENUE IRVINE CA 92620 <i>Estor/EPA ID Cleanup Status: 30010020 NO FURTHER ACTION AS OF 6/6/2005</i>	E	0.96 / 5,044.90	<u>34</u>



Map: 1.0 Mile Radius

Order Number: 24040100864

Address: 14010 Remington, Irvine, CA



Project Property

Buffer Outline

Sites with Higher Elevation

Sites with Same Elevation

Sites with Lower Elevation

Sites with Unknown Elevation

Areas with Higher Elevation

Areas with Same Elevation

Areas with Lower Elevation

Areas with Unknown Elevation

Freeways; Highways

Traffic Circle; Ramp

Major & Minor Arterial

Traffic Circle; Ramp

Local Road

Rail

State

Country

National Wetland

Indian Reserve Land

100 Year Flood Zone

500 Year Flood Zone

FWS Special Designation Areas

National Priorities List (Active, Delisted, Proposed, Institutional Control)

117°46'30"W

117°46'W

117°45'30"W

33°42'30"N

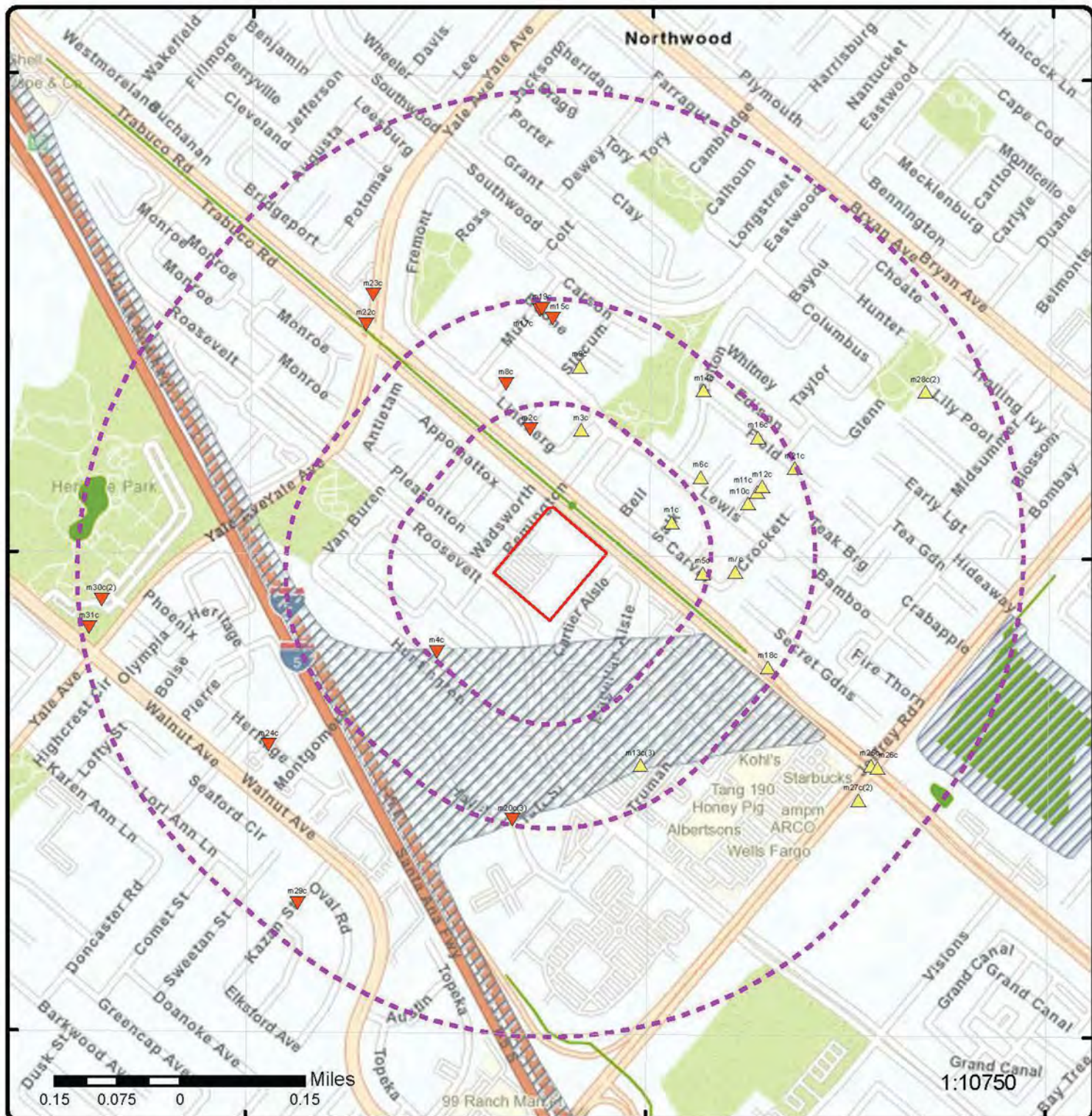
33°42'30"N

33°42'N

33°42'N

33°41'30"N

33°41'30"N



Map: 0.5 Mile Radius

Order Number: 24040100864

Address: 14010 Remington, Irvine, CA



Project Property

Buffer Outline

▲ Sites with Higher Elevation

▲ Sites with Same Elevation

▲ Sites with Lower Elevation

○ Sites with Unknown Elevation

Areas with Higher Elevation

Areas with Same Elevation

Areas with Lower Elevation

Areas with Unknown Elevation

Freeways; Highways

Traffic Circle; Ramp

Major & Minor Arterial

Traffic Circle; Ramp

Local Road

Rail

State

Country

National Wetland

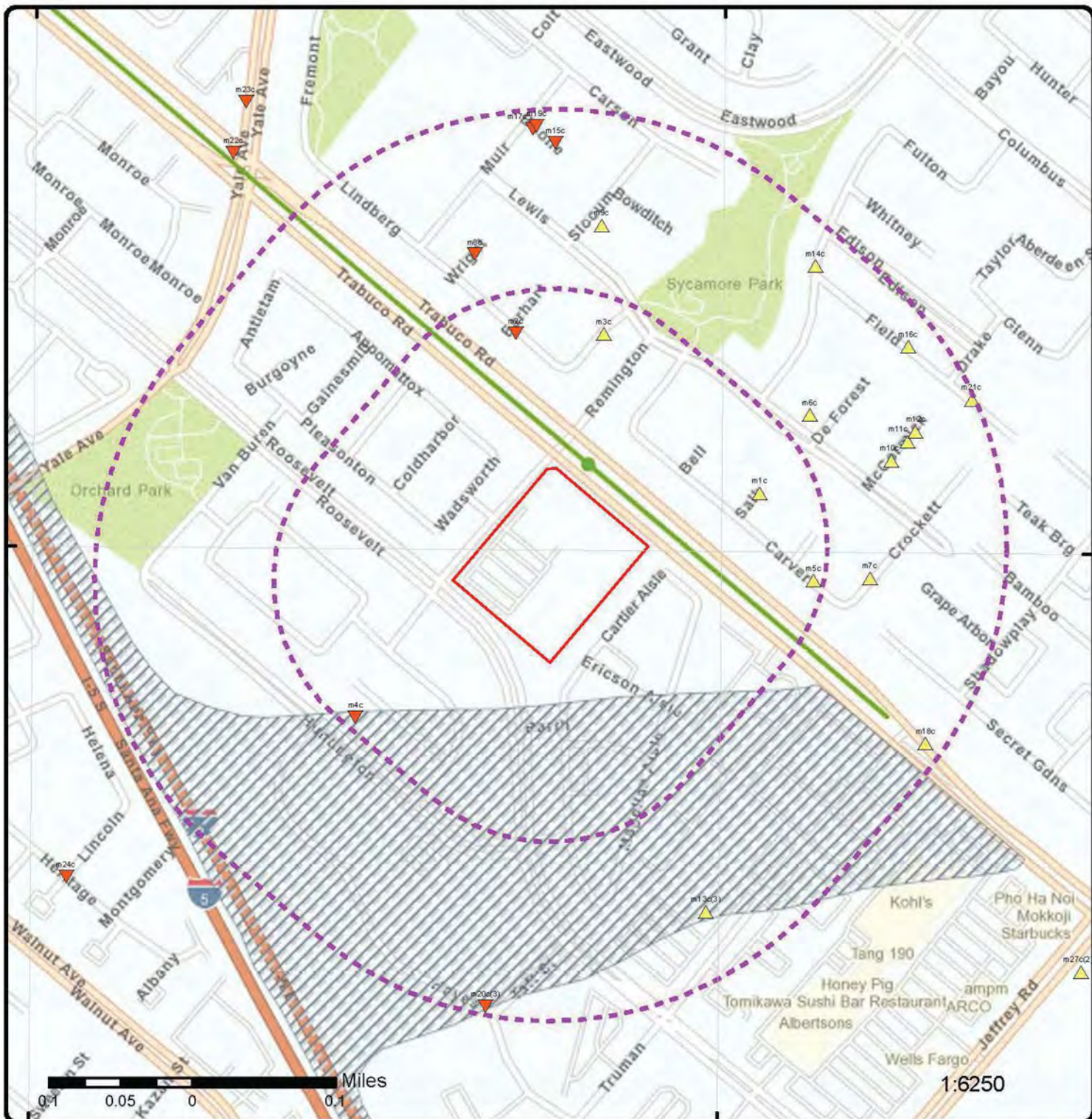
Indian Reserve Land

100 Year Flood Zone

500 Year Flood Zone

FWS Special Designation Areas

National Priorities List (Active, Delisted, Proposed, Institutional Control)



Map: 0.25 Mile Radius

Order Number: 24040100864

Address: 14010 Remington, Irvine, CA



Project Property

Buffer Outline

Sites with Higher Elevation

Sites with Same Elevation

Sites with Lower Elevation

Sites with Unknown Elevation

Areas with Higher Elevation

Areas with Same Elevation

Areas with Lower Elevation

Areas with Unknown Elevation

Freeways; Highways

Traffic Circle; Ramp

Major & Minor Arterial

Traffic Circle; Ramp

Local Road

Rail

State

Country

National Wetland

Indian Reserve Land

100 Year Flood Zone

500 Year Flood Zone

FWS Special Designation Areas

National Priorities List (Active, Delisted, Proposed, Institutional Control)

117°46'30"W

117°46'W

117°45'30"W

33°42'30"N

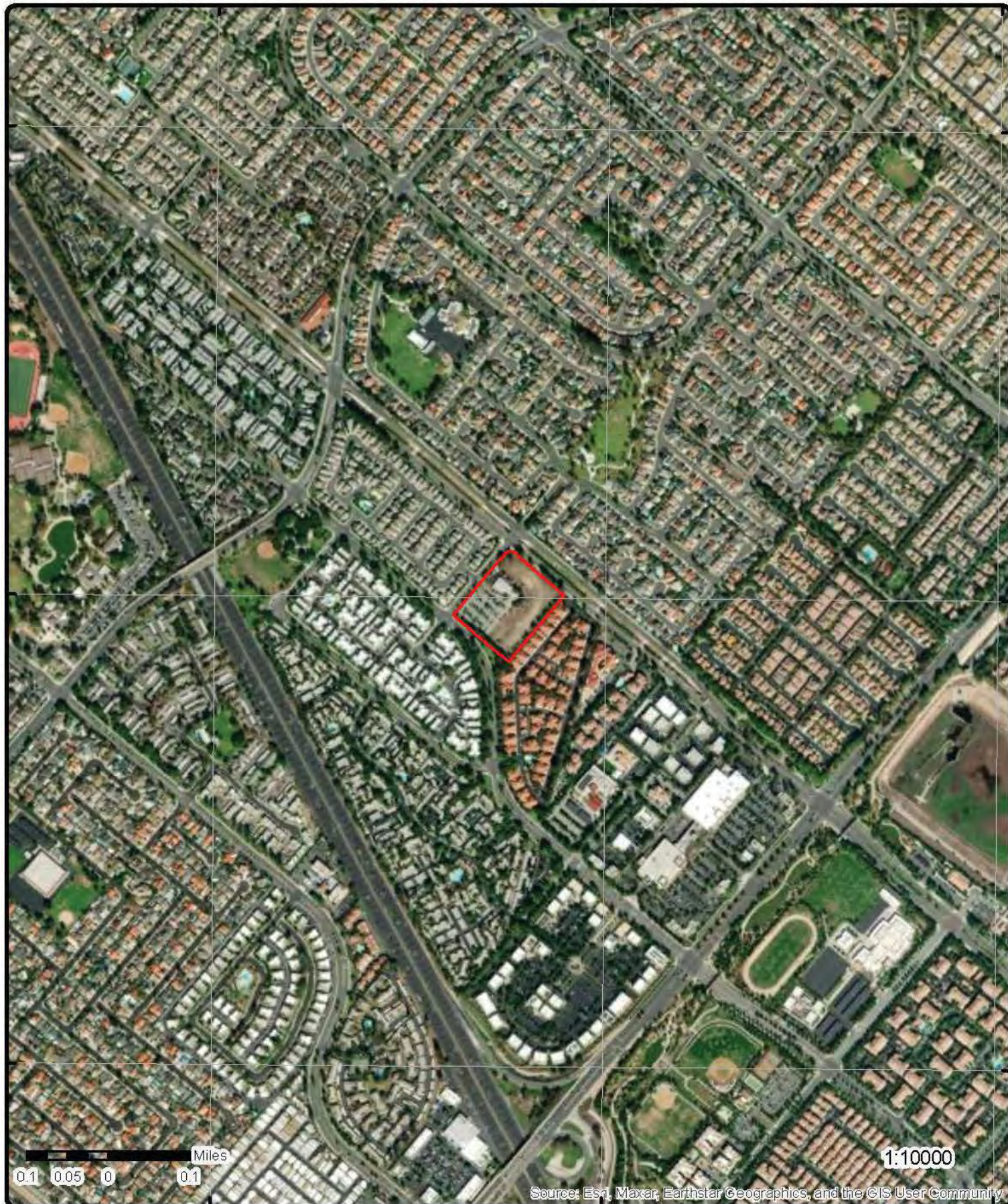
33°42'30"N

33°42'N

33°42'N

33°41'30"N

33°41'30"N



Aerial Year: 2022

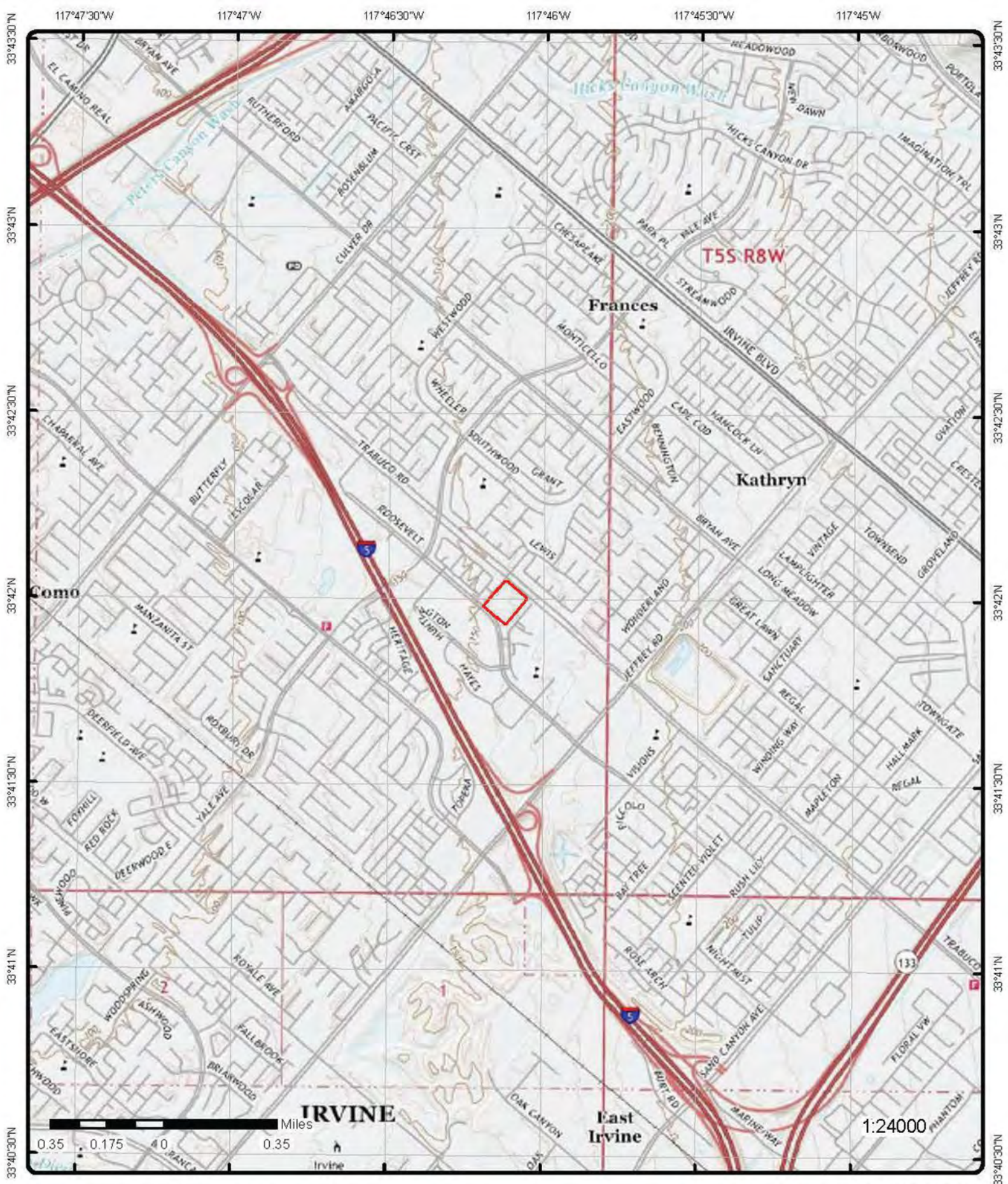
Order Number: 24040100864

Address: 14010 Remington, Irvine, CA



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Source: ESRI World Imagery



Topographic Map

Year: 2022

Order Number: 24040100864

Address: 14010 Remington, CA

Quadrangle(s): Lake Forest CA, Tustin CA

Source: USGS Topographic Map



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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<u>1</u>	1 of 1	ENE	0.09 / 455.93	166.10 / 7	ALBERT TEDIDOR 8 SALK IRVINE CA 92620	RCRA NON GEN

EPA Handler ID: CAC003179731
Gen Status Universe: No Report
Contact Name: ALBERT TEDIDOR
Contact Address: 8 SALK , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 949-616-4676
Contact Email: KARLA@SUPERIORENV.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20220607
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20220607
Handler Name: ALBERT TEDIDOR
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	8 SALK
Name:	ALBERT TEDIDOR	Street 2:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date Became Current:				City:	IRVINE	
Date Ended Current:				State:	CA	
Phone:	949-616-4676			Country:		
Source Type:	Implementer			Zip Code:	92620	
Owner/Operator Ind:				Street No:		
Type:	Current Operator			Street 1:	8 SALK	
Name:	Other			Street 2:		
Date Became Current:				City:	IRVINE	
Date Ended Current:				State:	CA	
Phone:	949-616-4676			Country:		
Source Type:	Implementer			Zip Code:	92620	

<u>2</u>	1 of 1	N	0.10 / 511.71	155.88 / -3	MIRA DE 23 LINDBERG IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003154180
Gen Status Universe: No Report
Contact Name: MIRA DE
Contact Address: 23 LINDBERG , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 949-943-2359
Contact Email: KARLA@SUPERIORENV.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20211223
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20211223
Handler Name: MIRA DE
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	23 LINDBERG
Name:	MIRA DE	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-943-2359	Country:	
Source Type:	Implementer	Zip Code:	92620
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	23 LINDBERG
Name:	MIRA DE	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-943-2359	Country:	
Source Type:	Implementer	Zip Code:	92620

<u>3</u>	1 of 1	NNE	0.10 / 524.38	161.69 / 3	HENG LIU 3 LINDBERG IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID:	CAC003170423
Gen Status Universe:	No Report
Contact Name:	HENG LIU
Contact Address:	3 LINDBERG , , IRVINE , CA, 92620 ,
Contact Phone No and Ext:	774-641-5340
Contact Email:	ICARUSXY1@GMAIL.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20220408
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20220408
Handler Name:	HENG LIU

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Source Type:		Implementer				
Federal Waste Generator Code:		N				
Generator Code Description:		Not a Generator, Verified				
<u>Owner/Operator Details</u>						
Owner/Operator Ind:		Current Owner		Street No:		
Type:		Other		Street 1:		
Name:		HENG LIU		Street 2:		
Date Became Current:				City:		
Date Ended Current:				State:		
Phone:		774-641-5340		Country:		
Source Type:		Implementer		Zip Code:		
Owner/Operator Ind:		Current Operator		Street No:		
Type:		Other		Street 1:		
Name:		HENG LIU		Street 2:		
Date Became Current:				City:		
Date Ended Current:				State:		
Phone:		774-641-5340		Country:		
Source Type:		Implementer		Zip Code:		

<u>4</u>	1 of 1	SW	0.12 / 615.88	147.88 / -11	JI WON MICHAEL SHIN 285 HUNTINGTON IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003136208
Gen Status Universe: No Report
Contact Name: JI WON MICHAEL SHIN
Contact Address: 285 HUNTINGTON , IRVINE , CA, 92620
Contact Phone No and Ext: 818-281-2125
Contact Email: JWON.M.SHIN@GMAIL.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20210826
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20210826
 Handler Name: JI WON MICHAEL SHIN
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	285 HUNTINGTON
Name:	JI WON MICHAEL SHIN	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	818-281-2125	Country:	
Source Type:	Implementer	Zip Code:	92620
Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	285 HUNTINGTON
Name:	JI WON MICHAEL SHIN	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	818-281-2125	Country:	
Source Type:	Implementer	Zip Code:	92620

5	1 of 1	E	0.12 / 621.04	169.91 / 11	AMIR KIAI 51 CARVER IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003130177
 Gen Status Universe: No Report
 Contact Name: AMIR KIAI
 Contact Address: 51 CARVER , , IRVINE , CA, 92620 ,
 Contact Phone No and Ext: 949-701-4710
 Contact Email: AD.AQHIINC@GMAIL.COM
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20210720
 Location Latitude:
 Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Used Oil Burner:		No				
Used Oil Market Burner:		No				
Used Oil Spec Marketer:		No				

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20210720
 Handler Name: AMIR KIAI
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	51 CARVER
Name:	AMIR KIAI	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-701-4710	Country:	
Source Type:	Implementer	Zip Code:	92620

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	51 CARVER
Name:	AMIR KIAI	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-701-4710	Country:	
Source Type:	Implementer	Zip Code:	92620

6	1 of 1	ENE	0.15 / 767.84	172.61 / 14	JERRY BOAZ 1 DEFOREST IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC002973736
 Gen Status Universe: No Report
 Contact Name: JERRY BOAZ
 Contact Address: 1 DEFOREST , , IRVINE , CA, 92620 ,
 Contact Phone No and Ext: 949-591-1388
 Contact Email: JOE@SIRRIS.BIZ
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20180801
 Location Latitude: 33.701373
 Location Longitude: -117.765594

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Commercial TSD:	No					
Used Oil Transporter:	No					
Used Oil Transfer Facility:	No					
Used Oil Processor:	No					
Used Oil Refiner:	No					
Used Oil Burner:	No					
Used Oil Market Burner:	No					
Used Oil Spec Marketer:	No					

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20180801
 Handler Name: JERRY BOAZ
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	1 DEFOREST
Name:	JERRY BOAZ	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-591-1388	Country:	
Source Type:	Implementer	Zip Code:	92620

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	1 DEFOREST
Name:	JERRY BOAZ	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-591-1388	Country:	
Source Type:	Implementer	Zip Code:	92620

<u>7</u>	1 of 1	E	0.16 / 824.04	172.17 / 13	STEVE STACHOWSKI 9 CROCKETT IRVINE CA 92620-3330	RCRA NON GEN
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EPA Handler ID: CAC003039029
 Gen Status Universe: No Report
 Contact Name: STEVE STACHOWSKI
 Contact Address: 9 CROCKETT , , IRVINE , CA, 92620-3330 ,
 Contact Phone No and Ext: 714-898-4633
 Contact Email: KARLA@SUPERIORENV.COM
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20191016
 Location Latitude:
 Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Transporter Activity:	No					
Transfer Facility:	No					
Onsite Burner Exemption:	No					
Furnace Exemption:	No					
Underground Injection Activity:	No					
Commercial TSD:	No					
Used Oil Transporter:	No					
Used Oil Transfer Facility:	No					
Used Oil Processor:	No					
Used Oil Refiner:	No					
Used Oil Burner:	No					
Used Oil Market Burner:	No					
Used Oil Spec Marketer:	No					

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20191016
 Handler Name: STEVE STACHOWSKI
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	9 CROCKETT
Name:	STEVE STACHOWSKI	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-898-4633	Country:	
Source Type:	Implementer	Zip Code:	92620-3330

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	9 CROCKETT
Name:	STEVE STACHOWSKI	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-898-4633	Country:	
Source Type:	Implementer	Zip Code:	92620-3330

8	1 of 1	NNW	0.16 / 831.63	153.74 / -5	EVA HO 6 WRIGHT IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003162291
 Gen Status Universe: No Report
 Contact Name: EVA HO
 Contact Address: 6 WRIGHT , , IRVINE , CA, 92620 ,
 Contact Phone No and Ext: 310-908-7470
 Contact Email: AMARTINO@VIKINGENVIRO.COM
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20220216
 Location Latitude:
 Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20220216
 Handler Name: EVA HO
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	6 WRIGHT
Name:	EVA HO	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	310-908-7470	Country:	
Source Type:	Implementer	Zip Code:	92620
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	6 WRIGHT
Name:	EVA HO	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	310-908-7470	Country:	
Source Type:	Implementer	Zip Code:	92620

9	1 of 1	N	0.17 / 908.42	162.85 / 4	ORANGE COUNTY FIRE STATION #15 3202 SANTIAGO CANYON IRVINE CA 92720	LUST
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Global ID:	T0605900414	Census Tract:	6059052417
Site Facility Type:		Census Tract (SRCH):	6059052417
Status:	Completed - Case Closed	Oil Field (SRCH):	
Status Date (DL):	10/20/1992	Oil Field Oper (SRCH):	
Cleanup Status:		Latitude:	
Case Type (DL):	LUST Cleanup Site	Longitude:	
RWQCB Region (DL):	SANTA ANA RWQCB (REGION 8)		
Site Facility Name:			
Business Name (DL):	ORANGE COUNTY FIRE STATION #15		
Address:	3202 SANTIAGO CANYON		
City:	IRVINE		
State:	CA		
Zip:	92720		
County:	ORANGE		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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GeoTracker Sites Data Download - Site Details

CUF Case: NO
Lead Agency: ORANGE COUNTY LOP
Case Worker:
Local Agency:
RB Case No: 083000519T
Local Case No: 92UT039
File Location: Local Agency
Potential COC: Diesel
Potential Media of Concern: Soil
Begin Date: 12/13/1991
How Discovered: Tank Closure
How Discovered Description:
Stop Method: Close and Remove Tank
Stop Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
CalEnvScreen Score:
Coordinate Source: * Historical Geocode - Zip Code Match
Discharge Cause:
Discharge Source:
EPA Region: 9
Leak Reported Dt: 1991-12-13 00:00:00
Military DoD Site: No
No Further Action Dt: 1992-10-20 00:00:00
Qty Rlsd Gallons: 0
Facility Project Sub Type:
Calenviroscreen 3 Score: 16-20%
Calenviroscreen 4 Score: 10-15%
Site History:

GeoTracker Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 10/20/1992

Status: Open - Case Begin Date
Status Date: 12/13/1991

GeoTracker Search - Regulatory Profile (as of October 16, 2023)

Site Facility Name: ORANGE COUNTY FIRE STATION #15
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Address: 3202 SANTIAGO CANYON
City: IRVINE
Zip: 92720
County: ORANGE
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900414
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 10/20/1992
Project Status:
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900414&tabname=regulatoryhistory
Potential COC: DIESEL
Potential Media of Concern: SOIL
File Location: LOCAL AGENCY
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 92UT039
 SANTA ANA RWQCB (REGION 8) - CASE #: 083000519T

CUF Claim No:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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CUF Priority Assig:
 CUF Amount Paid:
 WDR Place Type:
 WDR File No:
 WDR Order No:
 Project Oversight Agencies:
 Facility Type:
 Composting Method:
 Gmdwtr Monitoring Frequency:
 Designated Beneficial Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply
 Site History:
 No site history available

GeoTracker Search - Cleanup Status History (as of October 16, 2023)

Status: Completed - Case Closed
 Date : 10/20/1992
 Status: Open - Case Begin Date
 Date : 12/13/1991

GeoTracker Search - Cleanup Action Report (as of October 16, 2023)

Action Type: EXCAVATION
 Begin Date: 1/1/1965
 End Date: 1/1/1965
 Phase:
 Contaminant Mass Removed:
 Description:

GeoTracker Search - Regulatory Activities (as of October 16, 2023)

Action Type: Other Regulatory Actions
 Action: Closure/No Further Action Letter
 Action Date: 10/20/1992
 Received Issue Date: 10/20/1992
 Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900414&enforcement_id=6326541&temptable=ENFORCEMENT
 Title Description Comments:
 RACC

Action Type: Leak Action
 Action: Leak Reported
 Action Date: 12/13/1991
 Received Issue Date:
 Doc Link:
 Title Description Comments:

Action Type: Leak Action
 Action: Leak Discovery
 Action Date: 12/13/1991
 Received Issue Date:
 Doc Link:
 Title Description Comments:

GeoTracker Search - Documents (as of October 16, 2023)

Document Type: Site Documents
 Document Date: 10/20/1992

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Type: CLOSURE/NO FURTHER ACTION LETTER Submitted:
 Submitted By: GENIECE HIGGINS (REGULATOR)
 Title: RACC
 Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900414&enforcement_id=6326541

10	1 of 1	ENE	0.18 / 950.19	174.12 / 15	HARRY HUANG 4 MCCORMICK IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003210056
 Gen Status Universe: No Report
 Contact Name: HARRY HUANG
 Contact Address: 4 MCCORMICK , , IRVINE , CA, 92620
 Contact Phone No and Ext: 949-413-8585
 Contact Email: KARLA@SUPERIORENV.COM
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20221227
 Location Latitude:
 Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20221227
 Handler Name: HARRY HUANG
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	4 MCCORMICK
Name:	HARRY HUANG	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-413-8585	Country:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Source Type:	Implementer			Zip Code:	92620	
Owner/Operator Ind:	Current Owner			Street No:		
Type:	Other			Street 1:	4 MCCORMICK	
Name:	HUANG HUANG			Street 2:		
Date Became Current:				City:	IRVINE	
Date Ended Current:				State:	CA	
Phone:	949-413-8585			Country:		
Source Type:	Implementer			Zip Code:	92620	

11	1 of 1	ENE	0.20 / 1,030.08	174.92 / 16	EUGENE LIU 8 MCCORMICK IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003091728
 Gen Status Universe: No Report
 Contact Name: EUGENE LIU
 Contact Address: 8 MCCORMICK , IRVINE , CA, 92620
 Contact Phone No and Ext: 949-295-3869
 Contact Email: ENKAY@ENKAYENGINEERING.COM
 Contact Country:
 County Name: ORANGE
 EPA Region: 09
 Land Type:
 Receive Date: 20201106
 Location Latitude:
 Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20201106
 Handler Name: EUGENE LIU
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Operator Street No:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	Other				Street 1:	8 MCCORMICK
Name:	EUGENE LIU				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-295-3869				Country:	
Source Type:	Implementer				Zip Code:	92620
Owner/Operator Ind:	Current Owner				Street No:	
Type:	Other				Street 1:	8 MCCORMICK
Name:	EUGENE LIU				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-295-3869				Country:	
Source Type:	Implementer				Zip Code:	92620

12	1 of 1	ENE	0.20 / 1,072.19	174.01 / 15	TERRY STEYER 10 MCCORMICK IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003075494
Gen Status Universe: No Report
Contact Name: TERRY STEYER
Contact Address: 10 MCCORMICK , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 949-241-2163
Contact Email: MANIFEST.SIRRIIS@GMAIL.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20200720
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20200720
Handler Name: TERRY STEYER
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Owner/Operator Details						
Owner/Operator Ind:	Current Owner				Street No:	
Type:	Other				Street 1:	10 MCCORMICK
Name:	TERRY STEYER				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-241-2163				Country:	
Source Type:	Implementer				Zip Code:	92620
Owner/Operator Ind:	Current Operator				Street No:	
Type:	Other				Street 1:	10 MCCORMICK
Name:	TERRY STEYER				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-241-2163				Country:	
Source Type:	Implementer				Zip Code:	92620
13	1 of 3	SSE	0.20 / 1,080.73	170.08 / 11	SCCCA EVCHARGER STATION 2 9 Truman St Irvine CA 92620	ALT FUELS
ID:	159144				CNG Dispenser No:	
Fuel Type Code:	ELEC: Electric				CNG Site Renew Src:	
Station Phone:	888-758-4389				CNG Tot Compr Cap:	
Expected Date:					CNG Storage Cap:	
BD Blends:					CNG Fill Type Code:	
NG PSI:					CNG PSI:	
Federal Agency ID:					CNG Vehicle Class:	
Open Date:	2020-06-12				LNG Site Renew Src:	
Hydrogen is Retail:					LNG Vehicle Class:	
Federal Agency:					LPG Nozzle Types:	
Facility Type:					Hydrogen Pressures:	
Dt Last Confirmed:	2023-11-27				Hydrogen Standards:	
Updated at:	2023-11-27 00:22:43 UTC				Latitude:	33.696462
Access Code:	public				Longitude:	-117.767268
Access Detail Code:						
Groups with Access Code:	Public					
Groups with Access Code Fr:	Public					
Fed Agency Name:						
Hydrogen Status Link:						
E85 Other Ethanol Blends:						
NPS Unit Name:						
Cards Accepted:						
CNG Statn Sells Renewable Na:						
LNG Statn Sells Renewable Na:						
Maximum Vehicle Class:						
RD Blended With Biodiesel:						
RD Blends:						
RD Blends French:						
RD Maximum Biodiesel Level:						
Status:	Open: The station is open.					
Owner Type Desc:						
E85 Blender Pump Desc:						
NG Fill Type Desc:						
NG Vehicle Class Desc:						
Geocode Status Desc:	The location is from a real GPS readout at the station.					
Group with Access Desc:	Publicly available to all customers.					
LPG Primary Desc:						
Intersection Directions:						
Access Days Time:	24 hours daily					
Restricted Access:						
Ev Workplace Charging:	false					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
13	2 of 3	SSE	0.20 / 1,080.73	170.08 / 11	SCCCA EVCHARGER STATION 1 9 Truman St Irvine CA 92620	ALT FUELS

ID: 176686
Fuel Type Code: ELEC: Electric
Station Phone: 888-758-4389
Expected Date:
BD Blends:
NG PSI:
Federal Agency ID:
Open Date: 2021-01-27
Hydrogen is Retail:
Federal Agency:
Facility Type:
Dt Last Confirmed: 2023-11-27
Updated at: 2023-11-27 00:22:43 UTC
Access Code: public
Access Detail Code:
Groups with Access Code: Public
Groups with Access Code Fr: Public
Fed Agency Name:
Hydrogen Status Link:
E85 Other Ethanol Blends:
NPS Unit Name:
Cards Accepted:
CNG Statn Sells Renewable Na:
LNG Statn Sells Renewable Na:
Maximum Vehicle Class:
RD Blended With Biodiesel:
RD Blends:
RD Blends French:
RD Maximum Biodiesel Level:
Status: Open: The station is open.
Owner Type Desc:
E85 Blender Pump Desc:
NG Fill Type Desc:
NG Vehicle Class Desc:
Geocode Status Desc: The location is from a real GPS readout at the station.
Group with Access Desc: Publicly available to all customers.
LPG Primary Desc:
Intersection Directions:
Access Days Time: 24 hours daily
Restricted Access:
Ev Workplace Charging: false

13	3 of 3	SSE	0.20 / 1,080.73	170.08 / 11	SOUTH COAST CHINESE CULTURAL ASSOCIATION 9 TRUMAN IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003126489
Gen Status Universe: No Report
Contact Name: HUI-WEN HUANG
Contact Address: 9 TRUMAN , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 949-559-6868
Contact Email: HUIWEN@SCCCA.ORG
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20210625
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20210625
 Handler Name: SOUTH COAST CHINESE CULTURAL ASSOCIATION
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	9 TRUMAN
Name:	SOUTH COAST CHINESE CULTURAL ASSOCI	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-559-6868	Country:	
Source Type:	Implementer	Zip Code:	92620
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	9 TRUMAN
Name:	HUI-WEN HUANG	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-559-6868	Country:	
Source Type:	Implementer	Zip Code:	92620

14	1 of 1	NE	0.22 / 1,184.16	173.13 / 14	NABEELA CHAUDRY 13 FULTON IRVINE CA	DRYCLEANERS
EPA ID:	CAC002925856	Owner City:	IRVINE			
Create Date:	8/30/2017	Owner State:	CA			
Facility Act Ind:	No	Owner Zip:	92620			
Inact Date:	11/30/2017	Owner Phone:	8184370047			
Reason:	CLEANERS	Owner Fax:				
Region Code:	4	Contact Name:	NABEELA CHAUDRY			
DD Latitude:	33.70287	Contact Street 1:	13 FULTON			
DD Longitude:	-117.765579	Contact Street 2:				
Facility County Code:	(30) ORANGE	Contact City:	IRVINE			
Mail Name:		Contact State:	CA			
Owner Name:	NABEELA CHAUDRY	Contact Zip:	92620			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Owner Street 1:	13 FULTON				Contact Phone:	8184370047
Owner Street 2:					Contact Fax:	

<u>15</u>	1 of 1	N	0.23 / 1,194.66	158.11 / -1	BRENT REGAN 5 BOONE IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003114963
Gen Status Universe: No Report
Contact Name: BRENT REGAN
Contact Address: 5 BOONE , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 949-933-2805
Contact Email: ENKAY@ENKAYENGINEERING.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20210414
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20210414
Handler Name: BRENT REGAN
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	5 BOONE
Name:	BRENT REGAN	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-933-2805	Country:	
Source Type:	Implementer	Zip Code:	92620

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Owner/Operator Ind:	Current Operator				Street No:	
Type:	Other				Street 1:	5 BOONE
Name:	BRENT REGAN				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-933-2805				Country:	
Source Type:	Implementer				Zip Code:	92620

16	1 of 1	ENE	0.23 / 1,207.70	174.79 / 16	CHETAN KATARIYA 17 FIELD IRVINE CA 92620-3344	RCRA NON GEN
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EPA Handler ID: CAC003057206
Gen Status Universe: No Report
Contact Name: CHETAN KATARIYA
Contact Address: 17 FIELD , , IRVINE , CA, 92620-3344 ,
Contact Phone No and Ext: 949-652-8641
Contact Email: SHAY@JCENVIRONMENTALINC.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20200224
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20200224
Handler Name: CHETAN KATARIYA
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	17 FIELD
Name:	CHETAN KATARIYA	Street 2:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date Became Current:			City:		IRVINE	
Date Ended Current:			State:		CA	
Phone:		949-652-8641	Country:			
Source Type:		Implementer	Zip Code:		92620-3344	
Owner/Operator Ind:			Street No:			
Type:			Street 1:		17 FIELD	
Name:			Street 2:			
Date Became Current:			City:		IRVINE	
Date Ended Current:			State:		CA	
Phone:		949-652-8641	Country:			
Source Type:		Implementer	Zip Code:		92620-3344	

17	1 of 1	N	0.24 / 1,249.54	156.75 / -2	GUSTAVO RODRIGUEZ 8 BOONE STREET IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC002974731
Gen Status Universe: No Report
Contact Name: GUSTAVO RODRIGUEZ
Contact Address: 8 BOONE STREET , , IRVINE , CA, 92620 ,
Contact Phone No and Ext: 714-606-1429
Contact Email: OCABATEMENT@GMAIL.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20180808
Location Latitude: 33.704074
Location Longitude: -117.768681

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180808
Handler Name: GUSTAVO RODRIGUEZ
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	8 BOONE STREET
Name:	GUSTAVO RODRIGUEZ	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-606-1429	Country:	
Source Type:	Implementer	Zip Code:	92620

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	8 BOONE STREET
Name:	GUSTAVO RODRIGUEZ	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-606-1429	Country:	
Source Type:	Implementer	Zip Code:	92620

<u>18</u>	1 of 1	ESE	0.24 / 1,252.17	181.16 / 22	ORANGE COUNTY PRODUCE LLC 5491 TRABUCO RD FLD 235 IRVINE CA 92620	DELISTED COUNTY
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Delisted County Records

Original Source Facility ID:	
Original Source Name:	Orange County Aboveground Petroleum Storage Tank Listing
Record Dt:	01-JUL-2016
Record Date:	01-JUL-2016

<u>19</u>	1 of 1	N	0.24 / 1,259.38	156.02 / -3	DEBBIE SMITH 1 BOONE IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID:	CAC003241755
Gen Status Universe:	No Report
Contact Name:	DEBBIE SMITH
Contact Address:	1 BOONE , , IRVINE , CA, 92620 ,
Contact Phone No and Ext:	949-525-5115
Contact Email:	ELIZABETHS@PWSEI.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20230713
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).
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Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Used Oil Transporter:	No					
Used Oil Transfer Facility:	No					
Used Oil Processor:	No					
Used Oil Refiner:	No					
Used Oil Burner:	No					
Used Oil Market Burner:	No					
Used Oil Spec Marketer:	No					
<u>Hazardous Waste Handler Details</u>						
Sequence No:	1					
Receive Date:	20230713					
Handler Name:	DEBBIE SMITH					
Source Type:	Implementer					
Federal Waste Generator Code:	N					
Generator Code Description:	Not a Generator, Verified					
<u>Owner/Operator Details</u>						
Owner/Operator Ind:	Current Owner				Street No:	
Type:	Other				Street 1:	1 BOONE
Name:	DEBBIE SMITH				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-525-5115				Country:	
Source Type:	Implementer				Zip Code:	92620
Owner/Operator Ind:	Current Operator				Street No:	
Type:	Other				Street 1:	1 BOONE
Name:	DEBBIE SMITH				Street 2:	
Date Became Current:					City:	IRVINE
Date Ended Current:					State:	CA
Phone:	949-525-5115				Country:	
Source Type:	Implementer				Zip Code:	92620
<u>20</u>	1 of 3	S	0.24 / 1,286.32	156.63 / -2	Northwood Place Apartment Homes 1300 HAYES IRVINE CA 92620	DELISTED HAZ
Siteid:	365780					
Latitude:	33.694258					
Longitude:	-117.768652					
Original Source:	CHAZ					
Record Date:	22-MAR-2018					
<u>20</u>	2 of 3	S	0.24 / 1,286.32	156.63 / -2	NORTHWOOD PLACE APARTMENTS 1300 HAYES IRVINE CA 92620	RCRA NON GEN
EPA Handler ID:	CAC003065001					
Gen Status Universe:	No Report					
Contact Name:	MELISSA MATOSIC					
Contact Address:	1300 HAYES , , IRVINE , CA, 92620 ,					
Contact Phone No and Ext:	949-857-4100					
Contact Email:	MMATOSIC@IRVINECOMPANY.COM					
Contact Country:						
County Name:	ORANGE					
EPA Region:	09					
Land Type:						
Receive Date:	20200430					
Location Latitude:						
Location Longitude:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20200430
 Handler Name: NORTHWOOD PLACE APARTMENTS
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	1300 HAYES
Name:	MELISSA MATOSIC	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-857-4100	Country:	
Source Type:	Implementer	Zip Code:	92620
Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	550 NEWPORT CENTER DR.
Name:	TICIC SUB LLC	Street 2:	
Date Became Current:		City:	NEWPORT BEACH
Date Ended Current:		State:	CA
Phone:	949-720-5600	Country:	
Source Type:	Implementer	Zip Code:	92660

20	3 of 3	S	0.24 / 1,286.32	156.63 / -2	NORTHWOOD PLACE APARTMENT HOMES 1300 HAYES UNIT #900 IRVINE CA 92620	RCRA NON GEN
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EPA Handler ID: CAC003159546
 Gen Status Universe: No Report
 Contact Name: JUAN ORNA
 Contact Address: 1300 HAYES UNIT #900 , IRVINE , CA, 92620 ,
 Contact Phone No and Ext: 949-857-4100
 Contact Email: JORNA@IRVINECOMPANY.COM
 Contact Country:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
County Name:		ORANGE				
EPA Region:		09				
Land Type:						
Receive Date:		20220201				
Location Latitude:						
Location Longitude:						

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20220201
 Handler Name: NORTHWOOD PLACE APARTMENT HOMES
 Source Type: Implementer
 Federal Waste Generator Code: N
 Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	1300 HAYES UNIT #900
Name:	NORTHWOOD PLACE APARTMENT HOMES	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-857-4100	Country:	
Source Type:	Implementer	Zip Code:	92620

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	1300 HAYES UNIT #900
Name:	JUAN ORNA	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	949-857-4100	Country:	
Source Type:	Implementer	Zip Code:	92620

21	1 of 1	ENE	0.25 / 1,308.04	177.57 / 19	GREGORY LEE 27 FIELD IRVINE CA 92602	RCRA NON GEN
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EPA Handler ID: CAC003048521
 Gen Status Universe: No Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Contact Name:		GREGORY LEE				
Contact Address:		27 FIELD , , IRVINE , CA, 92602 ,				
Contact Phone No and Ext:		714-960-9125				
Contact Email:		KARLA@SUPERIORENV.COM				
Contact Country:						
County Name:		ORANGE				
EPA Region:		09				
Land Type:						
Receive Date:		20191226				
Location Latitude:						
Location Longitude:						

Violation/Evaluation Summary

Note: NO RECORDS: As of Jan 2024, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20191226
Handler Name: GREGORY LEE
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	27 FIELD
Name:	GREGORY LEE	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-960-9125	Country:	
Source Type:	Implementer	Zip Code:	92602
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	27 FIELD
Name:	GREGORY LEE	Street 2:	
Date Became Current:		City:	IRVINE
Date Ended Current:		State:	CA
Phone:	714-960-9125	Country:	
Source Type:	Implementer	Zip Code:	92602

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
22	1 of 1	NW	0.31 / 1,637.54	144.85 / -14	TRABUCO CLEANERS 13925 YALE AVE., SUITE 145 IRVINE CA 92620	ENVIROSTOR

Estor/EPA ID: 60001106
Site Code:
Nat Priority List: NO
APN: NONE SPECIFIED
Census Tract: 6059052525
Site Type: EVALUATION
Address Description: 13925 YALE AVE., SUITE 145
Office: CLEANUP CYPRESS
Special Program: EPA - PASI
Funding: EPA GRANT
Cleanup Status: REFER: LOCAL AGENCY AS OF 1/11/2011
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
School District:
Past Use that Caused Contam: NONE SPECIFIED
Potential Media Affected: NONE SPECIFIED
Potential Contaminant of Concern:

NONE SPECIFIED

Site History:

The Trabuco Cleaners (site) is located at 13925 Yale Avenue, Irvine California 92620 within a neighborhood retail shopping center. The site is 1,200-square feet tenant space sandwiched between two other empty retail spaces. Laundering and dry cleaning operations were performed by using tetrachloroethylene (PCE) on site till July, 2007 when facility was closed for the removal of dry cleaning equipment and re-modeling for wet cleaning operation only.
 The dry cleaner operator originally entered into a voluntary cleanup oversight agreement with County of Orange Health Care Agency (OCHCA) in 2002; Charles Dunn Realty Services (Charles Dunn), however, took responsibility for ensuring remedial action oversight process on behalf of the property owner.
 Several phases of investigation, conducted at the site from May 2002 through October 2006, included the drilling of sixteen (16) soil borings and the installation of nine (9) soil gas probes within the dry cleaning tenant space and in each of the adjacent tenant spaces to the north and south. Analytical results of soil and soil gas samples collected from these helped define the full extent of impact, leading Charles Dunn's consultant, Environmental Support Technologies, Inc. (EST), to propose a remedial action plan (RAP) consisting of the removal of shallow impacted soil in the immediate vicinity of the dry cleaning machine.
 The source of contamination was removed by excavation and disposed offsite under manifest. Sodium permanganate solution was also applied to the then exposed base and walls of the pit, as well as into the walls through horizontal wells so as to address whatever remnant contamination might be missed.
 As of January, 2008, the facility contains wet-cleaning operation only and does not generate any hazardous waste, and therefore, OCHCA removed this site from Hazardous waste Generator Program.

Status: REFER: LOCAL AGENCY
Program Type: EVALUATION
CalEnviroScreen Score: 25-30%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001106

Completed Activities

Title: Site Screening
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001106&enforcement_id=6015346
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: PA/SI Site Screening
Date Completed: 2/13/2009
Comments:

<u>23</u>	1 of 1	NW	0.33 / 1,745.84	145.36 / -13	TRABUCO CLEANERS 13925 YALE AVE IRVINE CA 92620	CLEANUP SITES
Global ID:		T10000018491			Case Type (DL):	
Site Facility Type:					Census Tract:	
Cleanup Status:					RWQCB Region (DL):	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Status (SRCH):	COMPLETED - CASE CLOSED			Longitude:		
Status (DL):				Latitude:		
Status Date (DL):						
Address:	13925 YALE AVE					
City:	IRVINE					
County:	ORANGE					
Zip:	92620					
State:	CA					
Report Source:	Cleanup Program Sites - GeoTracker Search Results (SRCH)					

GeoTracker Sites Data Download - Site Details

RB Case No:
 Local Case No: 02IC017
 Begin Date: 2/27/2008
 Lead Agency: ORANGE COUNTY LOP
 Local Agency: ORANGE COUNTY LOP
 CUF Case: NO
 CalEnvScreen Score:
 EPA Region: 9
 Qty Risd Gallons:
 Potential COC:
 How Discovered:
 Stop Method:
 Stop Description:
 Case Worker:
 Military DoD Site: No
 Leak Reported Dt:
 No Further Action Dt: 2008-02-27 00:00:00
 Potential Media of Concern:
 How Discovered Description:
 Calwater Watershed Name:
 DWR GW Subbasin Name:
 Disadvantaged Community:
 Coordinate Source:
 Discharge Cause:
 Discharge Source:
 Facility Project Sub Type:
 Calenviroscreen 3 Score:
 Calenviroscreen 4 Score:
 File Location: All Files are on GeoTracker or in the Local Agency Warehouse
 Site History:

Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

GeoTracker Sites Data Download - Status History

Status: Completed - Case Closed
 Status Date: 2008-02-27 00:00:00

 Status: Open - Case Begin Date
 Status Date: 2008-02-27 00:00:00

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Local Agency Caseworker - Primary Caseworker
 Contact Name: IC SUPERVISOR
 Organization Name: ORANGE COUNTY LOP
 Address: 1241 E. DYER RD., SUITE 120
 City: SANTA ANA
 Email: ghiggins@ochca.com
 Phone No:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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GeoTracker Search - Facilities (as of October 16, 2023)

Project Status:
Cuf Claim No:
CUF Priority Assign:
CUF Amount Paid:
Composting Method:
Facility Type:
WDR Place Type:
WDR File No:
WDR Order No:
File Location: ALL FILES ARE ON GEOTRACKER OR IN THE LOCAL AGENCY WAREHOUSE
User Defined Beneficial Use:
Designated Beneficial Use: NONE
Designated Beneficial Use Desc: NONE
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000018491
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 2/27/2008
Potential COC: NONE SPECIFIED
Potential Media of Concern: NONE SPECIFIED
Groundwater Monitoring Freq:
DWR GW Sub Basin:
CalWater Watershed Name:
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 02IC017
CASE MANAGER: IC SUPERVISOR
SANTA ANA RWQCB (REGION 8)
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000018491&tabname=regulatoryhistory
Site History:

Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

GeoTracker Search - Cleanup Status History (as of October 16, 2023)

Status: Open - Case Begin Date
Date: 2/27/2008

Status: Completed - Case Closed
Date: 2/27/2008

24	1 of 1	WSW	0.34 / 1,792.91	133.23 / -26	ANDERSON, AUBREY IRVINE CA	PFAS IND																																																																												
<table> <tbody> <tr> <td>Status:</td> <td>Unknown</td> <td>Fac Fips Code:</td> <td>06059</td> </tr> <tr> <td>Fac Indian Cntry Flg:</td> <td>N</td> <td>Compliance Status:</td> <td>-</td> </tr> <tr> <td>Fac Derived Huc:</td> <td>18070204</td> <td>EPA Programs:</td> <td>-</td> </tr> <tr> <td>Fac Derived Wbd:</td> <td>180702040103</td> <td>Federal Facility:</td> <td>No</td> </tr> <tr> <td>Fac Derived Cd113:</td> <td>45</td> <td>Federal Agency:</td> <td>-</td> </tr> <tr> <td>Fac Derived Ch2010:</td> <td>060590525051001</td> <td>Fac Snc Flg:</td> <td>N</td> </tr> <tr> <td>Fac Informal Count:</td> <td>0</td> <td>AIR Flag:</td> <td>N</td> </tr> <tr> <td>Last Informal Action:</td> <td>-</td> <td>NPDES Flag:</td> <td>N</td> </tr> <tr> <td>Formal Action Count:</td> <td>0</td> <td>SDWIS Flag:</td> <td>N</td> </tr> <tr> <td>Last Formal Action:</td> <td>-</td> <td>RCRAFlag:</td> <td>N</td> </tr> <tr> <td>Fac Total Penalties:</td> <td>0</td> <td>TRI Flag:</td> <td>N</td> </tr> <tr> <td>Fac Penalty Count:</td> <td>-</td> <td>GHG Flag:</td> <td>N</td> </tr> <tr> <td>Date Last Penalty:</td> <td>-</td> <td>TRI IDs:</td> <td>-</td> </tr> <tr> <td>Last Penalty Amt:</td> <td>-</td> <td>TRI Releases Trnsfrs:</td> <td>-</td> </tr> <tr> <td>Fac Qtrs With Nc:</td> <td>-</td> <td>TRI on Site Releases:</td> <td>-</td> </tr> <tr> <td>Programs With Snc:</td> <td>0</td> <td>TRI off Site Trnsfrs:</td> <td>-</td> </tr> <tr> <td>Fac Percent Minority:</td> <td>56.371</td> <td>TRI Reporter:</td> <td>-</td> </tr> <tr> <td>Fac Pop Den:</td> <td>5396.66</td> <td>Fac Imp Water Flg:</td> <td>-</td> </tr> <tr> <td>Count:</td> <td>1</td> <td>Fac Major Flag:</td> <td>-</td> </tr> </tbody> </table>							Status:	Unknown	Fac Fips Code:	06059	Fac Indian Cntry Flg:	N	Compliance Status:	-	Fac Derived Huc:	18070204	EPA Programs:	-	Fac Derived Wbd:	180702040103	Federal Facility:	No	Fac Derived Cd113:	45	Federal Agency:	-	Fac Derived Ch2010:	060590525051001	Fac Snc Flg:	N	Fac Informal Count:	0	AIR Flag:	N	Last Informal Action:	-	NPDES Flag:	N	Formal Action Count:	0	SDWIS Flag:	N	Last Formal Action:	-	RCRAFlag:	N	Fac Total Penalties:	0	TRI Flag:	N	Fac Penalty Count:	-	GHG Flag:	N	Date Last Penalty:	-	TRI IDs:	-	Last Penalty Amt:	-	TRI Releases Trnsfrs:	-	Fac Qtrs With Nc:	-	TRI on Site Releases:	-	Programs With Snc:	0	TRI off Site Trnsfrs:	-	Fac Percent Minority:	56.371	TRI Reporter:	-	Fac Pop Den:	5396.66	Fac Imp Water Flg:	-	Count:	1	Fac Major Flag:	-
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Count:	1	Fac Major Flag:	-																																																																															

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Fac County:	ORANGE				Fac Active Flag:	-
State Other:					Fac Inspection Count:	0
Region:	09				Date Last Inspection:	-
Latitude:	33.69666				Days Last Inspection:	-
Longitude:	-117.77454					
Fac Derived Tribes:	-					
AIR IDs:	-					
CAA Permit Types:	-					
CAA NAICS:	-					
CAA SICs:	-					
NPDES IDs:	-					
CWA Permit Types:	-					
CWA NAICS:	-					
CWA SICs:	-					
RCRA IDs:	-					
RCRA Permit Types:	-					
RCRA NAICS:	-					
SDWA IDs:	-					
SDWA System Types:	-					
SDWA Compliance Status:	-					
SDWA Src Flag:	N					
Fac Collection Meth:	ADDRESS MATCHING-BLOCK FACE					
EJSCREEN Flag Us:	Y					
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-117.77454,%22y%22:33.69666,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1					
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=110013891976					
Industry:	Waste Management					

25	1 of 1	ESE	0.41 / 2,148.68	188.97 / 30	TREASURE FARM WINDMACHINE 227 14503 TRABUCO RD IRVINE CA 92720	LUST
Global ID:	T0605901751				Census Tract:	6059052417
Site Facility Type:					Census Tract (SRCH):	6059052417
Status:	Open - Site Assessment				Oil Field (SRCH):	
Status Date (DL):	10/21/1991				Oil Field Oper (SRCH):	
Cleanup Status:					Latitude:	
Case Type (DL):	LUST Cleanup Site				Longitude:	
RWQCB Region (DL):	SANTA ANA RWQCB (REGION 8)					
Site Facility Name:						
Business Name (DL):	TREASURE FARM WINDMACHINE 227					
Address:	14503 TRABUCO RD					
City:	IRVINE					
State:	CA					
Zip:	92720					
County:	ORANGE					

GeoTracker Sites Data Download - Site Details

CUF Case:	NO
Lead Agency:	SANTA ANA RWQCB (REGION 8)
Case Worker:	MAO
Local Agency:	ORANGE COUNTY
RB Case No:	083002464T
Local Case No:	TT90IC023
File Location:	Regional Board
Potential COC:	Gasoline
Potential Media of Concern:	Aquifer used for drinking water supply
Begin Date:	10/21/1991
How Discovered:	Tank Closure
How Discovered Description:	
Stop Method:	
Stop Description:	
Calwater Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
DWR GW Subbasin Name:		Coastal Plain Of Orange County (8-001)				
Disadvantaged Community:						
CalEnvScreen Score:						
Coordinate Source:		* Historical Geocode - Exact Address Match				
Discharge Cause:		Unknown				
Discharge Source:		Other				
EPA Region:		9				
Leak Reported Dt:		1991-10-21 00:00:00				
Military DoD Site:		No				
No Further Action Dt:						
Qty Risd Gallons:						
Facility Project Sub Type:						
Calenviroscreen 3 Score:		11-15%				
Calenviroscreen 4 Score:		10-15%				
Site History:						

This is a recalcitrant site. No information available on file for this site.

GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: MIGUEL OVIEDO
Organization Name: SANTA ANA RWOCB (REGION 8)
Address: 3737 Main Street, Suite 500
City: RIVERSIDE
Email: miguel.oviedo@waterboards.ca.gov
Phone No: 9517823238

Contact Type: Local Agency Caseworker
Contact Name: ORANGE COUNTY
Organization Name: ORANGE COUNTY
Address: 1241 E. DYER ROAD SUITE 120
City: Santa Ana
Email:
Phone No:

GeoTracker Sites Data Download - Status History

Status: Open - Site Assessment
Status Date: 10/21/1991

Status: Open - Case Begin Date
Status Date: 10/21/1991

GeoTracker Search - Regulatory Profile (as of October 16, 2023)

Site Facility Name: TREASURE FARM WINDMACHINE 227
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: OPEN - SITE ASSESSMENT
Address: 14503 TRABUCO RD
City: IRVINE
Zip: 92720
County: ORANGE
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0605901751
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 10/21/1991
Project Status:
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605901751&tabname=regulatoryhistory
Potential COC: GASOLINE
Potential Media of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
File Location: REGIONAL BOARD
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Future Land Use:

Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 083002464T
CASE MANAGER: MIGUEL OVIEDO
ORANGE COUNTY - CASE #: TT901C023
CASE MANAGER: ORANGE COUNTY

CUF Claim No:

CUF Priority Assig:

CUF Amount Paid:

WDR Place Type:

WDR File No:

WDR Order No:

Project Oversight Agencies:

Facility Type:

Composting Method:

Gmdwtr Monitoring Frequency:

Designated Beneficial Use Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply

Desc:

Site History:

This is a recalcitrant site. No information available on file for this site.

GeoTracker Search - Cleanup Status History (as of October 16, 2023)

Status: Open - Site Assessment
Date : 10/21/1991

Status: Open - Case Begin Date
Date : 10/21/1991

GeoTracker Search - Regulatory Activities (as of October 16, 2023)

Action Type: Other Regulatory Actions

Action: File review

Action Date: 3/27/2018

Received Issue Date: 3/27/2018

Doc Link:

Title Description Comments:

This is a recalcitrant site. No information is available on file. RP cannot be reached.

Action Type: Reports

Action: Other Report

Action Date: 3/30/2016

Received Issue Date: 3/30/2016

Doc Link:

Title Description Comments:

Site was transferred to Regional Board sometime in 2015. No information is available on file at this time. Effort will be made to contact Orange County office for information for the RP. This appears to be a recalcitrant site.

Action Type: Other Regulatory Actions

Action: File review

Action Date: 12/28/2015

Received Issue Date: 12/28/2015

Doc Link:

Title Description Comments:

TREASURE FARM WINDMACHINE 227 - case transfer to RB

Action Type: Leak Action

Action: Leak Reported

Action Date: 10/21/1991

Received Issue Date:

Doc Link:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title Description Comments:

26	1 of 1	ESE	0.41 / 2,183.80	189.06 / 30	TREASURE FARMS 0 NE JEFFREY & TRABUCO RD IRVINE CA 92720	CLEANUP SITES
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Global ID:	T10000020533	Case Type (DL):
Site Facility Type:		Census Tract:
Cleanup Status:		RWQCB Region (DL):
Status (SRCH):	COMPLETED - CASE CLOSED	Longitude:
Status (DL):		Latitude:
Status Date (DL):		
Address:	0 NE JEFFREY & TRABUCO RD	
City:	IRVINE	
County:	ORANGE	
Zip:	92720	
State:	CA	
Report Source:	Cleanup Program Sites - GeoTracker Search Results (SRCH)	

GeoTracker Sites Data Download - Site Details

RB Case No:	
Local Case No:	90IC023
Begin Date:	5/22/2003
Lead Agency:	ORANGE COUNTY LOP
Local Agency:	ORANGE COUNTY LOP
CUF Case:	NO
CalEnvScreen Score:	
EPA Region:	9
Qty Risd Gallons:	
Potential COC:	
How Discovered:	
Stop Method:	
Stop Description:	
Case Worker:	
Military DoD Site:	No
Leak Reported Dt:	
No Further Action Dt:	2003-05-22 00:00:00
Potential Media of Concern:	
How Discovered Description:	
Calwater Watershed Name:	
DWR GW Subbasin Name:	
Disadvantaged Community:	
Coordinate Source:	
Discharge Cause:	
Discharge Source:	
Facility Project Sub Type:	
Calenviroscreen 3 Score:	
Calenviroscreen 4 Score:	
File Location:	All Files are on GeoTracker or in the Local Agency Warehouse
Site History:	

Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

GeoTracker Sites Data Download - Status History

Status:	Open - Case Begin Date
Status Date:	2003-05-22 00:00:00
Status:	Completed - Case Closed
Status Date:	2003-05-22 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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GeoTracker Sites Data Download - Regulatory Contacts

Contact Type: Local Agency Caseworker - Primary Caseworker
Contact Name: IC SUPERVISOR
Organization Name: ORANGE COUNTY LOP
Address: 1241 E. DYER RD., SUITE 120
City: SANTA ANA
Email: ghiggins@ochca.com
Phone No:

GeoTracker Search - Facilities (as of October 16, 2023)

Project Status:
Cuf Claim No:
CUF Priority Assign:
CUF Amount Paid:
Composting Method:
Facility Type:
WDR Place Type:
WDR File No:
WDR Order No:
File Location: ALL FILES ARE ON GEOTRACKER OR IN THE LOCAL AGENCY WAREHOUSE
User Defined Beneficial Use:
Designated Beneficial Use: NONE
Designated Beneficial Use Desc: NONE
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000020533
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/22/2003
Potential COC: NONE SPECIFIED
Potential Media of Concern: NONE SPECIFIED
Groundwater Monitoring Freq:
DWR GW Sub Basin:
CalWater Watershed Name:
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 90IC023
CASE MANAGER: IC SUPERVISOR
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000020533&tabname=regulatoryhistory
Site History:

Please refer to recent Site Documents or Monitoring Reports for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

GeoTracker Search - Cleanup Status History (as of October 16, 2023)

Status: Open - Case Begin Date
Date: 5/22/2003

Status: Completed - Case Closed
Date: 5/22/2003

27	1 of 2	ESE	0.42 / 2,226.88	188.01 / 29	PROPOSED PA 40 MIDDLE SCHOOL TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618	SCH
Estor/EPA ID: 60000561 Nat Priority List: NO Census Tract: 6059052418 Permit Renewal Lead: Project Manager: Site Code: 404734 Cleanup Status: NO FURTHER ACTION AS OF 4/16/2007 Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY		Acres: 20 ACRES Supervisor: SHAHIR HADDAD County: ORANGE Latitude: 33.695779 Longitude: -117.762247				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Assembly District:		73				
Senate District:		37				
School District:		IRVINE UNIFIED SCHOOL DISTRICT				
Office:		SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH				
Public Participatn Spclst:						
Special Program:						
Funding:		SCHOOL DISTRICT				
Site Type:		SCHOOL				
APN:		NONE SPECIFIED				
Past Use that Caused Contam:		AGRICULTURAL - ROW CROPS				
Potential Media Affected:		SOIL				
Potential Contamin of Concern:						

UNDER INVESTIGATION

SITE HISTORY:

New site.

Status: NO FURTHER ACTION
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 35-40%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60000561

Completed Activities

Title: PEA Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60000561&doc_id=6014844
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 4/16/2007
Comments: DTSC issued "No Further Action Determination" based on a Preliminary Environmental Assessment report.

Title: EOA
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60000561&enforcement_id=6010548
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Environmental Oversight Agreement
Date Completed: 2/22/2007
Comments: Signed Agreement sent (FedEx) to District.

27	2 of 2	ESE	0.42 / 2,226.88	188.01 / 29	PROPOSED PA 40 MIDDLE SCHOOL TRABUCO ROAD/JEFFREY ROAD IRVINE CA 92618	ENVIROSTOR
Estor/EPA ID:	60000561				Assembly District:	73
Site Code:	404734				Senate District:	37
Nat Priority List:	NO				Permit Renewal Lead:	
APN:	NONE SPECIFIED				Public Partici Spclst:	
Census Tract:	6059052418				Project Manager:	
Site Type:	SCHOOL				County:	ORANGE
Address Description:	TRABUCO ROAD/JEFFREY ROAD				Latitude:	33.695779
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH				Longitude:	-117.762247
Special Program:					Acres:	20 ACRES
Funding:	SCHOOL DISTRICT				Supervisor:	SHAHIR HADDAD
Cleanup Status:	NO FURTHER ACTION AS OF 4/16/2007					
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY					
School District:	IRVINE UNIFIED SCHOOL DISTRICT					
Past Use that Caused Contam:	AGRICULTURAL - ROW CROPS					