General Plan Amendment 03-18-5155, Zone Change 03-18-5144, Use Permit 03-18-5146 Great Scott Landscape Facility Project

Public Review Draft
Initial Study/Mitigated Negative Declaration
September 2021

Prepared for:

City of Lake Forest
Community Development Department
100 Civic Center Drive
Lake Forest, CA 92630

Prepared by:

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D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm

GENERAL PLAN AMENDMENT 03-18-5155, ZONE CHANGE 03-18-5144, USE PERMIT 03-18-5146 GREAT SCOTT LANDSCAPE FACILITY

Public Review Draft

Initial Study/Mitigated Negative Declaration

LEAD AGENCY: CITY OF LAKE FOREST

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September 2021

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1.0 INTRODUCTION

1.1 Statutory Authority and Requirements

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Sections 21000, et seq.) and the State CEQA Guidelines (14 California Code of Regulations Title 14 Sections 15000, et seq.). This Initial Study is an informational document intended to be used as a decision-making tool for the Lead Agency and responsible agencies in considering and acting on the proposed Project.

Pursuant to CEQA Guidelines Section 15063, the City of Lake Forest, as Lead Agency, has prepared this Initial Study to determine if the proposed Great Scott Landscape Facility Project (Project) would have a significant effect on the environment. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that mitigation cannot reduce the impact to a less than significant level for any aspect of the proposed Project, then the Lead Agency must prepare an Environmental Impact Report (EIR) to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds that there is no evidence that the Project, as proposed, may cause a significant effect on the environment, the Lead Agency may prepare a Negative Declaration (ND). If the Lead Agency finds that there is evidence of a significant impact, but the impact can be reduced through mitigation, the Lead Agency may prepare a Mitigated Negative Declaration (MND). Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such significant environmental impacts may occur (PRC Section 21080(c)).

Pursuant to CEQA Guidelines Section 15063(c), the purposes of an Initial Study are to:

1. Provide the Lead Agency with information to use as the basis for deciding whether to prepare an EIR, MND or a ND;
2. Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a ND;
3. Assist in the preparation of an EIR, if one is required, by;
    a. Focusing the EIR on the effects determined to be significant,
    b. Identifying the effects determined not to be significant,
    c. Explaining the reasons for determining that potentially significant effects would not be significant, and
    d. Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environment effects.
4. Facilitate environmental assessment early in the design of a project;
5. Provide documentation of the factual basis for the finding in a MND or ND that a project will not have a significant effect on the environment;
6. Eliminate unnecessary EIRs; and
7. Determine whether a previously prepared EIR could be used with the project.

The environmental documentation, which is ultimately selected by the City in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the proposed Project. The resulting environmental documentation is not,

however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

1.2 Summary of Findings

Pursuant to State CEQA Guidelines Section 15367, the City of Lake Forest (City), as the Lead Agency, has the authority for environmental review and adoption of the environmental documentation, in accordance with CEQA. As set forth in State CEQA Guidelines Section 15070, an Initial Study leading to a Negative Declaration (IS/ND) or Mitigated Negative Declaration (IS/MND) can be prepared when:

- The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment (resulting in a Negative Declaration), or

- The Initial Study identifies potentially significant effects, but:
    - Revisions in the project plans or proposals made by, or agreed to by the Applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
    - There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment (resulting in a Mitigated Negative Declaration).

Based on the Environmental Checklist Form and supporting environmental analysis provided in Section 4.0, Environmental Analysis, the proposed Project would have no impact or a less than significant impact concerning all environmental issue areas, except the following, for which the Project would have a less than significant impact with mitigation incorporated:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Noise
- Tribal Cultural Resources

1.3 Public Review Process

The Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration has been provided to the Clerk of the County of Orange and mailed to responsible agencies and trustee agencies concerned with the Project and other public agencies with jurisdiction by law over resources affected by the Project. A 30-day public review period has been established for the IS/MND in accordance with State CEQA Guidelines Section 15073. During the public review period, the IS/MND, including the technical appendices, was made available for review at the following location:

- City of Lake Forest Website: https://lakeforestca.gov/204/Planning

In reviewing the IS/MND, affected public agencies and interested members of the public should focus on the document's adequacy in identifying and analyzing the potential environmental impacts and the ways in which the Project's potentially significant effects can be avoided or mitigated.

Written comments on this IS/MND may be sent to:

Marie Luna
Senior Planner
City of Lake Forest
Community Development Department
100 Civic Center Drive
Lake Forest, CA 92630
Email: mluna@lakeforestca.gov

Following receipt and evaluation of comments from agencies, organizations, and/or individuals, the City will determine whether any substantial new environmental issues have been raised, and if further documentation may be required. If no new environmental issued have been raised or if the issues raised do not provide substantial evidence that the Project would have a significant effect on the environment, the IS/MND will be considered for adoption and the Project for approval.

1.4 Incorporation by Reference

Pursuant to State CEQA Guidelines Section 15150, a MND may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the MND's text.

The references outlined below were utilized during preparation of this Initial Study. Copies of these documents are available for review at Lake Forest City Hall, located at 100 Civic Center Drive, Lake Forest, California 92630.

Lake Forest 2040 General Plan, adopted June 2020. In 2020, the City adopted a comprehensive update to its 2006 General Plan. The *Lake Forest 2040 General Plan* (General Plan) serves as a long-term policy document which identifies the community's vision for the future and provides a framework to guide decisions on growth, development, and conservation of open space and resources in a manner consistent with the quality of life desired by residents and businesses. Each General Plan element provides a set of goals, policies, and implementation actions that will guide future decisions within the City. The General Plan is comprised of the following Elements:

- Land Use and Design
- Mobility
- Economic Development
- Recreation and Resources
- Public Safety
- Public Facilities
- Health and Wellness
- 2013 – 2021 Housing (under separate cover)

The General Plan also includes a land use diagram, which serves as a general guide to the distribution of land uses throughout the City.

In addition to the General Plan policy document, two important documents support the General Plan. The Existing Conditions Report and the General Plan Environmental Impact Report (EIR), are both intended to be used in conjunction with the General Plan.

City of Lake Forest Municipal Code. The *City of Lake Forest Municipal Code* (Municipal Code) consists of all the regulatory, penal, and administrative ordinances of the City of Lake Forest. It is the method the City uses to implement control of land uses in accordance with the General Plan goals and policies. The *City of Lake Forest Zoning Code* (Zoning Code), Title 9 of the Municipal Code, identifies land uses permitted and prohibited according to the zoning category of specific parcels.

City of Lake Forest CEQA Significance Thresholds Guide, Published November 20, 2001, Revised July 21, 2020. The *City of Lake Forest CEQA Significance Thresholds Guide* (CEQA Thresholds Guide) provides guidance for the review of projects and in the preparation of environmental documents pursuant to CEQA. CEQA requires the analysis of discretionary projects to disclose their potential effects on the environment. The CEQA Thresholds Guide is a tool that compiles information that is useful in the preparation of environmental documents, and improves the level of consistency, predictability, and objectivity of the City's environmental documents. This CEQA Thresholds Guide provides assistance in evaluating the significance of project impacts for six key topical issues in the City of Lake Forest: circulation/transportation, noise, air quality, land use, aesthetics, and water resources. For each topical issue the following information is provided: background information; discussion of relevant standards, planning guidelines, policies etc.; thresholds of significance; and potential mitigation.

City of Lake Forest Local Guidelines for Implementing the California Environmental Quality Act, 2020. The *City of Lake Forest Local Guidelines for Implementing the California Environmental Quality Act* (Local CEQA Guidelines), are procedures to implement CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines (State CEQA Guidelines), 14 California Code of Regulations Section 15000 et seq. The Local CEQA Guidelines implement and tailor the general provisions of the State CEQA Guidelines to the specific operations of the City of Lake Forest and are intended to supplement the State CEQA Guidelines.

1.5 Report Organization

This document is organized into the following sections:

Section 1.0, Introduction, provides the CEQA Statute and Guidelines applicable to the Initial Study, summarizes the findings of the Initial Study, describes the public review process, and identifies documents incorporated by reference as part of the Initial Study.

Section 2.0, Project Description, provides a detailed description of the proposed Project, including Project location, environmental setting, Project characteristics, construction program and phasing, and requested entitlement, permits, and approvals.

Section 3.0, Environmental Checklist Form, provides Project background information and a summary of environmental factors potentially affected by the proposed Project and the Lead Agency Determination based on the analysis and impact determinations provided in Section 4.0. The impact evaluation criteria utilized in Section 4.0 is also provided.

Section 4.0, Environmental Analysis, provides a detailed analysis of the environmental impacts identified in the environmental checklist, and identifies mitigation measures, if necessary.

Section 5.0, References, identifies the information sources utilized in preparation of the IS to support the environmental analysis.

2.0 PROJECT DESCRIPTION

2.1 Project Location

Griffiths Properties (Owner) is proposing the Great Scott Tree Service Inc., Facility Project (herein referred to as the "Project" or "Great Scott Landscape Facility"), which is located in the City of Lake Forest within the County of Orange; refer to Exhibit 2-1, *Regional Vicinity*. The Project site is comprised of approximately 6.72 acres located at 20865 and 20795 Canada Road, west of Linear Lane, north of Canada Road, and south of Serrano Creek; refer to Exhibit 2-2, *Project Location*.

Regional access to the site is provided via the Foothill Transportation Corridor (SR-241) located approximately 0.5-mile to the northeast and the Santa Ana Freeway (I-5) Freeway located approximately 3.45 miles to the southwest of the Project site. Local access to the site is provided from Canada Road and Linear Lane. Within the Project area, Dimension Drive provides access to both Canada Road and Linear Drive. Dimension Drive is accessed from Lake Forest Drive to the southeast and Bake Parkway to the northwest.

2.2 Existing Setting

ON-SITE LAND USES

The approximately 6.72-acre Project site is comprised of three parcels (APNs 610-301-07, -20, and -21) and is currently developed with one single-family residence, one single-family residence converted to office use, a barn, multiple structures used for storage, and pens for various farm animals. Open dirt areas within the site are used for parking and storage. Serrano Creek forms the Project site's northern boundary. There are a number of trees and brush distributed throughout the site. The Project site is currently accessed from two driveways on Linear Lane and a driveway on Canada Road.

GENERAL PLAN AND ZONING

According to the Lake Forest 2040 General Plan Land Use Map (Lake Forest 2040 Land Use Element Figure LU-1), the Project site is designated Regional Park/Open Space; refer to Exhibit 2-3, *Existing General Plan Land Use*. The Regional Park/Open Space designation provides for public recreational uses designed to meet the active and passive recreational needs of the community and other nearby areas in the region. This designation includes the Whiting Ranch Regional Wilderness Park and other County of Orange open space along portions of Serrano Creek and Aliso Creek. This designation applies to land that is generally maintained as natural open space with minimal improvements.

The City of Lake Forest Zoning Map identifies the zoning for the site as M1 Light Industrial/PD Planned Development Overlay and A1 Agricultural; refer to Table 2-1, *Existing General Plan Land Use and Zoning* and Exhibit 2-4, *Existing Zoning*.

Table 2-1
Existing General Plan Land Use and Zoning

Assessor Parcel Number (APN)	Acreage	General Plan Land Use	Zoning
610-301-07	5.55	Regional Park/Open Space	M1 Light Industrial/PD Planned Development Overlay
610-301-20	0.82	Regional Park/Open Space	A1 Agricultural
610-301-21	0.34	Regional Park/Open Space	A1 Agricultural

The A1 Agricultural district provides for agriculture, outdoor recreational uses, and those low-intensity uses which have a predominately open space character. The M1 Light Industrial district provides for the development and maintenance of light industrial uses and industry-supporting activities, and other uses that are compatible with light industrial uses. The purpose of the Planned Development Overlay is to provide a method whereby land may be developed utilizing design features which take advantage of modern site planning techniques to produce an integrated development project providing an environment of stable, desirable character which will be in harmony with existing and potential development of the surrounding neighborhood.

SURROUNDING USES

The Project site is surrounded by a mix of industrial, open space, and commercial land uses:

- North – The Project site is bounded by Serrano Creek to the north. North of Serrano Creek are industrial and service commercial uses zoned M1 PD Overlay.
- East – Industrial and service commercial uses zoned M1 PD Overlay are located to the east of the Project site, east/southeast of Linear Lane. Also east of the Project site is a nature park zoned OS Open Space with access points along Dimension Drive.
- South – Directly south of the Project site are industrial and service commercial uses zoned M1 PD Overlay. Further south are multiple-family residences (Serrano Creek Villas) zoned R2 Multifamily Dwellings PD Overlay.
- West – To the west and southwest of the site are commercial uses (American Mini Storage) zoned A1. Further west/southwest are single-family residences zoned RS Residential Single Family PD Overlay.

Legend

Project Boundary/Lake Forest City Boundary

County Boundary

0 2½ 5
Miles

Sources: CalAtlas; Orange County. Map date: May 11, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-1. Regional Location Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

Project Boundary

0 250 500
Feet

Source: ArcGIS Online World Imagery Map Service; Orange County GIS; Google Maps. Map date: May 11, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-2. Project Location

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Source: ArcGIS Online World Imagery Map Service; Orange County GIS; Lake Forest General Plan 2040. Map date: May 11, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-3. Existing General Plan Land Use

De Novo Planning Group
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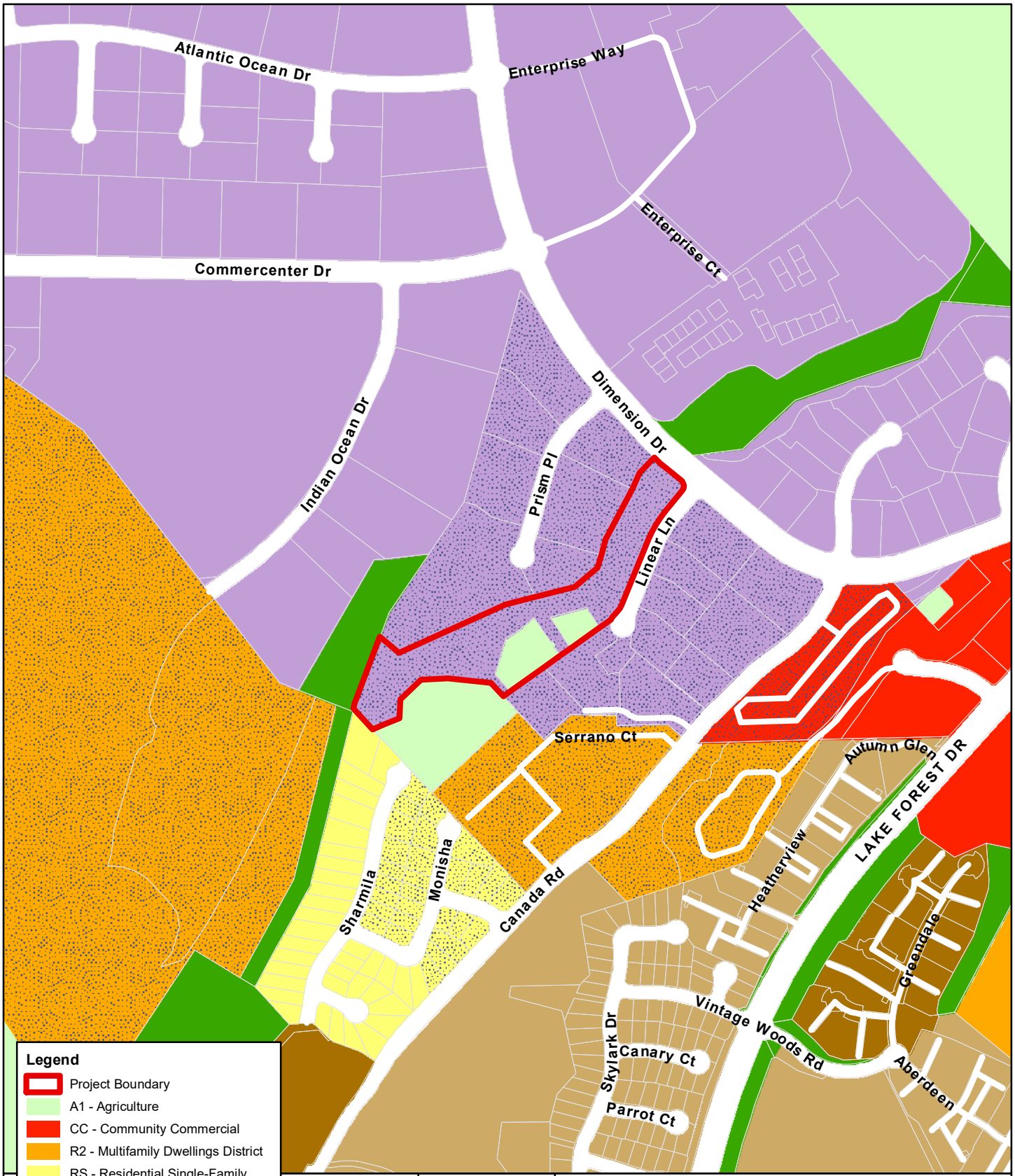

Source: ArcGIS Online World Imagery Map Service; Orange County GIS; City of Lake Forest Zoning. Map date: May 11, 2021. Revised: September 8, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-4. Existing Zoning

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2.3 Proposed Project

The Project proposes to rehabilitate one existing single-family residence to be used as an office for the Great Scott Tree Service (GSTS) administrative functions, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with GSTS tree cutting operations, as described below.

OFFICE AND STORAGE BUILDINGS

The Project proposes to rehabilitate the remaining residence to accommodate GSTS administrative functions. The 2,621 square foot office building would include offices, a crew room, administrative room, breakroom, and restrooms. The existing garage and entry would be removed and new entries would be provided, including accessible ramps within the existing courtyard and along the northern elevation; refer to Exhibit 2-5, *Proposed Floor Plan* and Exhibit 2-6, *Proposed Office Building Elevations*. Exterior improvements would primarily be associated with the new accessible ramps with handrails and guardrails, removal of an exterior door and infilling the opening, removal of the exterior water heater and wood shed, providing a new opening for the water heater, and painting the entire structure.

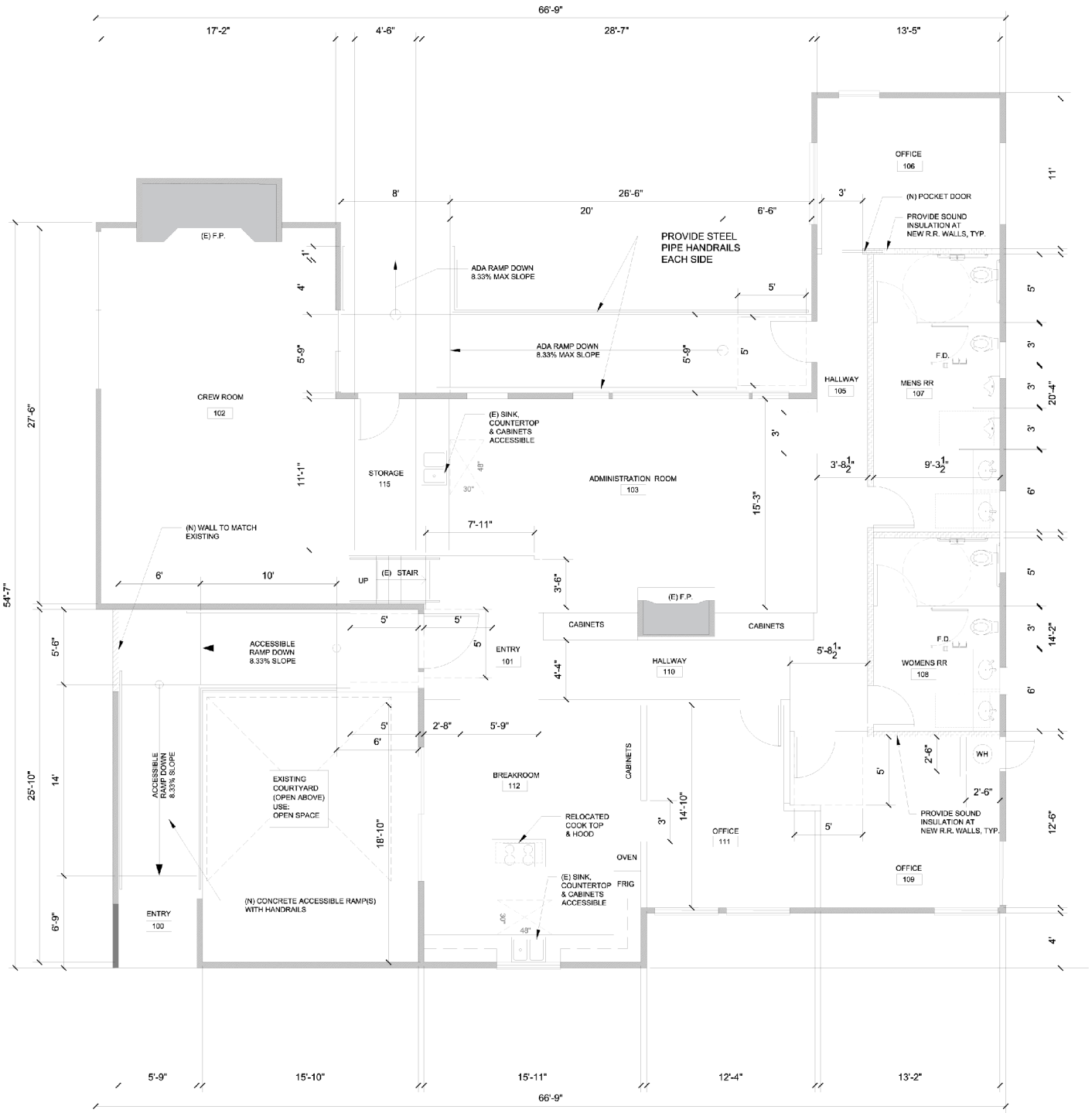
The Project proposes to retain the existing 3,712-square foot barn structure to be used for storage of equipment. The exterior of the existing barn would be painted and minor repairs to the structure would be completed, including termite and dry rot treatment that may require the localized replacement of damaged wood with repaired areas to match the existing style and color of the structure. Electrical and other safety-related upgrades would also occur; no additional modifications to the barn structure are proposed.

PARKING

Parking would be provided on-site for employees and vendors, as well as for trucks and equipment associated with GSTS operations; refer to Table 2-2, *Proposed Parking* and Exhibits 2-7a, 2-7b and 2-7c, *Proposed Site Plan*.

Table 2-2
Proposed Parking

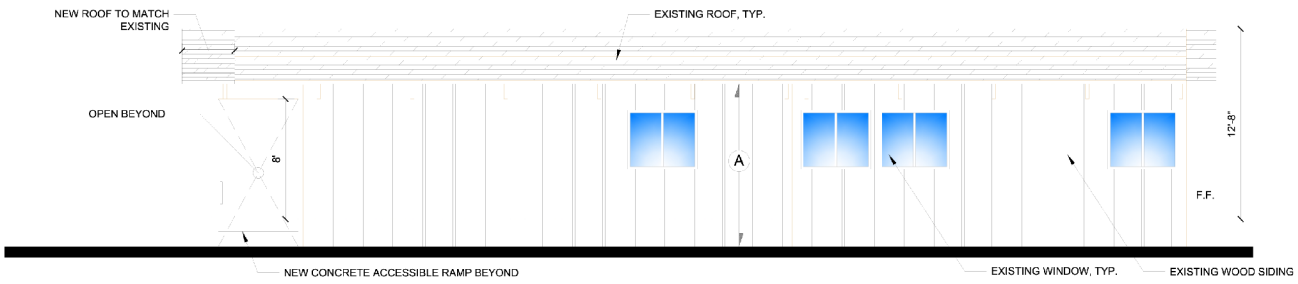
Vehicle	Parking Spaces Provided	Parking Dimensions
Automobiles - Standard Stall - ADA Van and ADA EV Van Charing Stall - Clear Air Stall	15	 19 feet by 9 feet 19 feet by 14 feet 19 feet by 9 feet
Extended Cap Pickup Truck w/Arrow Board	6	35 feet by 11 feet
Dump Truck w/Chipper or Bucket Truck w/Arrow Board	24	45 feet by 13 feet



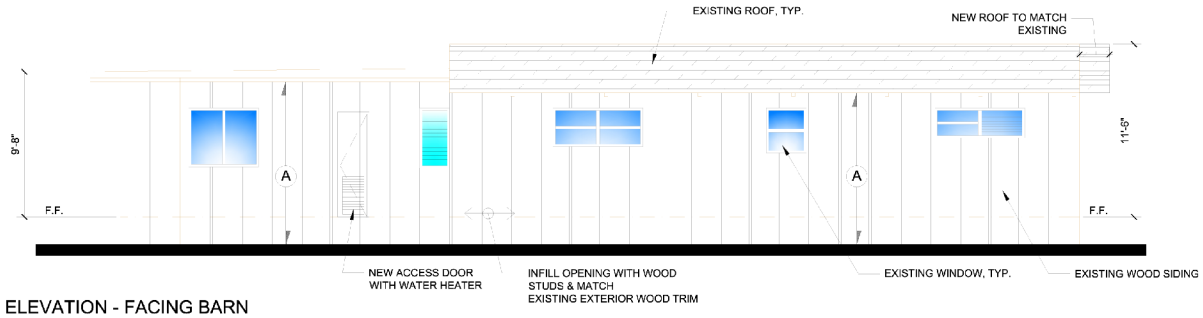
CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-5. Proposed Floor Plan

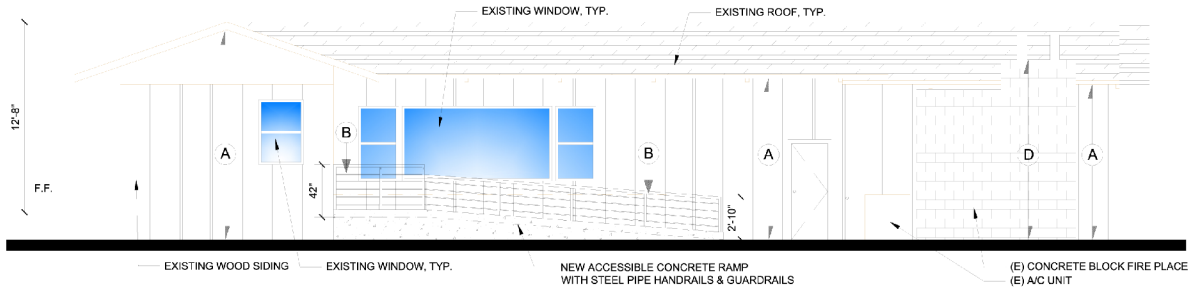
Source: Herdman Architect + Design, 8/23/2021.
Map date: September 8, 2021.



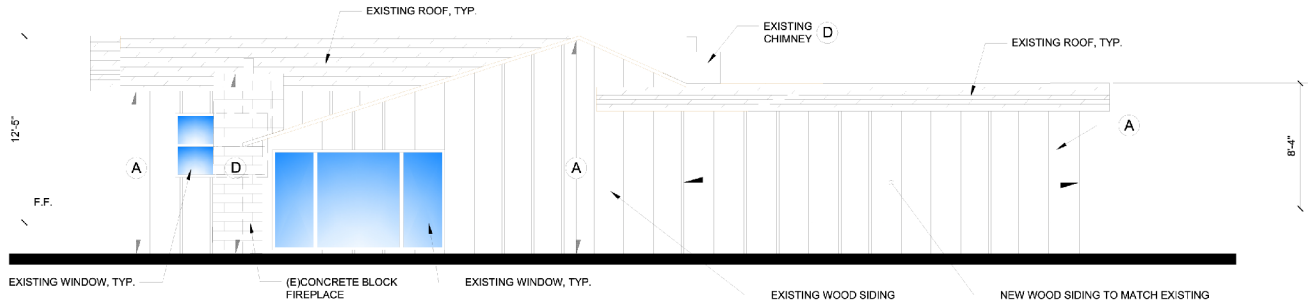
4 SOUTH ELEVATION - FACING PRIVATE DRIVE
SCALE: 1/4" = 1'-0"



3 EAST ELEVATION - FACING BARN
SCALE: 1/4" = 1'-0"



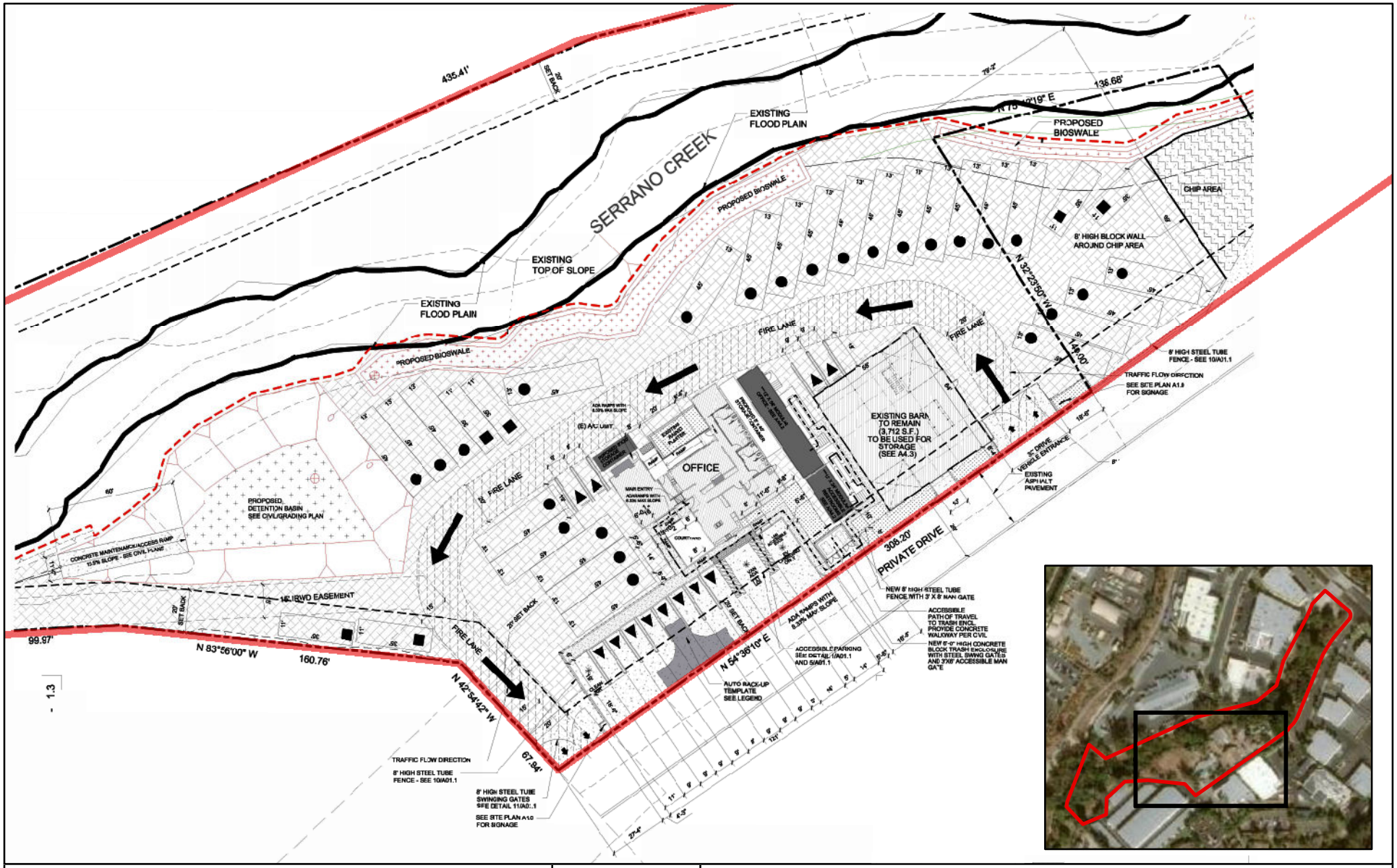
2 NORTH ELEVATION - FACING SERRANO CREEK
SCALE: 1/4" = 1'-0"



CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-6. Proposed Office Building Elevations

Source: Herdman Architect + Design, 8/23/2021.
Map date: September 8, 2021.



Legend

Project Boundary

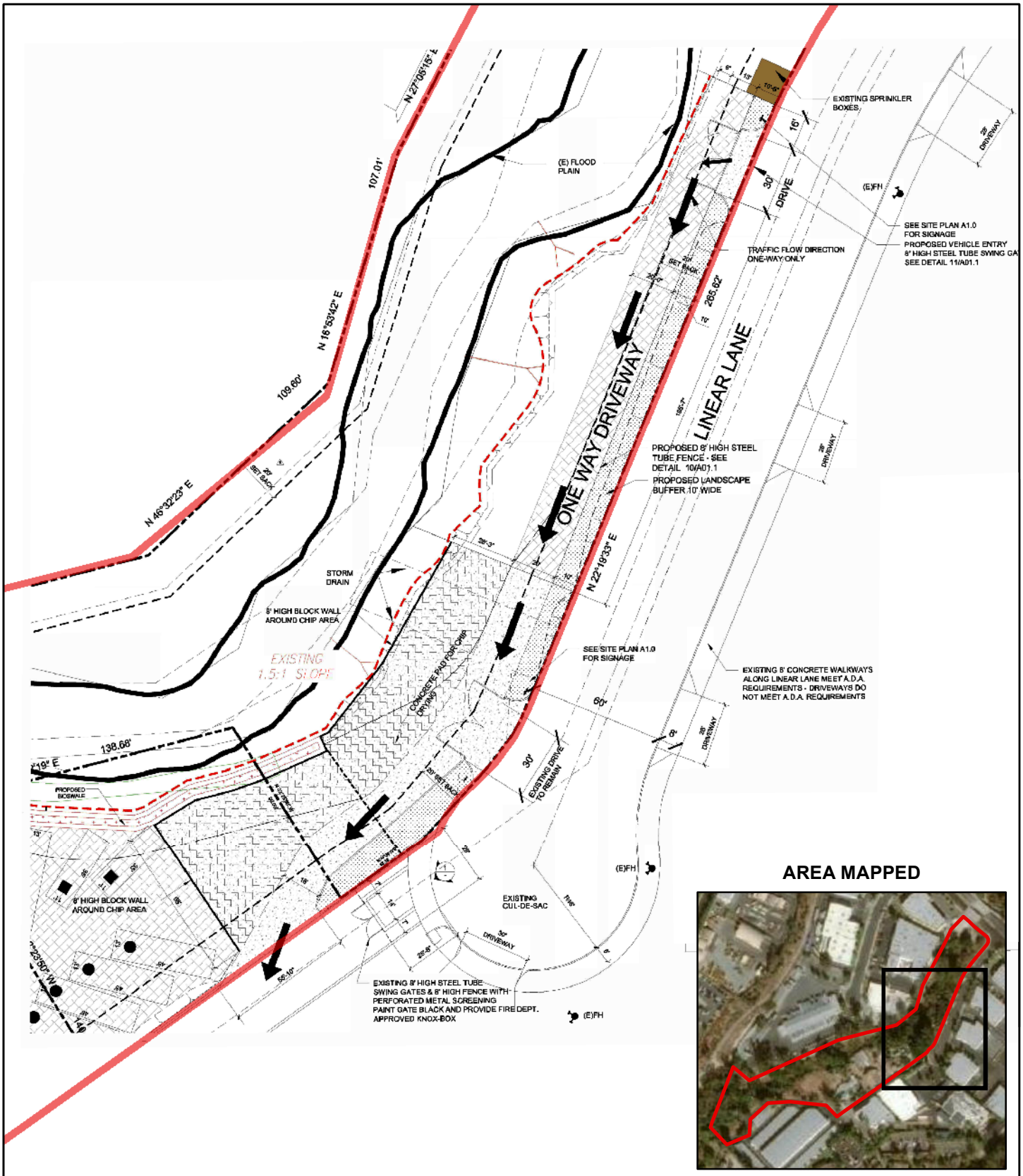
0 25 50

Feet

Source: Herdman Architect + Design, 8/23/2021.
Map date: September 8, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-7a. Proposed Site Plan



AREA MAPPED

Legend

Project Boundary

0 25 50
Feet

Source: Herdman Architect + Design, 8/23/2021.
Map date: September 8, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-7b. Proposed Site Plan

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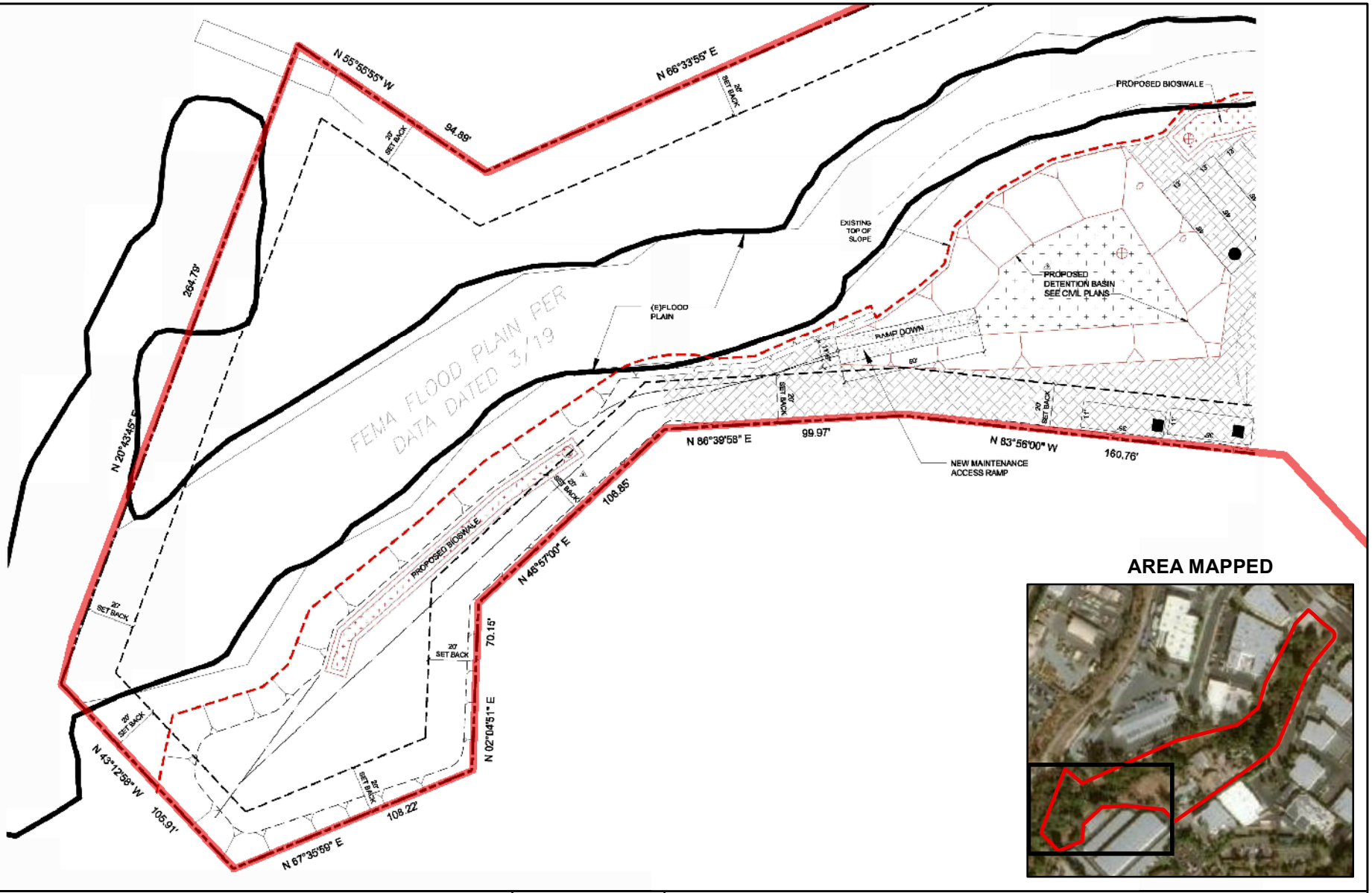

Legend

Project Boundary

0 25 50
Feet

Source: Herdman Architect + Design,8/23/2021.
Map date: September 8, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-7c. Proposed Site Plan

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A Land Use Planning, Design, and Environmental Firm

Automobile parking would primarily be provided adjacent to the office building with direct access from the private driveway extending from Linear Lane. In this area, 11 spaces would be provided, including two van accessible parking spaces with an accessible path of travel provided to the proposed accessible ramp within the office building's existing courtyard. The remaining four automobile parking spaces would be provided north of the existing barn and at the northwest corner of the office building. Parking for the dump trucks/bucket trucks and extended cab pickup trucks would be distributed within the Project site, primarily along the northern perimeter, west of the office, and west of the chip drying area.

CIRCULATION

Four separate gated driveways would provide access to the Project site: two entries with access directly from Linear Lane and two driveways from the existing private driveway that extends onto neighboring properties (APNs 610-301-29 and -24) from Linear Lane; refer to Exhibits 2-7a and 2-7b. This private driveway currently serves as access to the Project site via an access easement. The driveways from Linear Lane would provide access to the northern portion of the Project site via 30-foot ingress and egress driveways. The northernmost proposed driveway would provide one-way access to GSTS trucks to access the proposed concrete pad that would be utilized for wood chip drying. Trucks would enter the one-way access driveway and deposit the wood chips collected from offsite locations onto the concrete pad. Once the wood chips have been deposited, the GSTS truck would either be stored in the additional maintenance vehicle parking area adjacent to the one-way driveway or would exit via the second (existing) driveway onto Linear Lane.

The two additional driveways, accessed from the private driveway, would provide access to the southern portion of the Project site, including the office, storage areas, and GSTS truck parking areas (the primary automobile parking area, including accessible spaces, would be directly accessed from the private driveway). A one-way 32-foot-wide access driveway would be located to the east of the existing barn. A minimum 20-foot-wide fire lane would extend north/northwest from the access driveway and then west between the office and GSTS truck parking areas. The driveway would provide one-way access through the interior of the site with vehicles exiting through the existing driveway located to the west of the proposed automobile parking spaces. The interior of the site, with the exception of landscaped areas, would consist of concrete and gravel with permeable steel mats located at all truck turning areas.

LANDSCAPING AND FENCING

Landscaping, walls and fencing are proposed to be provided within and around the Project site. An 8-foot-high landscape buffer and 8-foot-high steel tube fence would be installed along Linear Lane. An 8-foot-tall free standing block wall would be installed around the outdoor chip storage area. Swing gates would be provided at all driveways. An 8-foot-high steel tube gate with perforated metal screening would be provided at the entrance to the private driveway with a fire department-approved Knox Box. An existing landscaped planter adjacent to the office building would remain. Landscaping would also be provided adjacent to the accessible path of travel from the automobile parking area to the office building and extending from Linear Lane, adjacent to the automobile parking area and along a portion of the office's frontage.

Prior to installation of new landscaping and fencing, the existing animal pens, inoperable vehicles, and debris that occurs throughout the Project site would be removed. Additionally, the trees and brush that are in good health would be maintained and treated. Approximately 119 trees are planned to be retained and 69 trees have been identified as either in poor health or dead and are proposed to be removed.

No such plantings or other activities would take place in California Department of Fish & Wildlife or Army Corps of Engineers jurisdiction areas.

Stormwater

The Project site generally drains northwest and sheet flows into Serrano Creek. A small portion of the site is on the opposite side of Serrano Creek and sheet flows south directly into the Creek. There are no catch basins, area drains, underground storm drain conduits, and no locations of concentrated storm water outlets into Serrano Creek. The Project proposes three bioswales that would extend along a portion of the northern perimeter of the Project site, adjacent to Serrano Creek. The bioswales would provide for improved water quality and would be underlain with an underdrain. The underdrain from each bioswale would pipe flow and then discharge into a proposed detention basin, located within the northwestern portion of the Project site; refer to Exhibit 2-7a. The detention basin would capture and detain peak storm flows. Flows would exit the basin through an underdrain that would discharge into Serrano Creek; Refer to Section 4.10, Hydrology and Water Quality.

Utilities

Water and wastewater services would be provided to the Project via existing facilities. A domestic water meter is located approximately 220 feet southeast of the Project site. An existing 15-foot-wide easement to Irvine Ranch Water District (IRWD) allows for the servicing of the Project from the existing meter.

Existing dual 8-inch sewer lines extend into the Project site from a 15-inch sewer line located within Linear Lane and the private driveway to the south.

GENERAL PLAN AMENDMENT, ZONE CHANGE, AND DEVELOPMENT AGREEMENT

The Project proposes a General Plan Amendment (GPA) to change the General Plan land use designation for the Project site (APNs 610-301-07, -20, and -21) from Regional Park/Open Space to Urban Industrial 25; refer to Exhibit 2-8, *Proposed General Plan Land Use*. The Project proposes a Zone Change to change the zoning designation for APN 610-301-07 from M1 Light Industrial/PD Planned Development Overlay to M1 Light Industrial and to change the zoning designation for APNs 610-301-20 and -21 from A1 Agricultural to M1 Light Industrial; refer to Exhibit 2-9, *Proposed Zoning*.

Approval of a Development Agreement is also proposed, consistent with Lake Forest Municipal Code Section 9.194.080, *Development agreement required for general plan amendment*, which requires approval of a development agreement prior to approval of a General Plan Amendment for a private property.

USE PERMIT

A Use Permit, consistent with Lake Forest Municipal Code Section 9.72.090, *Land use matrix*, would be required to allow for the proposed land use of Contractor Storage Yard in the M1 Light Industrial zone.

LOT LINE ADJUSTMENT

A Lot Line Adjustment is also requested as part of the Project to merge the existing parcels into a single parcel. The Lot Line Adjustment would be performed after approval of the GPA, Zone Change, and Use Permit, and would be prepared in accordance with the City's Subdivision Map Act standards and Lake Forest Municipal Code Chapter 7.32, *Lot Line Adjustments*.

PROJECT CONSTRUCTION AND PHASING

Construction of the proposed Project would occur over approximately 18 months, commencing December 2021. The first phase of construction would include demolition and site preparation activities, which would occur over approximately three months. Demolition activities would include removal of the animal pens, inoperable vehicles, and debris. Tree and brush removal would also occur during this time. Grading activities would occur over approximately six months followed by approximately four months for paving and 12 months for infrastructure. Building renovation would occur over approximately six months.

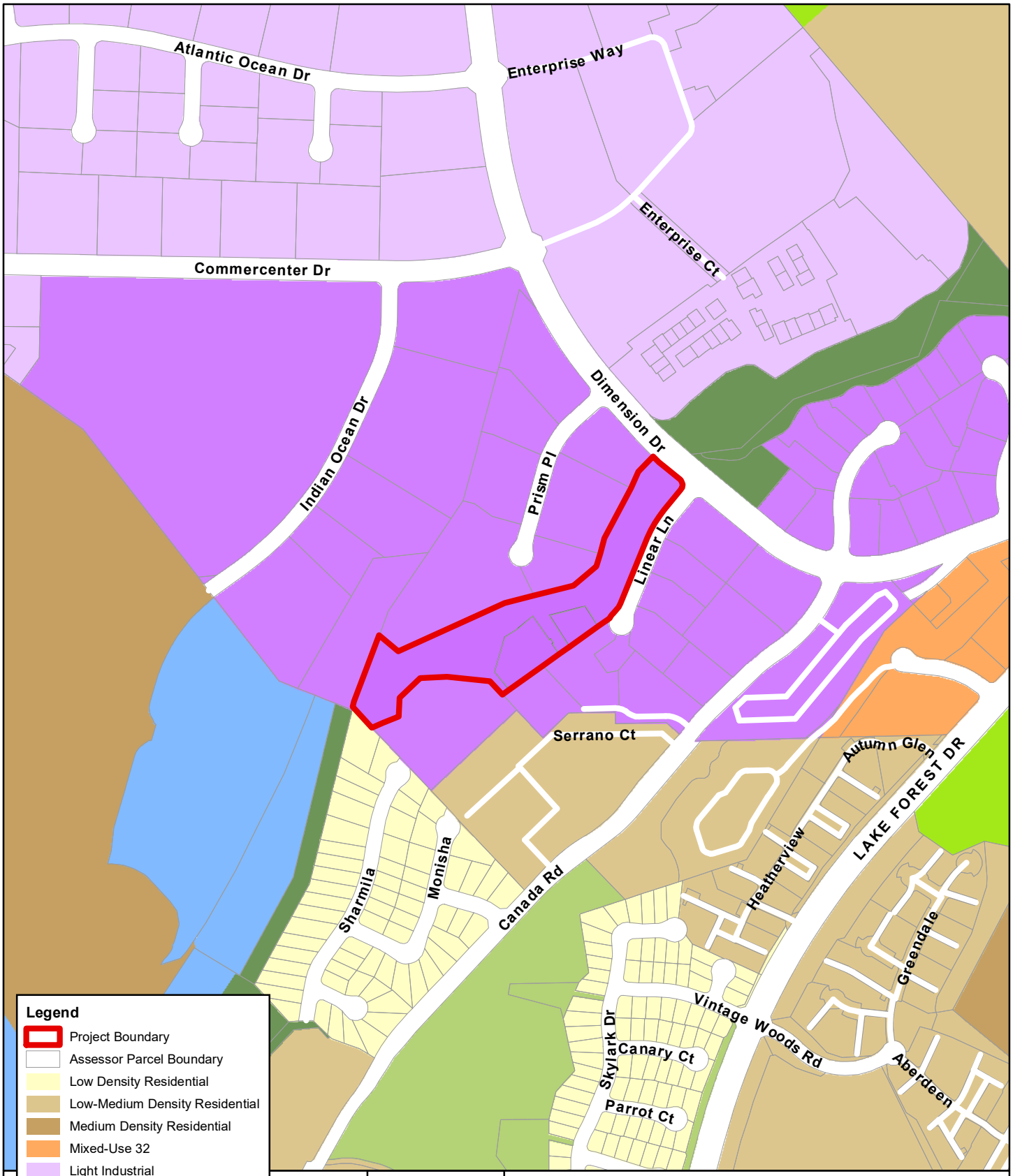
After grading around the existing home is complete and during renovation of the existing home for use as the proposed office, GSTS would utilize the site for its operations. A temporary, modular building for office use would be placed on-site adjacent to the existing barn and secured storage containers would also be placed on-site. Upon completion of the renovation activities, the temporary structures would be removed from the site.

2.4 Discretionary Actions

The City of Lake Forest, as the Lead Agency, has discretionary authority over the proposed Project. The Project would be subject to various City permits and approvals, including, but not limited to:

- Development Agreement;
- General Plan Amendment (GPA) 03-18-5155;
- Zone Change 03-18-5144;
- Use Permit (UP) 03-18-5146;
- Lot Line Adjustment.

The Project would also require administrative approvals from the City for issuance of grading, building, and occupancy permits and a Lot Line Adjustment in accordance with Lake Forest Municipal Code Chapter 7.32, *Lot Line Adjustments*, after approval of the GPA, ZC, UP, and Development Agreement.

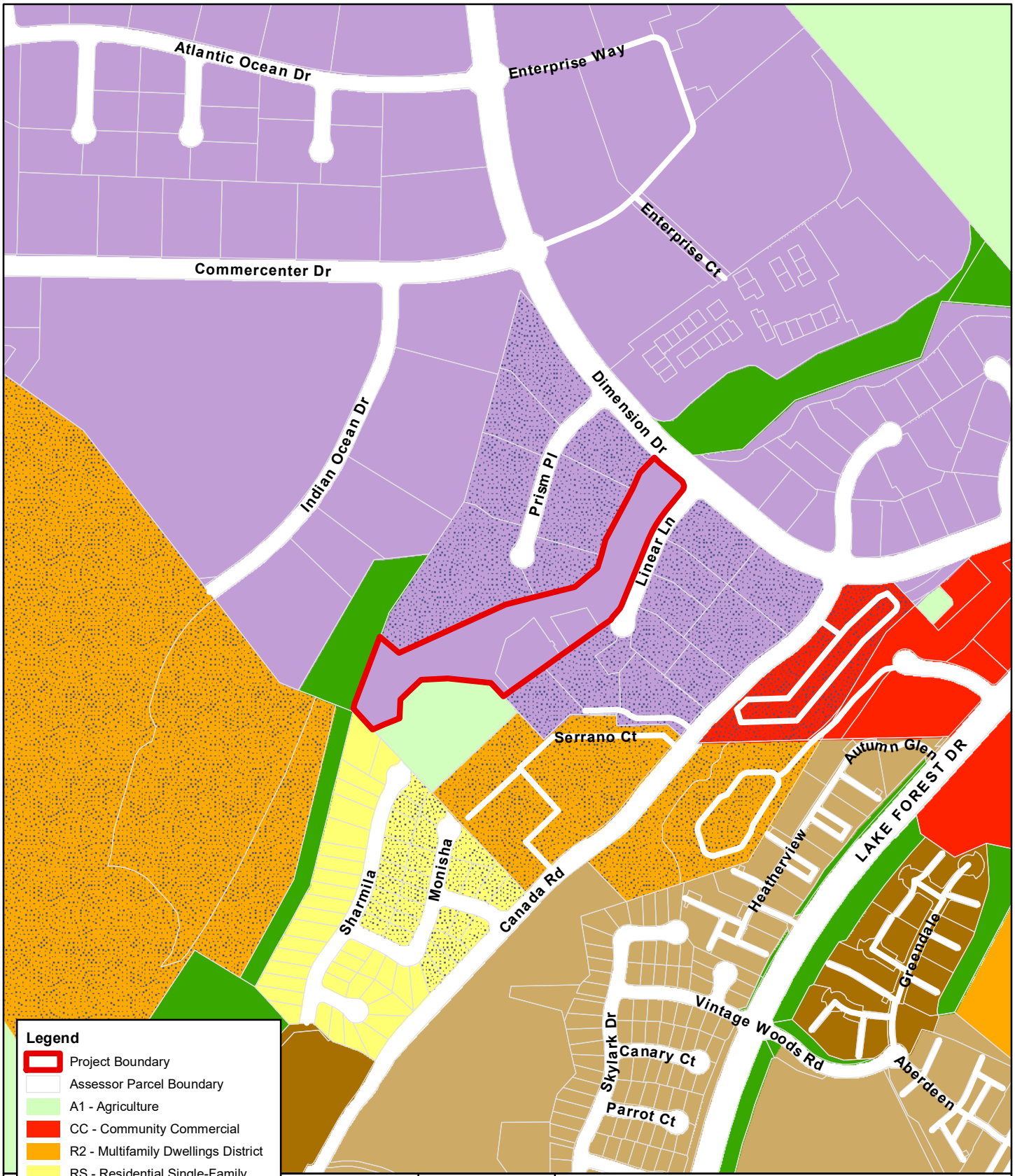


Source: ArcGIS Online World Imagery Map Service; Orange County GIS; Lake Forest General Plan 2040. Map date: August 16, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-8. Proposed General Plan Land Use

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



Source: ArcGIS Online World Imagery Map Service; Orange County GIS; City of Lake Forest Zoning. Map date: May 14, 2021. Revised: September 13, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 2-9. Proposed Zoning

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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3.0 ENVIRONMENTAL CHECKLIST FORM

BACKGROUND

1. Project Title: General Plan Amendment 03-18-5155, Zone Change 03-18-5144, Use Permit 03-15-5146 – Great Scott Landscape Facility
2. Lead Agency Name and Address: City of Lake Forest 100 Civic Center Drive Lake Forest, California 92630
3. Contact Person and Phone Number Marie Luna, Senior Planner City of Lake Forest, Community Development Department 949.461.3466
4. Project Location: The Project site is comprised of approximately 6.72 acres located at 20865 and 20795 Canada Road, west of Linear Lane, north of Canada Road, and south of Serrano Creek.
5. Project Sponsor's Name and Address: Great Scott Tree Service, Inc. 10761 Court Avenue Stanton, California 90680
6. General Plan Designation: Regional Park/Open Space
7. Zoning: M1 Light Industrial/PD Planned Development Overlay and A1 Agricultural
8. Description of the Proposed Project: Refer to Section 2.3.
9. Surrounding Land Uses and Setting: Refer to Section 2.2.
10. Other public agencies whose approval is required: Refer to Section 2.4.
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources 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.? In compliance with AB 52, the City distributed letters to applicable Native American tribes informing them of the Project on December 7, 2020. Request for consultation was received from the Gabrieleno Band of Mission Indians – Kizh Nation and the City consulted with the tribe. Based on consultation with the Gabrieleno Band of Mission Indians – Kizh Nation, mitigation measures have been identified for the Project specific to tribal cultural resources; refer to Section 4.18, Tribal Cultural Resources, for additional information.

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" or "Less Than Significant With Mitigation Incorporated" as indicated by the checklist on the following pages.

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

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.
X	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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

CITY OF LAKE FOREST

Marie Luna _____ 9-14-21 _____

Marie Luna
Senior Planner

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

The environmental analysis in this section is patterned after CEQA Guidelines Appendix G and the City of Lake Forest CEQA Significance Thresholds Guide. An explanation is provided for all responses. The responses consider the whole action involved, including on- and off-site project level and cumulative, indirect and direct, and short-term construction and long-term operational impacts. The evaluation of potential impacts also identifies the significance criteria or threshold, if any, used to evaluate each impact question. If applicable, mitigation measures are identified to avoid or reduce the impact to less than significant. There are four possible responses to each question:

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.

- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.

- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

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4.0 ENVIRONMENTAL ANALYSIS

4.1 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially damage scenic resources, including scenic vistas from public parks and views from designated state scenic highways or arterial roadways?			X	
b. Create a new source of substantial night lighting that would result in "sky glow" (i.e. illumination of the night sky in urban areas) or "spill light" (i.e. light that falls outside of the area intended to be lighted) onto adjacent sensitive land uses.			X	
c. Create a new source of substantial glare which would adversely affect daytime visibility and/or views in the area.				X
d. Degrade the existing visual character or quality of the site and its surroundings where:				
1) The project exceeds the allowed height or bulk regulations, or exceeds the prevailing height and bulk of existing structures?			X	
2) The project is proposed to have an architectural style or use the building materials that will be in vivid contrast to an adjacent development where that development has been constructed adhering to a common architectural style or theme?			X	
3) The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area.			X	
4) A project would include unscreened outdoor uses or materials.			X	

5) A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.			X	

a) Substantially damage scenic resources, including scenic vistas from public parks and views from designated state scenic highways or arterial roadways?

Less Than Significant Impact. According to the General Plan, there are no state scenic highways located within the City of Lake Forest. Therefore, the Project site would not substantially damage scenic resources from designated state scenic highways.

Nature Park, located at 26215 Dimension Drive, is the closest park to the Project site. Nature Park is situated to the north of Dimension Drive and just east of Linear Lane. The park is setback from Dimension Drive and due to the park's location along with the mature trees and extensive landscaping within both the park and Project site, views of the Project site from park users are not readily available. The Serrano Creek Bike and Equestrian Trail extends from under Dimension Drive along the northern boundary of the Project site. Scenic views from the trail are comprised of Serrano Creek and associated trees and plants within and around the creek. Beyond Serrano Creek, trails users have intermittent views of the Project site, including existing on-site structures, trees, and landscaping that occur within the site. The proposed Project would not alter views of Serrano Creek from the trail, as the Project does not propose any improvements or modifications to Serrano Creek. Intermittent views of the Project site beyond Serrano Creek would continue to be available and would not be significantly altered. The Project proposes to rehabilitate one existing single-family residence to be used as an office, retain the barn for storage, and remove the second residence. Conversion of the residential structure to an office would primarily involve interior modifications with exterior modification primarily limited to new accessible ramps with handrails and guardrails, removal of an exterior door and infilling the opening, removal of the exterior water heater and wood shed, providing a new opening for the water heater, and painting the entire structure. The exterior of the existing barn would be painted and minor repairs to the structure would be completed. Thus, the mass, scale, and height of the structures would remain unchanged and would not impede upon views of Serrano Creek from trail users.

Existing animal pens, inoperable vehicles, and debris that occurs throughout the Project site would be removed. Although some on-site trees identified as either in poor health or dead would be removed, the majority of on-site trees and brush would remain. Overall, intermittent views of the Project site beyond Serrano Creek would be improved with implementation of the proposed Project. Thus, the Project would not substantially damage scenic resources, including scenic vistas from public parks; impacts to scenic resources would be less than significant.

Views of the Project site from Dimension Drive, a secondary arterial, are limited to the easternmost portion of the site due to the linear orientation of the Project site, which extends west/southwest from Dimension Drive along Linear Lane. Views of the Project site from Dimension Drive are further limited due to the structures located south of Linear Lane and north of the Project site, adjacent to Prism Place. Improvements associated with the proposed Project would begin approximately 225 feet west of Dimension Drive with the majority of the proposed Project site improvement occurring within the western portion of the Project site, more than 500 feet from Dimension Drive. Thus, the Project would not

substantially damage scenic resources, including scenic vistas and views from arterial roadways and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Create a new source of substantial night lighting that would result in "sky glow" (i.e. illumination of the night sky in urban areas) or "spill light" (i.e. light that falls outside of the area intended to be lighted) onto adjacent sensitive land uses.

Less Than Significant Impact. The Project site is located within an area that is developed with a mix of industrial and commercial uses. The Project site and surrounding area currently experience lighting typical of an urbanized area, such as building interior and exterior lighting, parking lot security lighting, landscape lighting, and street lighting along surrounding roadways, including Linear Lane. The Project proposes to rehabilitate an existing single-family residence into an office, remove a second residence and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations.

The proposed improvements to the existing single-family residence would not involve the introduction of significant new lighting within the building; the exterior of the building would remain largely unchanged. The proposed use of the site for GSTS administrative functions, including storage of tree service vehicles and equipment would require additional security lighting within the Project site beyond existing conditions. It is not anticipated that the proposed office use and tree trimming operations would require new sources of lighting that would result in substantial new or increased sky glow or spill light in the area. Lake Forest Municipal Code Chapter 9.72, *Non-Residential Zoning Districts*, requires all outdoor lighting be designed and installed so that lighting is confined to the site, and adjacent properties are protected from glare. As part of the City's review process, the Project's lighting plan would be reviewed to ensure compliance with Municipal Code Chapter 9.72. Thus, compliance with the City's established regulatory framework, which would be verified through the City's plan review process would ensure potential impacts associated with proposed Project lighting would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

c) Create a new source of substantial glare which would adversely affect daytime visibility and/or views in the area.

No Impact. The Project proposes to rehabilitate an existing single-family residence into an office, remove a second residence and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. As discussed above, the exterior of the existing residential structure would remain largely unchanged as proposed improvements would primarily be associated with new accessible ramps with handrails and guardrails, removal of an exterior door and infilling the opening, removal of the exterior water heater and wood shed, providing a new opening for the water heater, and painting the entire structure. The proposed improvements would be consistent with the building's existing materials and would not create a new source of substantial glare which would adversely affect daytime visibility and/or views in the area. The Project would also retain the existing barn structure, which may require the localized replacement of damaged wood. However, the repaired areas would match the existing style and materials and the entire barn would be painted consistent with the existing color, which would not create a new source of glare. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

d) Degrade the existing visual character or quality of the site and its surroundings where:

1) The project exceeds the allowed height or bulk regulations, or exceeds the prevailing height and bulk of existing structures?

2) The project is proposed to have an architectural style or use the building materials that will be in vivid contrast to an adjacent development where that development has been constructed adhering to a common architectural style or theme?

3) The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area.

4) A project would include unscreened outdoor uses or materials.

5) A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.

Less Than Significant Impact. The Project is not located on a visually prominent site. The Project proposes to rehabilitate an existing single-family residence into an office, remove a second residence and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. The existing barn would also be retained and used for storage. Proposed improvements would not involve expansion of the exterior of the existing residential structure for its use as an office or involve any modifications to the barn; no increase in height or bulk beyond existing conditions would occur. The exterior of the residential structure and barn would remain largely unchanged with minor improvements to provide accessibility, as described above. The Project site is not part of a larger development that has been constructed adhering to a common architectural style or theme. The proposed improvements would not significantly modify the existing architectural style or use building materials that would be in vivid contrast to adjacent development, nor would it result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development, as the structures would primarily remain unchanged from existing conditions.

The parking areas for tree service vehicles and equipment would be distributed throughout the Project site, primarily located along the northern perimeter, west of the office, and west of the chip drying area. Views of the tree service vehicles and equipment parking areas would be mostly screened from view due to the office and barn structures, as well as the trees and landscaping located within the eastern and western portions of the Project site and within and along Serrano Creek. Further, a 10-foot landscape buffer and eight-foot-high steel tube fence would be installed along Linear Lane. An eight-foot-tall free standing block wall would be installed around the outdoor chip storage area to ensure the area would be properly screened from view. Thus, the proposed Project would not degrade the existing visual character of quality of the site and its surroundings. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

4.2 Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

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?

No Impact. The Project site is currently developed with two single-family residences, a barn, and structures associated with animal keeping. The Project site does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the Farmland Mapping and Monitoring Program.[1] Therefore, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. No impact would occur in this regard.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less Than Significant Impact. The Project site is comprised of three parcels; one parcel (APN 610-301-07) is zoned M1 Light Industrial/PD Planned Development Overlay and two of the parcels (APN 610-301-20 and -21) are zoned A1 Agricultural. However, the Project site is not being used for any agricultural

[1] California Department of Conservation, *California Important Farmland Finder*, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed March 31, 2021.

purposes, nor is the site under a Williamson Act contract. Further, there are no properties within the surrounding area under agricultural production. An adjacent property is also zoned A1 Agricultural; however it is currently developed with a storge facility. As part of the proposed Project, the parcels zoned A1 Agricultural and the parcel zoned M1 Light Industrial/PD Planned Development Overlay would be zoned M1 Light Industrial, which would be consistent with the underlying zoning for the larger 5.55-acre parcel and adjacent properties situated along Linear Lane. Upon rezoning of the parcels to M1 Light Industrial, the proposed Project would be consistent with the zoning for the site. Therefore, the Project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contact. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. The Project site is currently zoned A1 Agricultural and M1 Light Industrial/PD Planned Development Overlay and is not zoned for forest land, timberland, or for timberland production. According to the General Plan, no forest land, timberland, or timberland zoned Timberland Production occurs within the City. The Project site is located within an urbanized area and is currently developed with two single-family residences, a barn, and structures associated with animal keeping. Thus, the proposed Project would not conflict with existing zoning for or cause rezoning of forest land, timberland, or timberland zoned Timberland Production or result in the loss of forest land or conversion of forest land to non-forest use. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. Refer to Responses 4.2(a) through 4.2(d), above.

Mitigation Measures: No mitigation measures are required.

4.3 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation? The SCAQMD construction and operational emission thresholds identified in Table 4-3 of the City of Lake Forest CEQA Significance Thresholds Guide are used for this assessment.			X	
c. 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 (including releasing emissions which exceed qualitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations? Methodologies established by SCAQMD for assessing local impacts, including but not limited to Local Significance Thresholds and thresholds for PM2.5 are used for this assessment.			X	
e. Create objectionable odors affecting a substantial number of people?			X	
f. Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) where the incremental effect of the project emissions, considered together with past, present, and reasonably anticipated further project emissions, increase the level of any criteria pollutant above the existing ambient level?			X	

This section is based on the *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project* prepared by Environmental Planning Development (EPD) Solutions, Inc., dated January 18, 2021 and included in its entirety as Appendix A, Air Quality, Greenhouse Gas, & Energy Impact Analysis.

South Coast Air Quality Management District Thresholds

Mass Emissions Thresholds

The City of Lake Forest's air quality thresholds are based on the regional and localized significance thresholds recommended by the South Coast Air Quality Management District (SCAQMD). According to the SCAQMD, an air quality impact is considered significant if a proposed project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality during project construction and operations, as shown in Table 4.3-1, *South Coast Air Quality Management District Emissions Thresholds*.

Table 4.3-1
South Coast Air Quality Management District Emissions Thresholds

Criteria Air Pollutants and Precursors (Regional)	Construction-Related	Operational-Related
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_x)	100	55
Sulfur Oxides (SO_x)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Localized Carbon Monoxide

In addition to the daily thresholds listed above, the proposed Project would be subject to the ambient air quality standards. These are addressed through an analysis of localized CO impacts. The California 1-hour and 8-hour CO standards are:

- 1-hour = 20 ppm
- 8-hour = 9 ppm

If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The SCAB has been designated as attainable under the 1-hour and 8-hour standards.

Localized Significance Thresholds

The SCAQMD has developed Local Significance Thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated from construction activities. LSTs represent the maximum emissions that can be generated at a project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. The analysis determined the appropriate LSTs

based on the Project's source receptor area (SRA)[2], size, and distance to the nearest local sensitive receptor. The SCAQMD has divided the SCAQMD into 38 SRAs, each with a set of LSTs that depend on the air pollutant, project size, and distance to the nearest sensitive receptor. The emission thresholds are based on the Saddleback Valley source receptor area (SRA 19) and a maximum daily disturbance of three acres per day, as the maximum disturbed area would occur during the time period when the grading activity (1.5 acres) and infrastructure activity (1.5 acres) would overlap at a distance of 75 meters (246 feet), as the closest sensitive receptor are residences located approximately 75 meters to the south of the Project site; refer to Table 4.3-2, *Local Significance Thresholds (Construction)*.

Table 4.3-2
Local Significance Thresholds (Construction)

Project Size[1]	Nitrogen Oxide (NO_x) – lbs/day	Carbon Monoxide (CO) – lbs/day	Coarse Particulates (PM_{10}) – lbs/day	Fine Particulates ($PM_{2.5}$) – lbs/day
3.0 acres	153	1,263	30	10
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.				
Notes: LSTs for SRA 19; project area of 3.0 acres and a receptor distance of 25 meters for NOx and CO and 75 meters for PM_{10}, and $PM_{2.5}$. The LSTs were interpolated from the two- and five-acre LSTs provided in the LST look-up tables. 1. 3.0 acres represents the maximum acreage that would be disturbed per day when grading (1.5 acres) and infrastructure (1.5 acres) activities overlap during construction.				

The Project site is approximately six acres; however operations would not occur throughout the entire site. Therefore, the LSTs for a five-acre disturbed area were identified to provide a conservative estimate of operational LSTs since the LST thresholds are lower for a five acre site (i.e., LST thresholds are reduced as the size [acreage] of the site being considered is reduced); refer to Table 4.3-3, Local Significance Thresholds (Operational).

Table 4.3-3
Local Significance Thresholds (Operational)

Project Size	Nitrogen Oxide (NO_x) – lbs/day	Carbon Monoxide (CO) – lbs/day	Coarse Particulates (PM_{10}) – lbs/day	Fine Particulates ($PM_{2.5}$) – lbs/day
5.0 acres	197	1,804	11	4
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.				
Notes: LSTs for SRA 19; project area of 5.0 acres and a receptor distance of 25 meters for NOx and CO and 75 meters for PM_{10}, and $PM_{2.5}$.				

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. As part of its enforcement responsibilities, the United States Environmental Protection Agency (USEPA) requires that each state with nonattainment areas prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based

[2] A source-receptor area (SRA) is a geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts.

programs. Similarly, under State law, the California Clean Air Act (CCAA) requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the federal and State ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project site is located within South County Air Basin (SCAB), which is under SCAQMD's jurisdiction. The SCAQMD is required, pursuant to the Federal Clean Air Act (FCAA), to reduce emissions of criteria pollutants for which SCAB is in non-attainment. To reduce such emissions, the SCAQMD adopted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the USEPA. The AQMP's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's *2016 Regional Transportation Plan/Sustainable Communities Strategy* (2016-2040 RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. While SCAG has recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal), the SCAQMD has not released an updated AQMP that utilizes information from Connect SoCal. The SCAQMD is planning to release the updated AQMP in 2022. As such, this consistency analysis is based off the 2016 AQMP and the 2016-2040 RTP/SCS. SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The SCAQMD considers projects that are consistent with the 2016 AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts. The proposed Project is subject to the SCAQMD's AQMP.

Criteria for determining consistency with the AQMP are defined by the following indicators:

- **Consistency Criterion No. 1**: A proposed project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of the AQMP's air quality standards or the interim emissions reductions.

- **Consistency Criterion No. 2**: A proposed project would not exceed the AQMP's assumptions or increments based on the years of the project build-out phase.

Consistency Criterion No. 1 refers to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). As shown in Tables 4.3-4 through Table 4.3-7, the proposed Project construction and operational emissions would be below SCAQMD's thresholds. As the Project would not generate localized or regional construction or localized or regional operational emissions that would exceed SCAQMD thresholds of significance, the Project would not violate any air quality standards. Thus, no impact is expected, and the Project would be consistent with the first criterion.

Consistency Criterion No. 2 refers to SCAG's growth forecasts and associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, projects that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

With respect to determining consistency with Consistency Criterion No. 2, it is important to recognize that air quality planning within the air basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding

population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed Project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

1. *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

Growth projections included in the 2016 AQMP form the basis for the projections of air pollutant emissions and are based on the General Plan land use designations and SCAG's 2016-2040 RTP/SCS demographics forecasts. The population, housing, and employment forecasts within the 2016-2040 RTP/SCS are based on local general plans as well as input from local governments, such as the City of Lake Forest. The SCAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the 2016 AQMP.

The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with GSTS tree cutting operations. The Project site is designated Regional Park/Open Space by the Lake Forest 2040 General Plan Land Use Map. This designation applies to land that is generally maintained as natural open space with minimal improvements. The maximum intensity of development is a floor area ratio of 0.1:1. The Project proposes a General Plan Amendment (GPA) to change the General Plan land use designation for the Project site from Regional Park/Open Space to Urban Industrial 25. The Project also proposes a Zone Change to change the zoning designation for two parcels (approximately 1.16 acres) from A1 Agricultural to M1 Light Industrial and to change the third parcel (approximately 5.55 acres) from M1 Light Industrial/PD Planned Development Overlay to M1 Light Industrial. The underlying zoning for the larger 5.55-acre parcel would remain unchanged and the proposed Zone Change would be consistent with the underlying zoning for properties within the surrounding area.

Although the Project would change the General Plan land use designation for the site, the proposed Project would not result in significant population or employment growth that would exceed the projections included in the 2016 AQMP. SCAG's 2016-2040 RTP/SCS anticipated employment within the City to be 49,000 in 2040. A total of approximately 47 employees would operate from the site, with four to six employees being on-site during hours of operation and the remaining employees dispatching from the site into the field. The removal of the existing office use with approximately five employees would offset the employees associated with the GSTS administrative functions that would be located within the Project site. Further, these jobs would not be new jobs, but would be existing jobs that are relocated to the Project site from within Orange County. Thus, the Project would not cause SCAG growth forecasts to be exceeded. As the SCAQMD has incorporated these forecasts on population, housing, and employment into the 2016 AQMP, it could be concluded that the proposed Project would be consistent with the 2016 AQMP.

2. *Would the project implement all feasible air quality mitigation measures?*

The proposed Project would result in less than significant air quality impacts. Compliance with all feasible emission reduction measures identified by the SCAQMD would be required as identified in Responses 4.3(b) and (c). As such, the proposed Project meets this 2016 AQMP consistency criterion.

3. *Would the project delay timely attainment of air quality standard or the interim emissions reductions specified in the AQMP?*

The proposed Project would result in less than significant impacts with regard to localized concentrations during Project construction. As such, the proposed Project would not delay the timely attainment of air quality standards or 2016 AQMP emissions reductions.

In conclusion, the determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the air basin. The proposed Project would not result in a long-term impact on the region's ability to meet State and federal air quality standards. Further, the proposed Project's long-term influence on air quality in the air basin would also be consistent with the SCAQMD and SCAG's goals and policies and is considered consistent with the 2016 AQMP. Therefore, the Project would be consistent with the above criteria and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? The SCAQMD construction and operational emission thresholds identified in Table 4-3 of the City of Lake Forest CEQA Significance Thresholds Guide are used for this assessment.

Less Than Significant Impact.

Construction Emissions

Project construction activities would generate short-term emissions of criteria air pollutants. Construction-generated emissions are short term and temporary, lasting only while construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Construction-related emissions were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. The emissions incorporate SCAQMD Rule 402 and 403, which would ensure that proper dust control techniques are implemented during construction. Rule 402 and 403 are not considered mitigation measures as the Project by default is required to incorporate these rules during construction; refer to Appendix A, for additional information regarding construction assumptions used in this analysis.

As shown in Table 4.3-4, Estimated Maximum Daily Regional Construction Emissions (Pounds Per Day), and Table 4.3-5, Estimated Maximum Daily Localized Construction Emissions (Pounds Per Day), the Project would not exceed the SCAQMD's daily emission thresholds at the regional or local level and therefore impacts associated with Project construction emissions would be less than significant.

Table 4.3-4
Estimated Maximum Daily Regional Construction Emissions (Pounds Per Day)

Activity	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_x)	Carbon Monoxide (CO)	Sulfur Oxides (SOx)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
2021						
Demolition	3.2	35.6	15.6	0.0	2.0	1.5
Site Preparation	2.1	23.9	8.4	0.0	3.8	2.4
Grading	1.7	17.1	7.4	0.0	2.9	1.9
Infrastructure	1.7	20.0	10.0	0.0	0.9	0.7
Building Construction	1.9	14.5	13.8	0.0	1.0	0.8
Maximum Daily Emissions	3.6[1]	37.1[2]	23.8[2]	0.0	3.8[2]	2.6[2]
2022						
Infrastructure	1.5	16.8	9.7	0.0	0.7	0.6
Building Construction	1.7	12.5	13.6	0.0	0.9	0.7
Paving	0.7	6.8	9.2	0.0	0.4	0.3
Architectural Coating	3.7	1.4	1.9	0.0	0.2	0.1
Maximum Daily Emissions	7.6[3]	37.5[3]	34.4[4]	0.0	2.2[3]	1.7[3]
2021 and 2022 Maximum Daily Emissions	7.6	37.5	34.4	0.0	3.8	2.8
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Notes:
1. Overlapping construction during infrastructure and building construction.
2. Overlapping construction during grading and infrastructure.
3. Overlapping construction during infrastructure, building construction, paving, and architectural coating.

Table 4.3-5
Estimated Maximum Daily Localized Construction Emissions (Pounds Per Day)

Activity	Nitrogen Oxides (NO_x)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
2021				
Demolition	34.9	15.0	1.8	1.4
Site Preparation	23.9	8.2	3.7	2.4
Grading	16.3	6.9	2.8	1.9
Infrastructure	20.0	9.7	0.8	0.7
Building Construction	13.9	12.9	0.7	0.7
Maximum Daily Emissions	36.3[1]	22.6[2]	3.8[1]	2.6[1]
2022				
Infrastructure	16.8	9.4	0.6	0.6
Building Construction	12.5	12.7	0.6	0.6
Paving	6.8	8.8	0.3	0.3
Architectural Coating	1.4	1.8	0.2	0.2
Maximum Daily Emissions	37.5[3]	32.7[3]	1.6[3]	1.6[3]
2021 and 2022 Maximum Daily Emissions	37.5	32.7	3.7	2.6
SCAQMD Threshold	**153**	**1,263**	**30**	**10**
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Notes:
1. Overlapping construction during grading and infrastructure.
2. Overlapping construction during infrastructure and building construction.
3. Overlapping construction during infrastructure, building construction, paving, and architectural coating.

Operational Emissions

The Project's operational emissions would be associated with area source emissions, energy emissions, and mobile source emissions. Area sources include natural gas for space and water heating, gasoline-powered landscaping and maintenance equipment, consumer products (such as household-type cleaners). Mobile sources emissions are generated from vehicle operations associated with Project operations. Project operational emissions are shown in Table 4.3-6, Estimated Maximum Daily Regional Operational-Related Emissions (Pounds Per Day) and Table 4.3-7, Estimated Maximum Daily Localized Operational-Related Emissions (Pounds Per Day). The operations-related criteria air quality impacts have been analyzed using CalEEMod. The operating emissions were based on an opening year of 2022; refer to Appendix A, for additional information regarding assumptions used in this analysis.

Table 4.3-6
Estimated Maximum Daily Regional Operational-Related Emissions (Pounds Per Day)

Activity/Source	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_x)	Carbon Monoxide (CO)	Sulfur Oxides (SOx)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
2022						
Area Sources	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Energy Usage	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile Sources	0.3	4.4	3.4	<0.1	1.6	0.5
Off-road (chippers)	3.6	31.8	51.3	0.1	3.2	2.0
Total Emissions	**4.0**	**36.3**	**51.3**	**0.1**	**3.2**	**2.0**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Table 4.3-7
Estimated Maximum Daily Localized Operational Emissions (Pounds Per Day)

Activity/Source	Nitrogen Oxides (NO_x)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
2022				
Area Sources	<0.1	<0.1	<0.1	<0.1
Mobile Sources	2.0	1.3	<0.1	<0.1
Total Emissions	**2.1**	**1.4**	**0.1**	**0.1**
SCAQMD Threshold	**55**	**1,804**	**11**	**4**
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Area Source Emissions

Area source emissions would be generated due to architectural coating, use of consumer cleaning and landscape maintenance products, and landscaping maintenance equipment. As shown in Table 4.3-6 and Table 4.3-7, the Project's area source emissions would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant and mitigation measures are not required.

Energy Source Emissions

Energy source emissions would be generated due to the Project's natural gas usage and for production of electricity that takes place offsite at electrical generation facilities. As shown in Table 4.3-6 and Table 4.3-7, the Project's energy source emissions would not exceed SCAQMD thresholds for criteria pollutants. As such, the Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, the Project's operational air quality impacts would be less than significant.

Mobile Source

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_x, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern. NO_x and ROG react with sunlight to form O_3, known as photochemical smog. Additionally, wind currents readily transport PM_{10} and $PM_{2.5}$. However, CO tends to be a localized pollutant, dispersing rapidly at the source. The vehicle emissions estimate requires information on the number of vehicle trips, vehicles mix, and the distance the vehicles travel during each trip. The Project is expected to generate 151 daily weekday trips.[3] Approximately 50 percent of the daily trips are associated with passenger vehicles, while the remaining vehicle trips are comprised of dump trucks and boom trucks. Both the dump trucks and boom trucks are medium-heavy duty diesel trucks. Each dump truck was assumed to be equipped with a wood chipper[4] that is used to reduce tree mass to wooden chips.

The estimation of vehicle emissions also requires an estimate of the average distance each vehicle travels a day. The objective of this Project is to reduce travel time and distance. Currently, the trucks drive from the City of Stanton to South Orange County, approximately 28 miles one way. The Project anticipates the one-way trips from the Project to be on average eight miles. The Project site is located very close to a substantial amount of work performed by GSTS; much is within a 4-mile radius. Therefore, it was assumed that the trip distance for the boom and dump trucks was eight miles. The trip distance for workers utilized the CalEEMod model default distance of 16.6 miles. Based on the Project site's intended vehicle circulation plan, an average onsite trip travel distance of 0.1 miles was assumed to estimate onsite mobile source emissions for the LST operational assessment.

As shown in Table 4.3-6 and Table 4.3-7, mobile source emissions would not exceed SCAQMD thresholds for criteria pollutants. Therefore, the Project's air quality impacts associated with mobile source emissions would be less than significant.

Total Operational Emissions

As indicated in Table 4.3-6 and Table 4.3-7, the Project's maximum daily operational emissions would not exceed SCAQMD's regional or local thresholds of significance. Therefore, the Project's operational emissions would not result in a cumulatively considerable incremental contribution to an existing air quality violation. The cumulative impact of the long-term operation of the Project would be less than significant.

c) 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 (including releasing emissions which exceed qualitative thresholds for ozone precursors)?

Less Than Significant Impact. The Project area is out of attainment for ozone, $PM_{10,}$ and $PM_{2.5}$. Construction and operation of cumulative projects would further degrade the local air quality, as well as

[3] For purposes of the transportation analysis provided in Section 4.17, based on VMT guidance documents, the amount of automobile travel attributable to the Project is calculated and compared to the 110 daily vehicle trips screening threshold; truck trips are not included. However, for purposes of calculating air quality emissions, the total number of trips, including both automobile and truck trips are used.

[4] The wood chippers are 130 horsepower diesel engines that are registered with CARB's Portable Equipment Registration Program; although the wood chippers are in the process of being converted to gasoline, the emission analysis assumed each chipper was diesel-fueled and that each wood chipper would operate for 4 hours per day.

the air quality of the SCAB. The greatest cumulative impact on regional air quality would be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality would be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. Further, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. As shown in Tables 4.3-4 through Table 4.3-7, the Project would not result in short-term construction or long-term operational air quality impacts. As a result, the proposed Project would not contribute to a cumulatively considerable net increase of any nonattainment criteria pollutant. The Project's construction and operational emissions would not exceed the SCAQMD's established project level or cumulative regional or localized significance thresholds during either construction or operation. Therefore, cumulative impacts associated with implementation of the proposed Project would be less than significant.

Mitigation Measures: No mitigation measures are required.

d) Expose sensitive receptors to substantial pollutant concentrations? Methodologies established by SCAQMD for assessing local impacts, including but not limited to Local Significance Thresholds and thresholds for $PM_{2.5}$ are used for this assessment.

Less Than Significant Impact. Sensitive receptors are members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of land uses where sensitive receptors are typically located include residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The closest existing sensitive receptors to the Project site are residential uses across Serrano Court, approximately 75 meters (246 feet) south of the Project site. To identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific emissions. The SCAQMD provides the LST lookup tables for one, two, and five-acre projects emitting CO, NO_x, $PM_{2.5}$, and PM_{10}. The Project site is located within the Saddleback Valley SRA 19.

Based on the construction schedule, the construction activities resulting in the maximum disturbed area would occur during the time period when the grading activity (1.5 acres) and infrastructure activity (1.5 acres) would overlap. Therefore, the LST thresholds for 3.0 acres were utilized for the construction LST analysis. As the nearest sensitive receptor is located approximately 75 meters to the south of the Project site across Serrano Court, the LST value of 75 meters was utilized for purposes of quantifying the LSTs for PM_{10} and $PM_{2.5}$ that require exposure time periods of 24 hours. The shortest distance for worker receptors was set at 25 meters for purposes of quantifying the LSTs for NO_x and CO that require exposure time periods of up to 8 hours.

Table 4.3-5 provides the estimated maximum daily localized construction emissions for the Project. As shown in Table 4.3-5, on-site emissions would not exceed the LSTs for SRA 19. Local air quality impacts associated with Project construction activities would be less than significant.

The Project would not involve the use, storage, or processing of carcinogenic or non-carcinogenic toxic air contaminants, and no significant toxic airborne emissions would result from operation of the proposed Project. Construction activities are subject to the regulations and laws relating to toxic air pollutants at the regional, State, and federal level that would protect sensitive receptors from substantial concentrations of these emissions. Therefore, impacts associated with the release of toxic air contaminants would be less than significant.

Criteria Pollutant Health Impacts

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (*Sierra Club v. County of Fresno* [Friant Ranch, L.P.] [2018] 6 Cal.5th 502). The SCAQMD has set its CEQA significance thresholds based on the FCAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the SCAB) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and SCAQMD Rule 1303 for new or modified sources. The NSR Program was created by the FCAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, projects that do not exceed the SCAQMD's mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts would occur.

NO_x and ROG are precursor emissions that form ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result in health effects that include: reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

According to the SCAQMD's 2016 AQMP, ozone, NO_x, and ROG have been decreasing in the SCAB since 1975 and are projected to continue to decrease in the future. Although VMT in the SCAB continues to increase, NO_x and ROG levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_x emissions from electric utilities have also decreased due to the use of cleaner fuels and renewable energy. The 2016 AQMP demonstrates how the SCAQMD's control strategy to meet the 8-hour ozone standard in 2023 would lead to sufficient NO_x emission reductions to attain the 1-hour ozone standard by 2022. In addition, since NO_x emissions also lead to the formation of $PM_{2.5}$, the NO_x reductions needed to meet the ozone standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards.

The SCAQMD's air quality modeling demonstrates that NO_x reductions prove to be much more effective in reducing ozone levels and will also lead to a significant decrease in $PM_{2.5}$ concentrations. NO_x -emitting stationary sources regulated by the SCAQMD include Regional Clean Air Incentives Market (RECLAIM) facilities (e.g., refineries, power plants, etc.), natural gas combustion equipment (e.g., boilers, heaters, engines, burners, flares) and other combustion sources that burn wood or propane. The 2016 AQMP identifies robust NO_x reductions from new regulations on RECLAIM facilities, non-refinery flares,

commercial cooking, and residential and commercial appliances. Such combustion sources are already heavily regulated with the lowest NO_x emissions levels achievable but there are opportunities to require and accelerate replacement with cleaner zero-emission alternatives, such as residential and commercial furnaces, pool heaters, and backup power equipment. The AQMP plans to achieve such replacements through a combination of regulations and incentives. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies.

The 2016 AQMP also emphasized that beginning in 2012, continued implementation of previously adopted regulations will lead to NO_x emission reductions of 68 percent by 2023 and 80 percent by 2031. With the addition of 2016 AQMP proposed regulatory measures, a 30 percent reduction of NO_x from stationary sources is expected in the 15-year period between 2008 and 2023. This is in addition to significant NO_x reductions from stationary sources achieved in the decades prior to 2008.

As previously discussed, Project emissions would be less than significant and would not exceed SCAQMD thresholds. Localized effects of on-site Project emissions on nearby receptors were also found to be less than significant. Therefore, sensitive receptors would not be exposed to criteria pollutant levels more than the health-based ambient air quality standards.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The SCAQMD requires a quantified assessment of CO hotspots when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service LOS D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersections.

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions. CO emissions have continued to decline since this time. The Basin was re-designated as attainment in 2007 and is no longer addressed in the SCAQMD's AQMP. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD's 2003 AQMP, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed Project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City near the Project site due to the comparatively low volume of traffic that would occur as a result of Project implementation. Therefore, impacts would be less than significant in this regard.

Construction-Related Toxic Air Contaminant

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed Project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty construction equipment and an 18-month construction schedule, the proposed Project would not result in a long-term substantial source of toxic air contaminant emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

Mitigation Measures: No mitigation measures are required.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact.

Construction

Odors that could be generated by construction activities are required to follow SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

> *A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

During construction, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be temporary, are not expected to affect a substantial number of people and would disperse rapidly. Therefore, impacts related to odors associated with potential construction-related activities would be less than significant.

Operational

The SCAQMD CEQA Air Quality Handbook identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Project proposes to rehabilitate an existing single-family residence into an office, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations, which would not involve activities that would emit objectionable odors affecting substantial numbers of people. The drying and processing of wood chips allows for use as either biofuel or mulch, which is typically used at Refuse Transfer Stations for air filtration. The process of air drying for the conditioning of biomass (in this case wood chips) increases the efficiency and flexibility of combustion, transportation, and storage process. This process would increase the calorific value, lower emissions, and save fuel while not resulting in objectionable odors during the drying process. The wood chip drying process occurs for a period of approximately two weeks depending upon available space. The Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the proposed Project would not create objectionable odors and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

f) Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) where the incremental effect of the project emissions, considered together with past, present, and reasonably anticipated further project emissions, increase the level of any criteria pollutant above the existing ambient level?

Less Than Significant Impact. Refer to Response 4.3(c).

Mitigation Measures: No mitigation measures are required.

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4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?		X		
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 Game or U.S. Fish and Wildlife Service?			X	
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?			X	
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?		X		
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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?				X

This section is based on the *Updated Review of Jurisdictional Limits for California Department of Fish and Wildlife and U.S. Army Corps of Engineers and Biological Resources for Serrano Creek Southern/Eastern Bank for Great Scott Landscape Facility* (Biological Resources Assessment), prepared by Glenn Lukos Associates, dated April 28, 2021, and included in its entirety as Appendix B, Biological Resources Assessment.

Background

On June 21 and July 10, 2017, site visits were conducted by Glenn Lukos Associates (GLA) to identify the limits of U.S. Army Corps of Engineers (Corps) and California Department of Fish and Wildlife (CDFW) jurisdictional boundaries for the edge of Serrano Creek within the Project site, which depending on the specific segment of Serrano Creek, represents the southern or eastern bank of the stream. A subsequent site visit was conducted on April 16, 2020 to confirm that that the limits of agency jurisdiction had not changed since the 2017 site visits. Since conducting the 2017 jurisdictional delineation (JD), GLA obtained files showing the 100-year flood plain as mapped by the Project civil engineer, which is similar to the 2017 JD for CDFW jurisdiction. While the limits for CDFW jurisdiction varies based on specific site conditions, CDFW typically considers the 100-year flood limit as the maximum extent of their jurisdiction. Therefore, where the mapped 100-year flood plain was located closer to the proposed development, GLA used the 100-year flood plain as the maximum extent of jurisdiction. For areas where CDFW jurisdiction exceeded the 100-year flood plain due to the presence of riparian habitat, GLA used the edge of riparian habitat for the limits of CDFW jurisdiction. As such, in all areas, GLA used the most expansive limits of potential CDFW jurisdiction. This information was used to inform site planning for the proposed Project in order to ensure avoidance of CDFW jurisdiction, which also resulted in full avoidance of Corps jurisdiction. The Project site was also evaluated to determine whether any sensitive species and/or communities are likely to occur onsite; the original assessment was also updated during the April 16, 2020 site visit.

Site Descriptions (2017)

As depicted on Exhibit 4.4-1, Biological Resources Study Areas, the area downstream of Dimension Drive was composed of five segments, identified as Area I through Area V for purposes of the 2017 site visits.

Area I

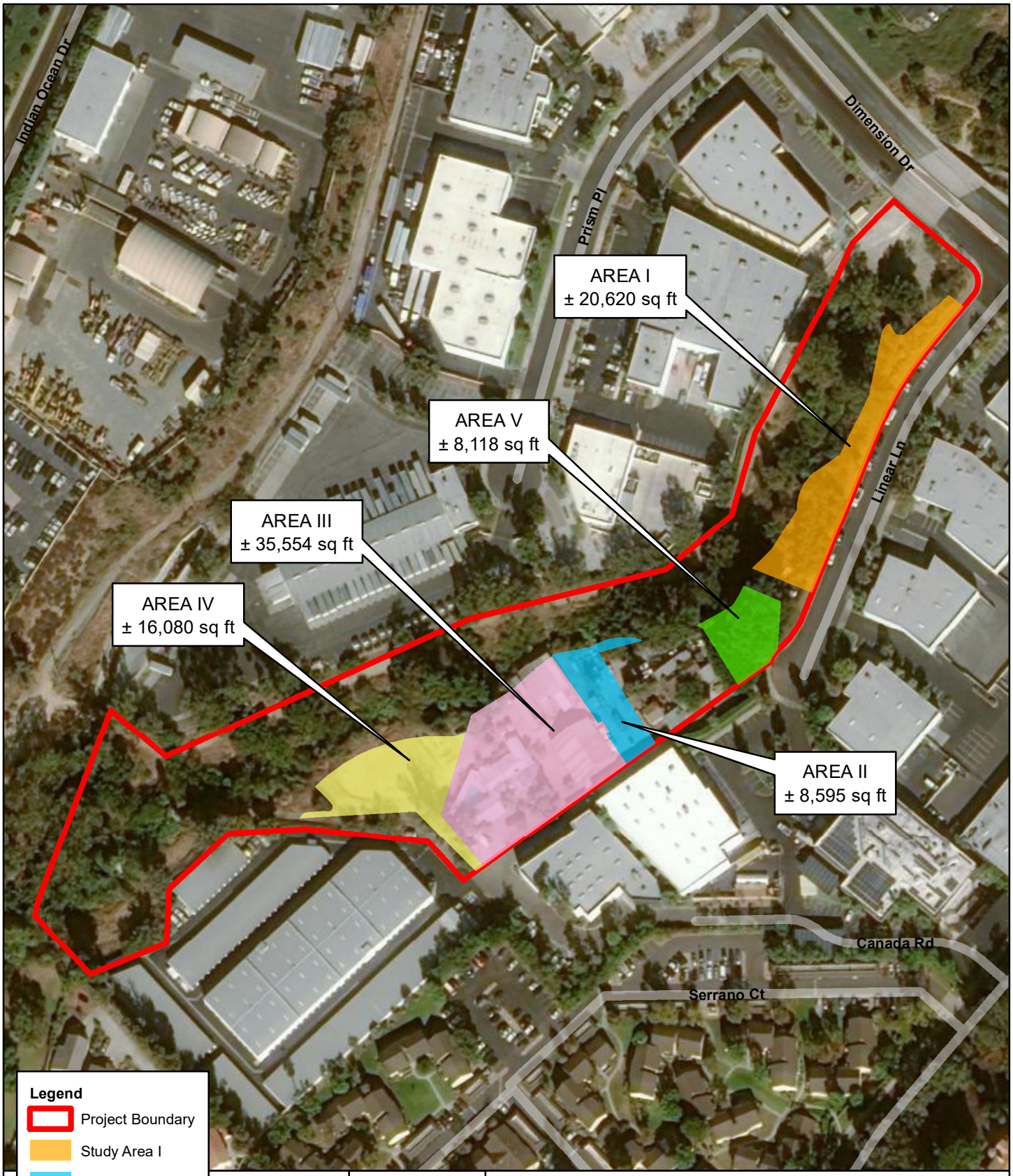
Area I is vegetated with a predominance of coast live oak trees as well as non-natives species including aloe (*Aloe arborescens*), castor bean, eucalyptus, giant reed, Mexican fan palm, pampas grass, smilo grass (*Stipa miliacea*), and tree tobacco, and native plants including occasional black willow, mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), and bluewitch nightshade (*Solanum umbelliferum*).

Area II

Area II consists of disturbed ground and is occupied by nursery plants. The end of Serrano Creek in Area II is highly disturbed and is predominantly vegetated with non-native species including Brazilian pepper tree, castor bean, blue-gum eucalyptus, English ivy, giant reed, Mexican fan palm, pampas grass, summer mustard, tree tobacco, and white horehound, as well as a small amount of native species including black willow, coast live oak, and poison oak.

Area III

Area III is entirely disturbed, occupied largely by stables and sheds and disturbed ground. The edge of Serrano Creek in Area III is highly disturbed and is predominantly vegetated with the non-native species observed in Area IV including Brazilian pepper tree, castor bean, blue-gum eucalyptus, English ivy, giant reed, Mexican fan palm, pampas grass, summer mustard, tree tobacco, and white horehound, as well as a small amount of native species including black willow, coast live oak and poison oak.



Sources: ArcGIS Online World Imager Map Service; Orange County GIS. Map date: May 11, 2021.

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 4.4-1. Biological Resource Study Areas

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Area IV

Area IV consists of disturbed ground and is occupied by an equestrian riding ring. The edge of Serrano Creek adjacent to Area IV is highly disturbed and is predominantly vegetated with non-native species including Brazilian pepper (*Schinus terebinthifolius*), castor bean (*Ricinus communis*), blue-gum eucalyptus (*Eucalyptus globulus*), English ivy (*Hedera helix*), giant reed (*Arundo donax*), Mexican fan palm (*Washintonia robusta*), pampas grass (*Cortedaria selloana*), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), tree tobacco (*Nicotiana glauca*), and white horehound (*Marrubiam vulgare*), as well as a small amount of native species including black willow (*Salix gooddingii*), coast live oak (*Quercus agrifolia*), and poison oak (*Toxicodendron diversilobum*).

Area V

Area V is entirely disturbed, consisting of several larch mulch piles and a stand of eucalyptus. The edge of Serrano Creek in Area V is highly disturbed and is predominantly vegetated with non-native species including Brazilian pepper tree, castor bean, blue-gum eucalyptus, English ivy, giant reed, Mexican fan palm, pampas grass, summer mustard, tree tobacco, and white horehound, as well as a small amount of native species including black willow, coast live oak, and poison oak.

Site Descriptions (2020)

Area Below the Bridge at Dimension Drive

Following the site visits in 2017, the site plan was modified and the Biological Resources Assessment was updated to address current conditions within the areas proposed for development. Overall, conditions have not changed within the areas evaluated in 2017. As part of the Biological Resources Assessment, the Project site has been separated into three distinct areas: "Northeast Area" (the portion of the site nearest Dimension Drive), the "Central Area", and the "Southwest Area" (the southwest quarter of the Project site).

Northeast Area

The Northeast Area corresponds to Areas I and V, as evaluated in 2017. The Northeast Area includes a tree canopy with a scattering of coast live oak trees (*Quercus agrifolia*), a few western sycamores (*Platanus racemosa*) and black willow (*Salix goodingii*), and a small patch of blue elderberry (*Sambucus nigra ceaeruela*), as well as non-natives species including aloe (*Aloe arborescens*), castor bean (*Ricinus communis*), eucalyptus (*Eucalyptus globulus*), giant reed (*Arundo donax*), bluewitch nightshade (*Solanum umbelliferum*) Mexican fan palm (*Washintonia robusta*), pampas grass (*Cortedaria selloana*), smilo grass (*Stipa miliacea*), and tree tobacco (*Nicotiana glauca*), and native understory plants including, mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), black mustard (*Brassica nigra*), and summer *Hirschfeldia incana*). The westernmost portion of this area, which corresponds to Area V of Exhibit 4.4-1, is entirely disturbed, consisting of several larch mulch piles and a stand of eucalyptus. The area immediately to the west of the Northeast Area is under separate ownership and is not part of the Project.

Central Area

The Central Area generally corresponds to Areas II, III, and IV identified on Exhibit 4.4-1. The eastern half of the Central Area includes developed areas such as horse stables, corrals, and storage sheds along with larger buildings. Open areas are highly disturbed and are covered by non-native herbaceous weed such as black mustard, tocolote (*Centaura melitensis*), white horehound (*Marrubiam vulgare*), red-stemmed

filaree (*Erodium cicutarium*), and wayside peppergrass. The western portion of the Central Area includes a riding ring that is now covered by black mustard and other non-native weeds.

Southwest Area

The Southwest Area is dominated by non-native herbaceous weeds including black mustard, tocolote (*Centaura melitensis*), white horehound, red-stemmed filaree (*Erodium cicutarium*), castor bean, milk thistle (*Sulybum marianum*), bull thistle (*Circium vulgare*), smilo grass, ripgut (*Bromus diandrus*), and little nettle (*Urtica urens*). The segment of Serrano Creek along this segment of the Project site supports dense thickets of the non-native giant reed with blue gum eucalyptus.

Area Upstream of Dimension Drive

The area above the Dimension Drive Bridge is vegetated with a predominance of coast live oak with occasional blue elderberry (*Sambucus nigra* ssp. *caerulea*) and California sycamore (*Platanus racemose*). Understory species form a mosaic with non-native species including aloe, bigleaf periwinkle (*Vinca major*), castor bean, eucalyptus, Italian thistle (*Carduus pycnocephalus*), pampas grass, smilo grass, summer mustard, tree of heaven (*Ailanthus altissima*), and tree tobacco, and native species including California sage brush (*Artemisia californica*), jimson weed (*Datura stramonium*), horseweed (*Erigeron canadensis*), mugwort, mulefat, and poison oak. The Serrano Creek Bike and Equestrian Trail parallels Serrano Creek for this entire segment of Serrano Creek and is set back only a few feet from the southern edge of Serrano Creek and associated coast live oak riparian habitat.

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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation Incorporated. During the 2017 and 2020 site visits, a habitat assessment and floristic surveys for special status plants and habitat assessment for special-status animals, along with a search for special-status vegetation alliances was conducted, as addressed below.

Special-Status Plants

Table 4.4-1, *Special Status Plant Species*, includes all special-status plant species recorded for the California Natural Diversity Database (CNDDB) for the El Toro 7.5 Minute Quadrangle Map and the surrounding Quadrangles: Orange, Black Star Canyon, Corona South, Tustin, Santiago Peak, Laguna Beach, San Juan Capistrano, and Canada Gobernadora.

Table 4.4-1
Special Status Plant Species

Species Name	Status	Habitat Requirements	Occurrence
Allen's pentachaeta *aurea* ssp. *allenii*	Federal: None State: None CNPS: Rank 1B.1	Openings in coastal sage scrub, and valley and foothill grasslands.	Does not occur. No suitable sage scrub or grassland habitat.
Aphanisma *Aphanisma blitoides*	Federal: None State: None CNPS: Rank 1B.2	Sandy soils in coastal bluff scrub, coastal dunes, and coastal scrub.	Does not occur. No suitable coastal bluff, scrub or dune habitat.
Big-leaved crownbeard *Verbesina dissita*	Federal: FT State: ST CNPS: Rank 1B.1	Southern maritime chaparral, coastal sage scrub.	Does not occur. No suitable habitat. Outside of known range.
Braunton's milk-vetch *Astragalus brauntonii*	Federal: FE State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually carbonate soils. Recent burn or disturbed areas.	Does not occur. No carbonate soils and no suitable chaparral or scrub habitat.
Brewer's calandrinia *Calandrinia breweri*	Federal: None State: None CNPS: Rank 4.2	Sandy or loamy soils in disturbed sites and burns. Chaparral, coastal scrub.	Does not occur. No suitable chaparral or scrub habitat.
California beardtongue *Penstemon californicus*	Federal: None State: None CNPS: Rank 1B.2	Sandy soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland.	Does not occur. No suitable chaparral or woodland habitat.
California box-thorn *Lycium californicum*	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur. No suitable coastal bluff scrub habitat.
California satintail *Imperata brevifolia*	Federal: None State: None CNPS: Rank 2B.1	Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub.	Does not occur. No suitable alkali meadow or seep habitat.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur. No suitable sage scrub or grassland habitat.
Chaparral nolina *Nolina cismontana*	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Does not occur. No suitable sage scrub or grassland habitat.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Does not occur. No suitable sage scrub or grassland habitat or alkali soils.
Chaparral rein orchid *Piperia cooperi*	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, valley and foothill grassland.	Does not occur. No suitable woodland or grassland habitat.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1	Sandy soils in chaparral, coastal sage scrub.	Does not occur. No suitable sandy soils within sage scrub or chaparral habitat.

Species Name	Status	Habitat Requirements	Occurrence
Cleveland's bush monkeyflower *Mimulus clevelandii*	Federal: None State: None CNPS: Rank 4.2	Gabbroic soils, often in disturbed areas, openings, rocky. Chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur. No suitable chaparral or woodland habitat.
Cliff malacothrix *Malacothrix saxatilis* var. *saxatilis*	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur. No suitable coastal bluff scrub habitat.
Cliff spurge *Euphorbia misera*	Federal: None State: None CNPS: Rank 2B.2	Coastal bluff scrub and coastal sage scrub. Occurring on rocky soils.	Does not occur. No suitable coastal bluff scrub habitat.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur. No suitable vernal pool or marsh habitat.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: Rank 4.2	Often in burns in chaparral and coastal scrub.	Does not occur. No suitable habitat. Large perennial easily detected.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Does not occur. No suitable alkaline or clay soils and associated grassland habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: Rank 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Does not occur. No suitable alkaline or clay soils and associated grassland habitat.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal scrub (sandy, often in disturbed areas).	Does not occur. No suitable coastal scrub habitat.
Estuary seablite *Suaeda esteroa*	Federal: None State: None CNPS: Rank 1B.2	Coastal salt marsh and swamps. Occurring in sandy soils.	Does not occur. No suitable coastal salt marsh habitat.
Felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	Federal: None State: None CNPS: Rank 1B.2	Chaparral and cismontane woodland.	Does not occur. No suitable chaparral or woodland habitat.
Fish's milkwort *Polygala cornuta* var. *fishae*	Federal: None State: None CNPS: Rank 4.3	Chaparral, cismontane woodland, riparian woodland.	Does not occur. No suitable chaparral or woodland habitat.
Gambel's water cress *Nasturtium gambelii*	Federal: FE State: ST CNPS: Rank 1B.1	Marshes and swamps (freshwater or brackish).	Does not occur. No suitable wetland habitat.
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: None State: None CNPS: Rank 1B.3	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Does not occur. No suitable woodland habitat.

Species Name	Status	Habitat Requirements	Occurrence
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CNPS: Rank 1B.2	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Does not occur. No suitable chaparral or woodland habitat.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2	Rocky and sandstone soils in chaparral, coastal sage scrub, valley and foothill grassland.	Does not occur. No suitable soils or coastal sage scrub habitat.
Intermediate monardella *Monardella hypoleuca* ssp. *intermedia*	Federal: None State: None CNPS: Rank 1B.3	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes).	Does not occur. No suitable chaparral or woodland habitat.
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CNPS: Rank 1B.1	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Occurring on rocky soils.	Does not occur. No suitable habitat. Out of known range which is limited to portions of Laguna Beach.
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CNPS: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur. No suitable coastal scrub or coastal dune habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands.	Does not occur. No suitable clay soils with scrub, grassland or other mesic habitat.
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CNPS: Rank 1A	Marshes and swamps (coastal salt and freshwater).	Does not occur. No suitable wetland habitat. Presumed extinct.
Malibu baccharis *Baccharis malibuensis*	Federal: None State: None CNPS: Rank 1B.1	Chaparral, cismontane woodland, coastal sage scrub.	Does not occur. No suitable woodland or sage scrub habitat.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Does not occur. No suitable soils within grassland or open coastal sage scrub habitat.
Mesa horkelia *Horkelia ymose* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Does not occur. No suitable sandy soils within chaparral habitat.
Mud nama *Nama stenocarpa*	Federal: None State: None CNPS: Rank 2B.2	Marshes, vernal pools, and swamps.	Does not occur. No suitable vernal pools or marsh habitat.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: Rank 1B.1	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands.	Does not occur. No suitable clay soils within scrub habitat.
Narrow-petaled rein orchid *Piperia leptopetala*	Federal: None State: None CNPS: Rank 4.3	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest.	Does not occur. No suitable woodland or forest habitat.

Species Name	Status	Habitat Requirements	Occurrence
Nuttall's scrub oak *Quercus dumosa*	Federal: None State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurring on sandy, clay loam soils.	Does not occur. No suitable habitat. Outside of range which is close to coast.
Ocellated humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Does not occur. No suitable woodland or riparian habitat.
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	Federal: None State: None CNPS: Rank 1B.1	Coastal bluff scrub (sandy soils) and coastal dunes.	Does not occur. No suitable sandy soils or dune habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Does not occur. No suitable soils within grassland or open coastal sage scrub habitat.
Palomar monkeyflower *Mimulus diffusus*	Federal: None State: None CNPS: Rank 4.3	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Does not occur. No suitable habitat. Outside known range.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Does not occur. No suitable grasslands or open scrub habitat.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CNPS: Rank 1B.1	Chenopod scrub, playas, vernal pools.	Does not occur. No suitable vernal pool, or alkali playa habitat.
Parry's tetracoccus *Tetracoccus dioicus*	Federal: None State: None CNPS: Rank 1B.2	Chaparral and coastal sage scrub.	Does not occur. No suitable coastal sage scrub or chaparral habitat.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None CNPS: Rank 4.2	Sandy or granitic soils in chaparral and coastal scrub.	Does not occur. No suitable soils within chaparral or coastal sage scrub habitat.
Peninsular spineflower *Chorizanthe leptotheca*	Federal: None State: None CNPS: Rank 4.2	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Does not occur. No suitable alluvial fan habitat.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 4.2	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Does not occur. No suitable granitic soils within scrub habitat.
Prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CNPS: Rank 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur. No suitable vernal pool habitat.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub.	Does not occur. No suitable clay soils within scrub habitat.

Species Name	Status	Habitat Requirements	Occurrence
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: Rank 2B.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur. No suitable wetland seep habitat.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur. No suitable vernally mesic or seep habitat.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: Candidate State: SE CNPS: Rank 1B.1	Coastal sage scrub, occurring on sandy soils.	Does not occur. No suitable habitat. Outside current range which is northern Los Angeles County.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CNPS: Rank 1B.2	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Does not occur. No suitable habitat. Occurs in Santa Ana Mountains, outside known range.
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CNPS: Rank 1B.1	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Does not occur. No suitable habitat. Historically extirpated from Orange County.
Santa Monica dudleya *Dudleya Cymose* ssp. *ovatifolia*	Federal: FT State: None CNPS: Rank 1B.1	Chaparral, coastal sage scrub. Occurring on volcanic soils.	Does not occur. No suitable habitat. Historically extirpated from Orange County.
Santiago Peak phacelia *Phacelia keckii*	Federal: None State: None CNPS: Rank 1B.3	Closed-cone coniferous forest, chaparral.	Does not occur. No suitable habitat. Outside known range.
Seaside cistanthe *Cistanthe maritima*	Federal: None State: None CNPS: Rank 4.2	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland.	Does not occur. No suitable coastal bluff scrub habitat.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur. No suitable alluvial scrub habitat.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CNPS: Rank 4.2	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur. No suitable clay alkaline soils and associated grassland habitat.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Does not occur. No suitable alkaline soils and associated grassland habitat.
South coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	Federal: None State: None CNPS: Rank 3.2	Sandy, sometimes rocky soils in chaparral, coastal dunes, coastal scrub, and marshes and swamps (coastal salt).	Does not occur. No suitable sandy or dune habitat or salt marsh habitat.

Species Name	Status	Habitat Requirements	Occurrence
South coast saltscale *Atriplex pacifica*	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Does not occur. No suitable clay soils within scrub habitat.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CNPS: Rank 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Does not occur. No suitable alkaline soils and associated grassland habitat.
Sticky dudleya *Dudleya viscida*	Federal: None State: None CNPS: Rank 1B.2	Coastal bluff scrub, chaparral, coastal sage scrub. Occurring on rocky soils.	Does not occur. No suitable rocky cliffs within chaparral or coastal scrub habitat.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CNPS: Rank 1B.2	Maritime Chaparral.	Does not occur. No suitable maritime habitat. Prominent shrub not observed.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral.	Does not occur. No suitable woodland habitat. Outside range.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur. No suitable clay soils in grassland habitat.
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: Rank 3.2	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur. No suitable vernal pools or alkaline clay habitat.
Western dichondra *Dichondra occidentalis*	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Does not occur. No suitable sage scrub or grassland habitat.
Western spleenwort *Asplenium vespertinum*	Federal: None State: None CNPS: Rank 4.2	Rocky soils in chaparral, cismontane woodland, and coastal scrub.	Does not occur. No suitable rocky soils within scrub habitat.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2	Sandy or gravelly alluvial soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Does not occur. No suitable alluvial soils with scrub habitat.
White-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	Federal: None State: None CNPS: Rank 1B.2	Sandy or gravelly soils in Mojavean desert scrub and pinyon and juniper woodland.	Does not occur. No suitable desert scrub habitat. Out of range.
Woolly chaparral-pea *Pickeringia montana* var. *tomentosa*	Federal: None State: None CNPS: Rank 4.3	Gabbroic, granitic, and clay soils in chaparral.	Does not occur. No suitable granitic soils or chapparal habitat.

Source: Glen Lukos Associates, *Updated Review of Jurisdictional Limits for California Department of Fish and Wildlife and U.S. Army Corps of Engineers and Biological Resources for Serrano Creek Southern/Eastern Bank for Great Scott Landscape Facility*, April 28, 2021.

STATUS

Federal	**State**
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened

Species Name	Status	Habitat Requirements	Occurrence
CNPS Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere. Rank 1B – Plants rare, threatened, or endangered in California and elsewhere. Rank 2A – Plants presumed extirpated in California, but common elsewhere. Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere. Rank 3 – Plants about which more information is needed (a review list). Rank 4 – Plants of limited distribution (a watch list). **CNPS Threat Code extension** .1 – Seriously endangered in California (over 80% occurrences threatened) .2 – Fairly endangered in California (20-80% occurrences threatened) .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)			
OCCURRENCE Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species. Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys. Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out. Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed. Confirmed present – The species was detected onsite incidentally or through focused surveys			

Areas I through V (2017) and the Northeast, Central, and Southwest Areas (2020) were evaluated for the presence of special-status plants and/or habitat for special-status plants. Each of the areas, as observed during both the 2017 and 2020 surveys, exhibit land uses (e.g., equestrian uses and agricultural/animal keeping uses) which are not suitable for special-status plants. Where there are areas within the Project site that support vegetation, they contain non-native species, which are indicators for high levels of disturbance, as demonstrated by the diversity of non-native grasses and forbs reported in the descriptions for Areas I through V, provided above. Because of the high level of disturbance exhibited by these areas, they do not support habitat, such as coastal sage scrub, chaparral, or native grasslands capable of supporting special-status plants and as such, exhibit no potential for the presence of special-status plants. The area also lacks soil types (e.g., clay soils or lenses, alkaline soils, rock or sandstone outcrops, etc.). Similarly, Serrano Creek, including the banks and bottom within the study area does not contain suitable habitat for special-status plants. As noted, much of the tree canopy associated with Serrano Creek adjacent to the proposed Project area support blue-gum eucalyptus which exhibits phytochemicals that limit understory plant growth, further rendering the area unsuitable for special-status plants. As a result, there is no potential for the proposed Project to have a substantial adverse effect on any special-status plants.

Special-Status Animals

Table 4.4-2, Special Status Wildlife Species, includes all special-status animal species recorded for the CNDDB for the El Toro 7.5 Minute Quadrangle Map and the surrounding Quadrangles: Orange, Black Star Canyon, Corona South, Tustin, Santiago Peak, Laguna Beach, San Juan Capistrano, and Canada Gobernadora.

Table 4.4-2
Special Status Wildlife Species

Species Name	Status	Habitat Requirements	Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: None	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Does not occur. No suitable scrub habitat with suitable host plants.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines and are known to disperse through disturbed habitats to reach suitable nectar plants.	Does not occur. No suitable habitat. Out of range which is limited to western Riverside and San Diego counties
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur. No suitable habitat.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None	Seasonal vernal pools	Does not occur. No suitable habitat.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur. No suitable habitat within Serrano Creek due to intermittent flow.
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	Federal: None State: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur. No suitable habitat within Serrano Creek due to intermittent flow.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Does not occur. No suitable habitat within Serrano Creek due to intermittent flow.
Southern steelhead – southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: SSC	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur. No suitable habitat within Serrano Creek due to intermittent flow.

Species Name	Status	Habitat Requirements	Occurrence
Tidewater goby *Eucyclogobius newberryi*	Federal: FE State: SSC	Occurs in shallow lagoons and lower stream reaches along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Does not occur. No suitable lagoon or tidally influenced habitat.
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur. No suitable stream habitat with sand and gravel banks needed for burrowing and aestivating.
Coast Range newt *Taricha torosa*	Federal: None State: SSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur. No suitable habitat. Serrano Creek is highly degraded and not suitable due to water quality and lack of intermittent and perennial pools.
Western spadefoot *Spea hammondii*	Federal: None State: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur. No suitable vernal pool or seasonal pool habitat.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Does not occur. No suitable arid scrub, rocky washes, chaparral habitat.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Does not occur. No suitable sunny microhabitats within shrub or grassland associations habitat.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Does not occur. No suitable sunny microhabitats within shrub or grassland associations habitat.
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Does not occur. No suitable sandy soils within scrub and grassland habitat.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Does not occur. No suitable washes, sandy flats, and rocky areas in scrub habitat.

Species Name	Status	Habitat Requirements	Occurrence
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Does not occur. No suitable rocky habitat in scrub or chaparral.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: SSC	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	Does not occur. No suitable habitat dune habitat or oak woodland with substantial duff.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur. No suitable habitat as Serrano Creek is highly disturbed.
Western pond turtle *Emys marmorata*	Federal: None State: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur. No suitable habitat. Limited potential habitat downstream of site; however, there are no recent records for this species in Serrano Creek.
Birds			
American peregrine falcon (nesting) *Falco peregrinus anatum*	Federal: Delisted State: Delisted, FP	Breeding habitat consists of high cliffs, tall buildings, and bridges along the coast and inland. Foraging habitat primarily includes open areas near wetlands, marshes, and adjacent urban landscapes.	Does not occur. No suitable habitat for nesting or foraging.
Bald eagle (nesting & wintering) *Haliaeetus leucocephalus*	Federal: Delisted State: SE, FP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Does not occur. No suitable habitat for nesting or foraging.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE	Coastal marshes.	Does not occur. No suitable salt marsh habitat. Out of range.
Burrowing owl (burrow sites & some wintering sites) *Athene cunicularia*	Federal: None State: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Does not occur. No suitable grassland or open habitat.
California black rail *Laterallus jamaicensis coturniculus*	Federal: None State: ST, FP	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur. No suitable marsh or wetland habitat.

Species Name	Status	Habitat Requirements	Occurrence
California least tern (nesting colony) *Sterna antillarum browni*	Federal: FE State: SE, FP	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Does not occur. No suitable coastal flats habitat.
Coastal cactus wren (San Diego & Orange County only) *Campylorhynchus brunneicapillus sandiegensis*	Federal: BCC State: SSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Does not occur. No suitable cactus habitat.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Does not occur. No suitable coastal sage scrub habitat.
Golden eagle (nesting & wintering) *Aquila chrysaetos*	Federal: None State: FP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Does not occur. No suitable habitat for nesting or foraging.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: SSC	Open grassland and prairies with patches of bare ground.	Does not occur. No suitable grassland habitat.
Least Bell's vireo (nesting) *Vireo bellii pusillus*	Federal: FE State: SE	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur. No suitable riparian habitat.
Light-footed Ridgway rail *Rallus longirostris levipes*	Federal: FE State: SE, FP	Marsh vegetation of coastal salt marshes and freshwater wetlands, especially cordgrass habitats.	Does not occur. No suitable coastal saltmarsh habitat.
Long-eared owl (nesting) *Asio otus*	Federal: None State: SSC	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Does not occur. No suitable riparian habitat.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: SSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Does not occur. No suitable foraging or nesting habitat.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur. No suitable willow riparian habitat.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: None State: CE	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur. No suitable emergent marsh habitat.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE	Dense, wide riparian woodlands with well-developed understories.	Does not occur. No suitable riparian habitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: FP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands,	Does not occur. No suitable foraging or nesting habitat.

Species Name	Status	Habitat Requirements	Occurrence
		and oak woodlands. Dense canopies used for nesting and cover.	
Yellow rail *Coturnicops noveboracensis*	Federal: BCC State: SSC	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur. No suitable wetland or marsh habitat.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur. No suitable willow riparian habitat.
Yellow warbler (nesting) *Setophaga petechia*	Federal: None State: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Not observed during surveys; however, this species uses non-native trees such as eucalyptus and could occur adjacent to the site.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Does not occur. No suitable friable soils with open forest habitat.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: SSC WBWG: MH	Roost mainly in crevices and rocks in cliff situations; also utilize buildings, caves, and tree cavities.	Does not occur. No suitable cliffs or caves.
Mexican long-tongued bat *Choeronycteris mexicana*	Federal: None State: SSC	Variety of habitats ranging from desert, montane, riparian, to pinyon-juniper habitats. Found roosting in desert canyons, deep caves, mines, or rock crevices. Can use abandoned buildings.	Does not occur. No suitable habitat deep caves, mines, or rock crevices.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Does not occur. No sandy soils within scrub suitable habitat.
Pacific pocket mouse *Perognathus longimembris pacificus*	Federal: FE State: SSC	Fine, alluvial soils along the coastal plain. Scarcely in rocky soils of scrub habitats.	Does not occur. No suitable sandy soils within scrub habitat.
Pallid bat *Antrozous pallidus*	Federal: None State: SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Does not occur. No suitable rocky areas or woodland habitat.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Does not occur. No suitable rocky cliff habitat.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Does not occur. No suitable rock outcrops with dense

Species Name	Status	Habitat Requirements	Occurrence
			undergrowth types of habitat.
Southern California saltmarsh shrew *Sorex ornatus salicoricus*	Federal: None State: SSC	Coastal marshes. Requires dense vegetation and woody debris for cover.	Does not occur. No suitable coastal saltmarsh habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Does not occur. No suitable friable soils within scrub habitat.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Does not occur. No suitable habitat. Out of range which is western Riverside County.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Does not occur. No suitable cliff faces, high buildings, trees, and tunnels as roosting habitat.
Western red bat *Lasiurus blossevillii*	Federal: None State: SSC	Prefers riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores where they roost in broad-leafed trees.	Does not occur. No suitable riparian habitat.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Does not occur. No suitable willow riparian habitat or palm oasis.

Source: Glen Lukos Associates, *Updated Review of Jurisdictional Limits for California Department of Fish and Wildlife and U.S. Army Corps of Engineers and Biological Resources for Serrano Creek Southern/Eastern Bank for Great Scott Landscape Facility*, April 28, 2021.

STATUS

Federal	**State**
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened
FPT – Federally Proposed Threatened	SCE – State Candidate for listing as Endangered
FC – Federal Candidate	CFP – California Fully-Protected Species
BCC – Bird of Conservation Concern	SSC – Species of Special Concern

Western Bat Working Group (WBWG)

H – High Priority	M – Medium Priority
LM – Low-Medium Priority	MH – Medium-High Priority

OCCURRENCE

Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
Confirmed present – The species was detected onsite incidentally or through focused surveys.

Areas I through V (2017) and the Northeast, Central, and Southwest Areas (2020) were evaluated for the presence of special-status animals and/or habitat for special-status animals. Because of the high level of disturbance exhibited by these areas, they do not support habitat for special-status animals and as such, exhibit no potential for the presence of special-status animals. Serrano Creek within the study area does not contain suitable habitat for special-status avifauna, with exception of yellow warbler, a California species of special concern. Yellow warbler was not detected during the site visits; however, even if yellow warbler were to occur, the Project would not impact any potential habitat, as no modifications are proposed to Serrano Creek.

Portions of Serrano Creek downstream of Dimension Drive exhibit flowing and/or standing water and could support the western pond turtle, a California species of special concern. Western pond turtles were not detected during the site visits; however, the site visits did not include focused surveys for this species. Nevertheless, the Project would fully avoid impacts to Serrano Creek, including areas of potential habitat for the western pond turtle and therefore, the Project would not have the potential for impacts to this species. It is also important to note that the banks of Serrano Creek adjacent to the Project area are steep and there are generally no suitable basking sites for western pond turtles, further limiting the potential for this species. While it is unlikely that western point turtle would occupy the segment of Serrano Creek adjacent to the Project site, in order to ensure that no direct or indirect impacts to this species would occur, Mitigation Measure BIO-1 would require preconstruction surveys by a biologist familiar with the western pond turtle and its habitat requirements to determine the potential presence or absence of western pond turtle. If western pond turtles are detected, the biologist would be required to prepare an avoidance plan that would be submitted to the CDFW for review and approval to ensure no direct or indirect impacts would occur. With implementation of Mitigation Measure BIO-1, potential impacts to western pond turtle would be reduced to a less than significant level.

As shown in Table 4.4-2, a number of special-status fish species have been recorded from the above-referenced Quadrangle Maps, including: Arroyo chub (*Gila orcutti*), Santa Ana speckled dace (*Rhinichthys osculus*), Santa Ana sucker *Catostomus santaanae*), Southern steelhead – southern California [DPS] (*Oncorhynchus mykiss irideus*), and Tidewater goby (*Eucyclogobius newberryi*). The onsite segment of Serrano Creek is intermittent, highly disturbed with a canopy of mostly non-native eucalyptus trees and does not contain suitable perennial flow for any of these special-status fish. Areas upstream and downstream are variable with channelized segments and segments within underground culverts or boxes and suitable habitat for special-status fish is lacking upstream and downstream of the site. In addition, the proposed Project would fully avoid areas of CDFW jurisdiction, which has been mapped at or above the 100-year flood limit, and therefore, the Project would not result in any potential for impacts to fish. There are no other special-status species with potential to occur within Areas I through V or the Northeast, Central, and Southwest Areas that could occupy Serrano Creek with the potential to be impacted by the proposed Project. As a result, with the exception of western pond turtle, as described above, there is no potential for the proposed Project to have a substantial adverse effect on any special-status animals.

Special-Status Vegetation Alliances

The following special-status vegetation alliances are reported from one or more of the Quadrangle Maps referenced above:

- California walnut woodland – Does not occur onsite.
- Canyon live oak ravine forest – Does not occur onsite.
- Riversidian alluvial fan sage scrub – Does not occur onsite.
- Southern California arroyo chub/Santa Ana sucker stream – Does not occur onsite.
- Southern coast live oak riparian forest – Occurs downstream of Dimension Drive.

- Southern coastal salt marsh – Does not occur onsite.
- Southern cottonwood willow riparian forest – Does not occur onsite.
- Southern interior cypress forest – Does not occur onsite.
- Southern mixed riparian forest – Does not occur onsite.
- Southern riparian forest – Does not occur onsite.
- Southern riparian scrub – Does not occur onsite.
- Southern sycamore alder riparian woodland – Does not occur onsite.
- Southern willow scrub – Does not occur onsite.
- Valley needlegrass grassland – Does not occur onsite.

As described above, the Project site supports developed areas, such as vegetable gardens and stables, or areas that exhibit weedy, disturbed vegetation cover. There are no special-status vegetation alliances within the Project site. Thus, the Project exhibits no potential for impact to special-status vegetation alliances. Offsite areas, downstream of Dimension Drive, support coast live oak woodland and some areas may meet the definition for coast live oak riparian forest; however, the Project does not propose any modifications or improvements to Serrano Creek or these offsite areas. Thus, there is no potential for the proposed Project to have a substantial adverse effect on any special-status vegetation alliances.

Mitigation Measures:

BIO-1 Within a 14-day period prior to the start of construction, pre-construction surveys by a biologist familiar with the western pond turtle and its habitat requirements shall be conducted using three survey passes. Following the surveys, the biologist shall prepare a report for submittal to the City of Lake Forest Community Development Department documenting the results of the surveys. If the surveys are negative, no further action shall be needed.

If western pond turtles are detected adjacent to the Project development area, the biologist shall prepare an avoidance plan to be submitted to CDFW for review and approval to ensure that no direct or indirect impacts to western pond turtle occur. The plan shall include the following:

- Survey results including a map showing western pond turtle locations;
- Qualifications of the biological monitor;
- Methods for monitoring of the western pond turtle during construction;
- Methods for preventing western pond turtles from entering the development area such as silt fence or other devices; and
- Reporting requirements.

Verification of the avoidance plan and its approval by CDFW shall be submitted to the City of Lake Forest Community Development Department.

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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact. Riparian habitat is located along Serrano Creek on the Project site. No other sensitive natural communities are located on-site. The riparian habitat typically consists of native trees such as willows and western sycamores but also includes a patch of giant reed. However, the Project does not propose any improvements or modifications within this area and therefore would not disturb riparian habitat; impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

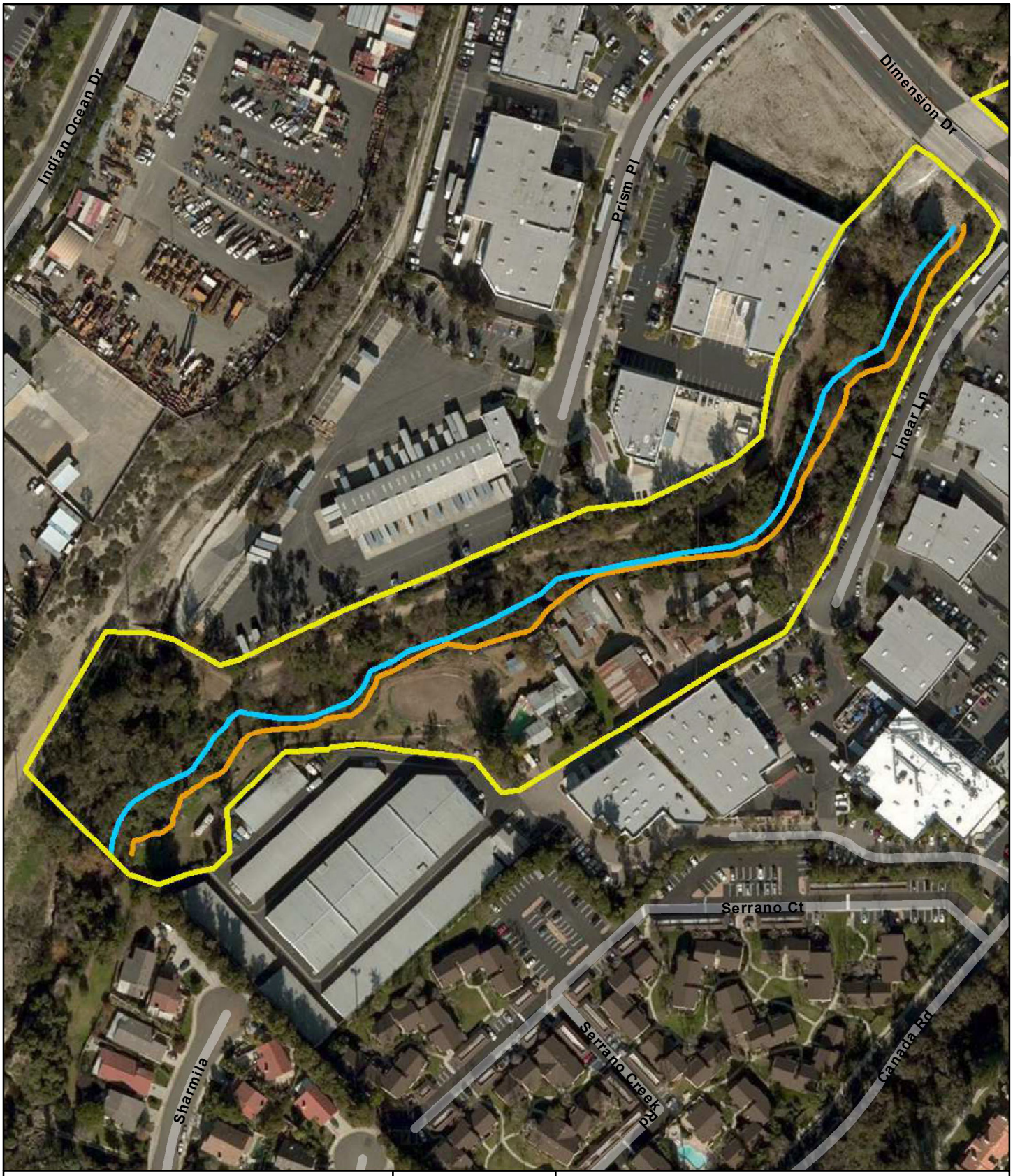
Less Than Significant Impact. Serrano Creek forms the Project site's northern boundary. As part of the Biological Resources Assessment, a jurisdictional delineation was completed for the Project site; refer to Exhibit 4.4-2, Jurisdictional Limits. As illustrated on Exhibit 4.4-2, the limits of CDFW jurisdiction extend to one of three areas including the top of the Serrano Creek bank, the 100-year flood plain, or to edge of the canopy of associated riparian vegetation that is rooted at the top of bank or below top of bank. The riparian habitat typically consists of native trees such as willows and western sycamores, but also includes a patch of giant reed. The limits of Corps jurisdiction are determined by the Ordinary High Water Mark (OHWM), which in all areas of Serrano Creek evaluated is below the top of bank, as depicted on Exhibit 4.4-1. As such, avoidance of CDFW jurisdiction would ensure that all areas of Corps jurisdiction are also fully avoided. The Project does not propose any improvements or modifications to Serrano Creek or areas within the jurisdictional limits. The Project would not have a substantial adverse effect on any state or federally protected wetlands. This impact would be less than significant.

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?

Less Than Significant Impact With Mitigation Incorporated. Serrano Creek originates to the north of the Project site traversing portions of Whiting Ranch Regional Park and ultimately flowing beneath Portola Parkway before entering a concrete channel that carries flows beneath SR-241 and the intersection of Lake Forest Drive and Rancho Parkway. The Serrano Creek Park/Trail originates below the Lake Forest Drive and Rancho Parkway intersection and extends for just over three miles to Bake Parkway where the water is carried through a series of concrete boxes and channels to the Great Park at the intersection of Alton Parkway and Barranca Parkway before flowing under the location where the I-405 and I-5 Freeways join.

The entire three-mile segment of Serrano Creek trail is fully urbanized on both sides including dense residential development, commercial, and industrial development, as well as other uses such as former nursery and equestrian areas. The entire segment consists of paved and maintained trails. In some areas, such as to the north of the Project site, the trail is very narrow, with widths ranging from 75 to 100 feet. Widths within the area of the Project site range from approximately 100 to 150 feet and downstream of the site the trail varies from approximately 100 to 300 feet before terminating at Bake Parkway within an area of dense commercial and industrial uses.

Given these conditions, the Serrano Creek Park/Trail does not represent a regionally important wildlife movement corridor. The downstream segment of Serrano Creek on the Great Park Property, which is approximately 1.5 mile to the south and fully developed between Bake Parkway and the Alton Parkway and Barranca Parkway intersection, is part of the Irvine Wildlife Corridor; however, this corridor connects to areas of open space to the south through the Great Park and there is no connection between the Serrano Creek Trail/Park and the Irvine Wildlife Corridor. Further, the Project does not propose modifications or improvements to Serrano Creek or the associated park/trail and the Project would not involve development within areas below the 100-year flood line of Serrano Creek. Thus, the Project site is not located within a regional wildlife movement corridor and implementation of the Project would not have the potential for significant impacts to wildlife movement associated with Serrano Creek.



Legend

- Approximate Study Area
- Limits of Corps Jurisdiction
- Limits of CDFW Jurisdiction

Source: Glenn Lukos Associates. Map date: May 12, 2021.

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Feet

CITY OF LAKE FOREST
GREAT SCOTT LANDSCAPE FACILITY PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Exhibit 4.4-2. Jurisdictional Limits

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

As part of the Project, several trees identified to be in poor health or dead would be removed. Additionally, construction activities within the Project site would occur in proximity to existing trees that would remain as part of the Project. Although the Biological Resources Assessment determined that raptor species are not anticipated to nest within the Project area due to lack of suitable habitat, there is the potential that on-site trees could provide habitat for nesting birds. If vegetation removal cannot occur outside of the nesting season, Mitigation Measure BIO-2 would require a qualified biologist conduct a nesting bird survey no more than three days prior to ground disturbing or vegetation disturbing activities to confirm the presence or absence of nesting birds. If nesting birds are determined to be present, avoidance measures would be required to be implemented, such as establishing suitable buffers around any active nests. With implementation of Mitigation Measure BIO-2, potential impacts to nesting migratory birds would be reduced to a less than significant level.

Mitigation Measures:

BIO-2 The following requirements under the MBTA and California Fish and Game Code Sections 3503.5, 3503, and 3513, the applicant shall implement the following steps to ensure that nesting birds are not harmed during Project construction:

The removal of vegetation shall occur outside of the nesting season, generally recognized as March 15 to August 31 (potentially earlier for raptors). If vegetation removal must occur during the nesting season, then a qualified biologist shall conduct a nesting bird survey prior to any vegetation removal. If no nesting birds are found, the vegetation can be removed. If active nests are identified, the biologist shall flag vegetation containing active nests. The biologist shall establish appropriate buffers around active nests to be avoided until the nests are no longer active and the young have fledged. Buffers shall be based on the species identified, but generally shall consist of 50 feet for non-raptors and 300 feet for raptors.

Prior to commencement of grading activities or any vegetation removal, the City of Lake Forest Director of Community Development, or designee, shall verify that all Project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA), that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. The Lake Forest Eucalyptus Tree Conservation Ordinance (Lake Forest Municipal Code Chapter 6.20), regulates the transportation and cutting of eucalyptus trees or logs during the period of April 1 through October 31 without a City Permit. According to Section 6.20.020 of the Code, "Eucalyptus tree" means all species of eucalyptus trees, but does not include a tree that does not have a height of eight (8) feet or more, or a trunk diameter of two (2) inches or more measured at least three (3) feet above ground level. The City of Lake Forest does not have any other local policies or ordinances specific to tree preservation, but the General Plan does include policies which support the provision of trees and protection of biological resources throughout the City.

The Project site contains eucalyptus trees. The segment of Serrano Creek that is located adjacent to the development area is highly disturbed and supports a predominance of non-native eucalyptus (*Eucalyptus globulus*), giant reed (*Arundo donax*), and other non-native vegetation such as castor bean (*Ricinus communis*). The north-central portion of the Project site, which is entirely disturbed, consists of several

larch mulch piles and a stand of eucalyptus. The segment of Serrano Creek along the southwestern portion of the Project site supports dense thickets of the non-native giant reed (*Arundo donax*), with blue-gum eucalyptus (*Eucalyptus globulus*).

The Project would maintain and treat existing trees and brush within the Project site that are in good health. However, several trees have been identified as either in poor health or dead and are proposed to be removed. Should pruning or removal of any of the on-site Eucalyptus trees be required during the period of April 1 through October 31, a permit would be obtained in compliance with Lake Forest Municipal Code Chapter 6.20. Therefore, through compliance with the City's Eucalyptus Tree Conservation Ordinance, the Project would not conflict with any local policies or ordinances protecting biological resources.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. The City is a participant in the Orange County Central and Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The portion of the Project site proposed for development is currently developed and within an urbanized area, and is not located within the boundaries of the NCCP/HCP reserve system. The proposed Project would not conflict with the NCCP/HCP or other approved local, regional, or state habitat conservation plan.

Mitigation Measures: No mitigation measures are required.

4.5 Cultural Resources

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

This section is based on the *Phase I Cultural and Paleontological Resources Assessment* (Cultural Resources Assessment) prepared by Material Culture Consulting, dated November 2020 and the *Focused Cultural Resources Survey – Historic Resources Assessment for the Great Scott Project, Lake Forest, Orange County, California* (Historic Resources Assessment), prepared by JM Research and Consulting, dated April 16, 2021, both included as Appendix C, Cultural Resources Studies.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Less Than Significant Impact. According to CEQA Guidelines Section 15064.5, a historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. A resource is considered historically significant if it meets at least one of the following criteria:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- Associated with the lives of persons important to local, California or national history;
- Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

As part of the Cultural Resources Assessment, a search of the California Historical Resource Information System (CHRIS) was conducted at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton. The CHRIS search also included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historical Resources. Additional background research included historical aerial photos and a search of the Bureau of Land Management General Land Office Records.

The CHRIS records search identified thirty-four prior cultural resources investigations within a 0.5-mile radius of the Project site. Of these, two of the studies are adjacent to the Project site. The cultural resources records search also identified twelve previously recorded prehistoric resources within a 0.5-mile radius of the Project site. The closest cultural resource is located along and within the northwest edge of the Project site; refer to the discussion in Response 4.5(b), below. A review of historical aerials and topographic maps show the Project area was developed for agricultural purposes, with tree groves as late as 1938. During this time, the existing barn was built. The groves continued until the early 1990s when commercial development began around the Project area.

The Cultural Resources Assessment identified two single-family residential structures, a barn, and ancillary structures located within the Project site. The Project proposes to rehabilitate one of the residential structures into an office and remove the second residential structure. The existing barn would be retained and used for storage of equipment. As part of the Project, the exterior of the existing barn would be painted and minor repairs to the structure would be completed, including termite and dry rot treatment that may require the localized replacement of damaged wood with repaired areas to match the existing style and color of the structure. Electrical and other safety-related upgrades would also occur; no additional modifications to the barn structure are proposed.

Due to the age of the existing on-site structures, the Historical Resources Assessment was prepared as a supplement to the Cultural Resources Assessment to evaluate the property for significance and eligibility for historic designation and identify any potential impacts associated with the proposed Project. The property was developed as part of the 44.13-acre Osterman Ranch beginning in 1929. Valencia orange trees were planted in 1929 and the easterly residence (20795 Canada Road) was constructed by 1930. The westerly residence (20865 Canada Road) was added to the property in 1947-1953 and additional ancillary structures were added to the property over time.

According to the Historical Resources Assessment, the Osterman Ranch has been extensively altered, and its setting is significantly compromised by reduction of the property from approximately 44.13 acres to 6.37 acres, the removal of the grove, and the modern development of its immediately adjacent former acreage. Both single-family residences have been severely altered with original architectural features enveloped by later alterations and additions. As a secondary structure, the large barn, which is in poor condition but has suffered less alteration, is unable to sufficiently convey its association apart from the context of the reduced and compromised property. Although owned, and likely occupied, by Bennie and Cynthia Osterman, who were engaged in early 20th century agriculture in the area as well as the social and cultural life of the small town, the reduced and compromised property is not strongly associated with events that have made a significant contribution to the broad patterns of our national or state history or with significant persons in our past; does not embody distinctive characteristics of a type, period, or represent the work of a master or possess high artistic value; and has not yielded, or is likely to yield, further information important in history or prehistory. The ranch property does not appear to be eligible for listing in the NRHP or CRHR at any level, and the City of Lake Forest does not have a local preservation ordinance with criteria for designation or maintain a local inventory. Therefore, the Osterman Ranch is assigned a California Historic Resources (CHR) code of 6Z – Found ineligible for National Register, California Register, or Local designation through survey evaluation.

As the remains of the Osterman Ranch have been found ineligible for designation, the Property is not considered a historic resource under CEQA, and no further historic investigation or mitigation measures are recommended. The Historic Resources Assessment recommends that retention of the cluster of mature eucalyptus trees be considered in the planning process; however, if removal of the eucalyptus

trees would occur as a result of the Project, it would not be considered a significant impact to a historical resource and no mitigation measures would be required.

Mitigation Measures. No mitigation measures are required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less Than Significant Impact with Mitigation Incorporated. As noted above, the cultural resources records search conducted as part of the Cultural Resources Assessment, identified twelve previously recorded prehistoric resources within a 0.5-mile radius of the Project area. The closest cultural resource was determined to be located along and within the northwest edge of the Project site. A field survey of the Project site was conducted on September 17, 2020 by an Archaeologist and cross-trained Paleontologist. The Project area was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g. cutbanks, ditches, animal burrows, etc.) were visually inspected.

The entire Project site was shown to be subjected to intense surface and subsurface modification from construction of the buildings, landscaping, and use. Some areas of the Project site were inaccessible due to dense vegetation, steep slope, and fencing. Vegetation consisted of oak trees, oak scrub, poison oak, flowering tobacco, eucalyptus trees, pine trees, palm trees, tall grasses and weeds, with some residential landscaping present. The ground surface was obscured by pine duff, oak litter, and four- to six-foot tall weeds. Ground visibility varied throughout the Project site, but overall was considered poor due to dense vegetation. The surveyable portions of the Project site were highly disturbed due to many of the pathways being trafficked by vehicles, pedestrians, and farm animals. The archaeological survey resulted in one newly observed historic site being identified, EM-SITE-001. The site is comprised of five glass bottles and one bi-metal, tear tab can fragment. The site dates between 1924 to 1985, but likely dates to the late 1930s to mid-1940s. During this time, the area existed as an agricultural area and the bottles may represent this event. The historic site is heavily disturbed as modern refuse is scattered within and outside of the concentration; the historic site boundaries may extend outside of the observed area due to heavy oak litter covering the surface floor. Previously recorded site P-30-000037, was not relocated during the survey due to the area being inaccessible (steep slope), and having dense vegetation.

The potential for encountering significant cultural resources within the Project area is considered high, due to a positive pedestrian survey and 12 previously recorded resources within 0.5-mile of the Project site, with one resource being within the Project site. In order to reduce potential impacts to archaeological resources, the Project Applicant would be required to implement Mitigation Measure CUL-1, which requires preparation and implementation of a Cultural Resources Management Plan (CRMP). The CRMP would require archaeological monitoring during all initial ground-disturbance activities, including vegetation removal, site preparation and grading up to three feet below surface; development of an inadvertent discovery plan in the event potential cultural resources are discovered; and compliance with procedures in the inadvertent discovery of human remains. With implementation of Mitigation Measure CUL-1, the Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 and impacts would be reduced to less than significant.

For potential impacts related to tribal cultural resources, refer to Section 4.18.

Mitigation Measures:

CUL-1 Prior to the issuance of a grading permit, a Cultural Resources Management Plan (CRMP) shall be prepared and implemented to the satisfaction of the City of Lake Forest Community Development Department. The CRMP shall include, but shall not be limited to, the following:

- A qualified archaeologist shall be retained by the Applicant to provide professional archaeological monitoring services during all initial ground-disturbance activities, including vegetation removal, site preparation, demolition of historic structures, and grading up to three feet below surface, in order to quickly assess any discoveries of cultural resources during initial Project implementation.
- The archaeologist shall develop an inadvertent discovery plan, which shall be in place to expediently address archaeological resource discoveries should these be encountered during any phase of development associated with the Project. In the event that these resources are inadvertently discovered during ground disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).
- Refer also to Mitigation Measure TCR-3 (Section 4.18, Tribal Cultural Resources). Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial shall cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The Orange County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC), who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact with Mitigation Incorporated. The Project site and surrounding area are developed, and there are no dedicated cemeteries within the Project site or surrounding area. While the potential for the proposed Project to disturb previously undiscovered human remains is unlikely, cultural resources have been located within the Project site and surrounding area and the potential for additional cultural resources to be located within the site is considered high. Implementation of Mitigation Measure CUL-1 and TCR-3 (refer to Section 4.18, Tribal Cultural Resources) would ensure that in the event human remains are discovered, the remains would be handled in accordance with applicable laws, including California Health and Safety Code §7050.5, Public Resources Code §5097.98 and the California Code of Regulations §15064.5(e). Thus, with implementation of Mitigation Measures CUL-1 and TCR-3, impacts associated with the potential disturbance of human remains would be reduced to a less than significant level.

Mitigation Measures: Refer to Mitigation Measure CUL-1 and TCR-3.

4.6 Energy

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

This section is based on the *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, prepared by Environmental Planning Development Solutions Inc., dated January 18, 2021 and included in its entirety as Appendix A, Air Quality, Greenhouse Gas, & Energy Impact Analysis.

REGULATORY FRAMEWORK

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Key federal and state energy-related laws and plans are summarized below.

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The recently-approved 2017 Integrated Energy Policy Report Updated (2017 IEPR) was published in April 2018, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2016 IEPR focuses on a variety of topics such as implementation of Senate Bill 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to Senate Bill 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Code of Regulations Title 24, Part 6.

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the non-residential standards. For example, window operation is no longer a method allowed to meet

ventilation requirements, continuous operation of central forced air system handlers used in central fan integrated ventilation system is not a permissible method of providing the dwelling unit ventilation airflow, and central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow to each dwelling unit. In addition, requirements for kitchen range hoods were also provided in the updated Section 120.1. Ventilation and Indoor Air Quality included both additions and revisions in the 2019 Code. This section now requires nonresidential and hotel/motel buildings to have air filtration systems that use forced air ducts to supply air to occupiable spaces to have air filters. Further, the air filter efficiency must be either MERV 13 or use a particle size efficiency rating specific in the Energy Code AND be equipped with air filters with a minimum 2-inch depth or minimum 1-inch depth if sized according to the equation 120.1-A. If natural ventilation is to be used the space must also use mechanical unless ventilation openings are either permanently open or controlled to stay open during occupied times.

New regulations were also adopted under Section 130.1 Indoor Lighting Controls. These included new exceptions being added for restrooms, the exception for classrooms being removed, as well as exceptions in regard to sunlight provided through skylights and overhangs.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately seven percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards (CALGreen)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, went into effect on January 1, 2020. CALGreen is the first-in-the-nation mandatory green buildings standards code. The California Building Standards Commission developed CALGreen in an effort to meet the State's landmark initiative Assembly Bill (AB) 32 goals, which established a comprehensive program of cost-effective reductions of greenhouse gas (GHG) emissions to 1990 levels by 2020. CALGreen was developed to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, and healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the environmental directives of the administration. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials (U.S. Green Building Council, 2020).

Senate Bill 100

Senate Bill (SB) 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours (kWh) of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; 60 percent by December 31, 2030; and 100 percent by December 31, 2045. The bill requires the California Public

Utilities Commission (CPUC), California Energy Commission (CEC), State board or the California Air Resources Board's (CARB), and all other State agencies to incorporate the policy into all relevant planning. In addition, SB 100 requires the CPUC, CEC, and CARB to utilize programs authorized under existing statutes to achieve that policy and, as part of a public process, issue a joint report to the Legislature by January 1, 2021, and every four years thereafter, that includes specified information relating to the implementation of SB 100.

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The Project site is currently developed with two single-family residences (one of which was previously converted to an office), a barn, and structures associated with animal keeping. The Project proposes to rehabilitate the existing single-family residence into an office, remove the second residence and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations.

Construction

The construction schedule is anticipated to occur between the beginning of January 2021 and the end by the third quarter of 2022 and be completed in one phase. Staging of construction vehicles and equipment would occur on-site.

Electricity and Natural Gas

Electrical service to the Project site is provided by Southern California Edison (SCE). The existing residential and office uses within the Project site currently generate demand for electricity. SCE would provide temporary electric power for as needed lighting and electronic equipment (such as computers inside temporary construction trailers) during Project construction. The electricity used for such activities would not be significantly greater than the demand generated by existing on-site uses and would be temporary. The construction electricity usage would have a negligible contribution to the Project's overall energy consumption.

Natural gas is not anticipated to be required during the construction of the Project. During construction, fuels would primarily consist of diesel and gasoline (discussed below). Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption.

Construction Equipment, Worker and Vendor/Hauling Fuel Usage

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Off-road heavy-duty construction equipment associated with construction activities would rely on diesel fuel. Table 4.6-1, *Estimated Construction Equipment Fuel Usage*, identifies the fuel usage for the off-road construction equipment. These estimates are based on the annual total fuel consumption and horsepower-hour data within the ARB OFFROAD2017 emission model for specific types of diesel construction equipment employed in the Project construction. As indicated in Table 4.6-1, Project construction activities would consume an estimated 28,896 gallons of diesel fuel. It is noted that the total construction fuel consumption identified in Table 4.6-1 is likely overstated. Although construction equipment and their duration are listed under a particular construction activity, it is highly likely that not all of the inventoried equipment would operate over the entire duration of the construction activity. For example, during building construction, a crane is listed as one of the equipment's operational pieces; however, it is highly unlikely that the crane would operate during the entire duration of assumed building construction activity given the small size of the buildings on the site and the accessibility of the site overall. Further, the use of cranes is typically limited to moving large and heavy items in hard to reach areas. Movement and placement of these types of items would be minimal due to the nature of the proposed Project construction activities. Further, Project construction would represent a “single-event” diesel fuel demand and would not require ongoing or permanent commitment of diesel fuel resources for this purpose.

Vendors and haul trucks would be involved in delivering building materials and removing the demolition debris from the Project site and construction workers would travel to and from the Project site throughout the duration of construction. The analysis assumes construction workers would travel to and from the Project site in gasoline-powered passenger vehicles. Table 4.6-2, *Estimated Project Construction Vehicle Fuel Usage*, summarizes the Project's construction vehicle fuel usage. The fuel usage is based on the vehicle type (worker vehicle, vendor vehicle, and haul truck), vehicle miles traveled, and fuel usage factors contained in the ARB EMFAC2017 mobile source emission model and the CalEEMod model to derive the average vehicle fuel economy, which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction activities.

Table 4.6-1
Estimated Construction Equipment Fuel Usage

Phase	# of Days	Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/ day	Fuel Consumption (gal diesel fuel)[1]
Demolition	20	Concrete/ Industrial Saws	1	8	81	0.73	9,461	203
	20	Crawler Tractors	3	8	212	0.43	43,757	970
	20	Rubber Tired Dozers	1	8	247	0.4	15,808	323
Site Preparation	40	Graders	1	8	187	0.41	24 534	519
	40	Rubber Tired Dozers	1	8	247	0.4	31,616	647
	40	Crawler Tractor	1	8	212	0.43	29,171	647
Grading	120	Graders	1	8	187	0.41	73,603	1,556
	120	Rubber Tired Dozers	1	8	247	0.4	94,848	1,941
	120	Crawler Tractors	1	8	212	0.43	87,514	1,940
Infrastructure	260	Crawler Tractors	2	8	212	0.43	379,226	8,409
	260	Excavators	1	8	158	0.38	124,883	2,467
	260	Rubber Tired Loader	1	8	203	0.36	152,006	2,836
Building Construction	120	Cranes	1	6	231	0.29	48,233	718
	120	Forklifts	1	6	89	0.2	12,816	245
	120	Tractors/Loaders/ Backhoes	1	8	97	0.37	25,841	619
	120	Welders	3	8	46	0.45	59,616	1,429
	120	Generator Set	1	8	84	0.74	59,674	1,430
Paving	80	Cement and Mortar Mixers	1	6	9	0.56	2,419	52
	80	Pavers	1	6	130	0.36	22,970	412
	80	Paving Equipment	1	8	132	0.38	17,024	589
	80	Tractors/Loaders/ Backhoes	1	8	97	0.37	22,970	439
	80	Rollers	1	7	80	0.38	287	408
Architectural Coating	20	Air Compressors	1	6	78	0.48	4492.8	96
Total Construction Fuel Demand								**28,896**

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Table 4.6-2
Estimated Project Construction Vehicle Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	1,269	0
Vendor Trucks	846	0
Worker Vehicles	0	3,945
Construction Vehicles Total	2,115	3,945

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Table 4.6-3, *Estimated Total Construction Fuel Usage*, summarizes the total construction fuel consumption associated with off-road construction equipment and construction vehicles (haul trucks, vendor vehicles, and work vehicles).

Table 4.6-3
Estimated Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	2,115	3,945
Off-road Construction Equipment	28,896	0
Construction Total	30,011	3,945

Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.

Construction of the Project would result in fuel consumption from construction tools and equipment, vendor and haul truck trips, and vehicle trips generated from construction workers traveling to and from the Project site. Construction activities and corresponding fuel energy consumption would be temporary and localized. The use of diesel fuel and heavy-duty equipment would not be a typical operational condition of the Project. Construction equipment used over the approximately 18-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. There are no unusual Project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. Therefore, the Project's construction-related fuel consumption would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region.

The Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Operations

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facility energy demands (energy consumed by building operations and site maintenance activities).

Table 4.6-4, *Estimated Vehicle Operations Annual Fuel Consumptions*, shows the estimated annual fuel consumption for the Project.

Table 4.6-4
Estimated Vehicle Operations Annual Fuel Consumption

Energy Source	Annual VMT	Gallons of Fuel
Transportation	702,782 353,499 (DSL) 349,283 (GAS)	 3,845,529 (DSL) 9,981,651 (GAS)
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.		

Table 4.6-5, *Project Annual Operational Energy Demand*, shows the Project's annual natural gas and electricity demands.

Table 4.6-5
Project Annual Operational Energy Demand

Energy Source[1]	Project Annual Consumption[2]
Natural Gas Consumption (Thousands British Thermal Units)	134,178
Electricity Consumption (Thousand Kilowatt-Hours)	56,209
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.	

Conclusion

Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Furthermore, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. Further, it should be noted that the operations analysis does not account for the energy demand that is currently being used by the existing on-site uses, which would partially offset the energy demand associated with the proposed Project. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The Applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by Southern California Edison and Southern California Gas Company. CalGreen Standards require that buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. Rehabilitation of a single-family residence into an office would improve energy efficiency through the modernization of systems and compliance with the most current CalGreen Standards. As demonstrated in Section 4.8, Greenhouse Gas Emissions, the proposed Project would be consistent with the applicable strategies of the City's General Plan and the latest CARB Scoping Plan. Thus, the Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservation goals within the State of California.

Mitigation Measures: No mitigation measures are required.

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4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) 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.				X
2) Strong seismic ground shaking?			X	
3) Seismic-related ground failure, including liquefaction?			X	
4) Landslides?			X	
b. Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
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?			X	
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?				X
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

This section is based in part on the *Preliminary Geotechnical Evaluation and Design Recommendations for Proposed Great Scott Tree Service* (Preliminary Geotechnical Evaluation) prepared by LGC Geotechnical, Inc., dated December 29, 2020 and included as Appendix D, Preliminary Geotechnical Evaluation and the *Phase I Cultural and Paleontological Resources Assessment* (Cultural Resources Assessment) prepared by Material Culture Consulting, dated November 2020 and included as Appendix C, Cultural Resources Studies.

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

1) 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 was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act requires the State Geologist to establish regulatory zones, known as "Alquist-Priolo Earthquake Fault Zones," around the surface traces of active faults and to issue appropriate maps. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet). According to the Preliminary Geotechnical Evaluation, the Project site is not within an Alquist-Priolo Fault Zone as defined by the State of California in the Earthquake Fault Zoning Act and no faults were identified on the Project site during the site evaluation. Therefore, the Project would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault.

Mitigation Measures: No mitigation measures are required.

2) Strong seismic ground shaking?

Less Than Significant Impact. The Project site is located in a seismically active area of southern California that has historically been affected by moderate to occasionally high levels of ground motion. As a result, it is likely the Project site has and would continue to experience ground shaking from nearby fault zones, as well as some background shaking from other seismically active areas of the southern California region. The intensity of ground shaking on the Project site would depend upon the earthquake's magnitude, distance to the epicenter, and geology of the area between the Project site and epicenter.

The Project site and surrounding area are currently developed. The Project site has been developed with two residential structures and a barn since at least 1953. The Project proposes to rehabilitate an existing single-family residence into an office, remove a second residence and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations.

The Preliminary Geotechnical Evaluation was conducted to provide a preliminary geotechnical evaluation of the Project site relative to the proposed development. The evaluation included review of available geotechnical background information; limited subsurface geotechnical evaluation consisting of the excavation of three borings ranging in depth from approximately five to 50 feet below the existing ground surface; one field infiltration test; laboratory testing of select soil samples; and a summary of preliminary findings, conclusions, and recommendations for the development of the proposed Project. The evaluation

determined the proposed development would be feasible from a geotechnical standpoint provided recommendations in the Preliminary Geotechnical Evaluation are implemented. The Preliminary Geotechnical Evaluation provides seismic, geotechnical design, and construction considerations, including specific recommendations for site earthwork, foundation design, retaining wall design and construction, and pavement design, amongst others, based on CBC seismic design standards in place at the time of the report.

The City of Lake Forest has adopted the California Building Code (Municipal Code Chapter 8.02), with amendments, which prescribes regulations for the erection, construction, enlargement, alteration, repair, improving, removal, conversion, demolition, occupancy, equipment, use, height, area and maintenance of all buildings and structures. The California Building Code (CBC) includes standards related to soils and foundations, structural design, building materials, and structural testing and inspections to minimize hazards during a seismic event. The Project would be required to comply with the applicable regulations in the CBC, which would reduce potential impacts associated with strong seismic ground shaking, as well as the Preliminary Geotechnical Evaluation prepared for the Project, which would be confirmed upon completion of grading and earthwork operations. The City of Lake Forest Building Division would review Project construction plans for compliance with the Preliminary Geotechnical Evaluation, CBC, and the Lake Forest Municipal Code. Thus, compliance with the City's established regulatory framework and standard engineering practices and design criteria, which would be verified through the City's construction plan review process, would ensure potential impacts associated with strong seismic ground shaking at the Project site would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburden pressure. Engineering research of soil liquefaction potential indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relatively shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

Review of the State of California Seismic Hazard Zone for liquefaction potential conducted as part of the Preliminary Geotechnical Evaluation, identified the Project site as located within a liquefaction hazard zone. On-site field investigations encountered groundwater at a depth of 15 feet below existing grade and identified a historic high groundwater depth of 10 feet below existing grade. The liquefaction evaluation was performed using data from the on-site boring and based on the seismic criteria of the 2016 CBC and historic high groundwater depth. Results indicate total seismic settlement on the order of 2-inches or less. Differential seismic settlement is estimated at 1-inch over a horizontal span of 40 feet. The recommendations within the Preliminary Geotechnical Evaluation would provide protection for the proposed development to the extent required to reduce seismic risk to an acceptable level as defined by the California Code of Regulations. The Project would be required to comply with the applicable regulations in the CBC, which would reduce potential impacts associated with liquefaction and differential seismic settlement, as well as the Preliminary Geotechnical Evaluation prepared for the Project. The City of Lake Forest Building Division would review Project construction plans for compliance with the Preliminary Geotechnical Evaluation, CBC, and the Lake Forest Municipal Code. Thus, compliance with the

City's established regulatory framework and standard engineering practices and design criteria, which would be verified through the City's construction plan review process would ensure potential impacts associated with liquefaction and dynamic settlement at the Project site would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

4) Landslides?

Less Than Significant Impact. Landslides are mass movements of the ground that include rock falls, relatively shallow slumping and sliding of soil, and deeper rotational or transitional movement of soil or rock. Geologic hazards associated with landsliding are not anticipated, as the Project site is not located within an area identified by the California Geologic Survey as having potential for seismic slope instability. With the exception of some steeper slopes associated with Serrano Creek, the Project site and surrounding area have gently sloping topography. The Project does not propose any improvements or modifications to Serrano Creek. There are no significant hillsides or landforms capable of experiencing landslides.

Temporary excavations associated with construction activities may result in temporary slopes. The Preliminary Geotechnical Evaluation provides recommendations during construction activities, including ensuring surcharge loads (vehicular traffic, soil stockpiles, construction equipment, etc.) would be set back from the perimeter of excavations and that any excavations be backfilled as soon as practical. The City of Lake Forest Building Division would review Project construction plans for compliance with the Preliminary Geotechnical Evaluation, CBC, and the Lake Forest Municipal Code. Thus, compliance with the City's established regulatory framework and standard engineering practices and design criteria, which would be verified through the City's construction plan review process, would ensure potential impacts associated with temporary slopes within the Project site would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The Project site is currently developed with two residential structures, a barn, and structures for animal keeping. Portions of the site include spans of trees, weeds, brush, and groundcover. Grading associated with the proposed Project would involve approximately 3,500 cubic yards (CY) of cut and 5,720 CY of fill, requiring import of approximately 2,250 CY of soil to the site. Activities associated with the proposed Project could expose soils to potential short-term erosion by wind and water. The Project would be required to comply with water quality measures included in Lake Forest Municipal Code Chapter 8.30, *Grading and Excavation*, and Chapter 15.14, *Stormwater Quality Management*, which include conditions and requirements established by the City related to the reduction or elimination of storm water runoff pollutants during construction and operations of the Project. Following compliance with the established regulatory framework identified in the Lake Forest Municipal Code regarding stormwater and runoff pollution control, potential impacts associated with soil erosion and the loss of topsoil would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. Refer to Responses 4.7(a)(3) and (a)(4) regarding the potential for liquefaction and landslides, respectively. Lateral spreading is the horizontal movement or spreading of soil toward an open face. Lateral spreading may occur when soils liquefy during an earthquake event, and the liquefied soils with overlying soils move laterally to unconfined spaces. Subsidence is the sudden sinking or gradual downward settling of the earth's surface with little or no horizontal movement. Subsidence is caused by a variety of activities, which include, but are not limited to, withdrawal of groundwater, pumping of oil and gas from underground, the collapse of underground mines, liquefaction, and hydrocompaction.

Lateral Spreading. Based on the Project site's liquefaction potential, lateral spreading and consequently zones of instability (horizontal displacements) near the banks of the adjacent creek were determined to be possible during the design basis earthquake ground motion. Further evaluation and testing as part of the Preliminary Geotechnical Evaluation determined the potential for lateral spreading within the Project site to be generally low.

Subsidence. Neither current on-site operations, nor proposed operations associated with the Project would include activities known to cause subsidence, such as groundwater or oil extraction. The Preliminary Geotechnical Evaluation provides seismic, geotechnical design, and construction considerations, including specific recommendations for site earthwork, foundation design, retaining wall design and construction, and pavement design, amongst others, based on CBC seismic design standards in place at the time of the report. The recommendations within the Preliminary Geotechnical Evaluation would provide protection for the proposed development to the extent required to reduce seismic risk to an acceptable level as defined by the California Code of Regulations. The proposed Project improvements would be required to comply with the Preliminary Geotechnical Evaluation prepared for the Project and the CBC, as adopted by Lake Forest Municipal Code Chapter 8.02. The CBC includes standards related to soils and foundations, structural design, building materials, and structural testing and inspections to minimize geotechnical hazards. The City of Lake Forest Building Division would review Project construction plans for compliance with the Preliminary Geotechnical Evaluation, CBC, and the Lake Forest Municipal Code. Thus, compliance with the City's established regulatory framework and standard engineering practices and design criteria, which would be verified through the City's construction plan review process would ensure potential impacts associated with a geologic unit or soil that is unstable or would become unstable at the Project site would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). According to the General Plan EIR, the Project site is located within an area having low to moderate shrink-swell potential. Laboratory testing conducted as part of the Preliminary Geotechnical Evaluation for the Project site identified site soils as having a "Very Low" expansion potential. The evaluation notes final expansion potential of the site soils should be determined at the completion of grading and results of expansion testing at finish grades would be utilized to confirm final foundation design. The evaluation determined the proposed development would be feasible from a geotechnical standpoint provided recommendations in the Preliminary

Geotechnical Evaluation are implemented. The Preliminary Geotechnical Evaluation provides seismic, geotechnical design, and construction considerations, including specific recommendations for site earthwork, foundation design, retaining wall design and construction, and pavement design, amongst others, based on CBC seismic design standards in place at the time of the report. The proposed Project improvements would be required to comply with the Preliminary Geotechnical Evaluation and CBC, as adopted by Lake Forest Municipal Code Chapter 8.02. The CBC includes standards related to soils and foundations, structural design, building materials, and structural testing and inspections to minimize geotechnical hazards. The City of Lake Forest Building Division would review Project construction plans for compliance with the CBC and the Lake Forest Municipal Code. Thus, compliance with the City's established regulatory framework and standard engineering practices and design criteria, which would be verified through the City's construction plan review process would further minimize any potential impacts related to expansive soils at the Project site. Impacts would be less than significant impact.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. The Project site is currently served by the City's sewer system. The proposed Project would continue to be served by the existing waste water system and does not propose the use of septic tanks or alternative waste water disposal systems. No impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated. A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value.

As part of the Cultural Resources Assessment, the potential for the Project site to contain paleontological resources was assessed. The literature review included an examination of geologic maps of the Project area and a review of relevant geological and paleontological literature to determine which geologic units are present within the Project area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project area.

The geologic units underlying the Project area are mapped as Young Quaternary fan alluvium (Qyfsa) dating from the late Holocene to Pleistocene and the Capistrano Formation dating to Late Miocene to early Pliocene. Nearby geological units, include the Topanga Formation dating to the middle Miocene and the Vaqueros Formation dating to early Miocene.

Young Quaternary fan alluvium (Qyfsa) are Holocene to late Pleistocene-aged alluvial fan deposits that typically consist of river and stream derived sediments. The sediments are comprised of unconsolidated to slightly consolidated gray-hued arkosic, sandy and gravel -sand deposits. These deposits specifically are grain-size silty sand and derived as overbank deposits from waterways such as the Serrano Creek. Generally, these sediments have a low paleontological sensitivity rating.

Capistrano Formation was formed during the Late Miocene to Early Pliocene. It is part of the submarine fan complex associated with the Los Angeles Basin. The sediments consist of well-sorted, yellow-grey to light brownish-gray siltstone with interbedded lenticular white fine-grained sandstone. The Capistrano Formation is recognized internationally as the source of the second-most scientifically significant Miocene marine mammal collection and has been assigned high paleontological sensitivity level.

Vaqueros Formation is an early Miocene deposit. The sediments consist of white, coarse-grained, arkose sandstone and brown, flaggy concretionary sandstone and siltstone. It is known to be fossiliferous and contain marine fossil deposits.

Topanga Formation is a middle Miocene formation deposited in the marine basins as the mountains and island blocks of the San Gabriel, Santa Ana, and Catalina masses were quickly uplifted. The sediments consist of tan to gray conglomerate and sandy conglomerate that is well-cemented and resistant to erosion. The sediment can range from conglomerate to marine sandstone to siltstone and to shale. The Topanga Formation is known to produce abundant and diverse marine vertebrate and invertebrate fauna fossils in addition to an abundant amount of terrestrial plant fossils.

In August 2020, a locality search was conducted through the Natural History Museum of Los Angeles County (LACM). The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. The locality search at LACM did not yield any fossil localities within the Project area and no fossil localities within one mile of the Project area. A field survey of the Project site was conducted on September 17, 2020 by an Archaeologist and cross-trained Paleontologist; refer to Section 4.5, Cultural Resources, regarding site conditions during the field survey. The field survey provided information on the type of sediment present within the Project area, which informed the assessment of paleontological sensitivity. No significant paleontological resources were identified during the field survey.

The geologic units mapped within the Project area are comprised of younger Quaternary fan alluvium and exposures of the Capistrano Formation. While younger Quaternary deposits typically do not contain significant vertebrate fossils within the uppermost layers, deposits from the Capistrano Formation have a high sensitivity for containing vertebrate fossils. The closest vertebrate fossil localities from the Capistrano Formation are located approximately 0.5-mile southeast of the Project area. At an unknown depth, a seal (Pinnipedia) was produced. The next closest vertebrate fossil locality from the Capistrano Formation is located approximately 0.75-mile west of the Project area, near El Toro Road and Trabuco Road. This locality produced mammals including eared seals (Otariidae) at 22 feet below ground surface. Invertebrate fossils from the Topanga Formation were produced at an unknown depth, located approximately 1 mile west of the Project area. Another locality from the Capistrano Formation, located approximately 1-mile northwest of the Project, was produced at an unknown depth and contained dolphins (Pontoporiidae) and seal (Imagotariinae). Approximately two miles southwest of the Project area, the Capistrano Formation produced sharks (Carcharodon, Isurus), teleost fishes (Teleostei), eared seals (Otariidae) and toothed whale (Odontoceti) at an unknown depth. Additional literature was consulted, resulting in four recorded fossil localities within the area of the Project. The four localities were identified three miles east of the Project area and produced bird specimens (Chendytes milleri, Oceanodroma, and Mancallinae). Three of the localities are deposits from the Vaqueros Formation. The other locality was produced from the Topanga Formation.

As there are nearby localities from similar sedimentary deposits to those found within one mile of the Project area, the Project site is considered to have a high sensitivity for paleontological resources. Construction activities associated with the proposed Project could impact underlying paleontological resources. Mitigation Measure GEO-1 would require a Paleontological Resource Mitigation Program

(PRMP) be prepared and implemented to monitor, salvage and curate any recovered fossils should they be unearthed during ground disturbance activities. Implementation of the PRMP would require a qualified paleontological monitor be on-site to perform spot-checks and/or monitoring of any excavation in undisturbed native sediments five feet below depth and the appropriate collection and recordation of potentially significant fossils, if discovered. With implementation of Mitigation Measure GEO-1, potential impacts to a unique paleontological resource would be reduced to less than significant.

Mitigation Measures:

GEO-1 Prior to the issuance of a grading permit, a Paleontological Resource Mitigation Program (PRMP) shall be prepared and implemented to the satisfaction of the City of Lake Forest Community Development Department. The PRMP shall include, but shall not be limited to the following:

- A trained and qualified paleontological monitor shall perform spot-checks and/or monitoring of any excavations on the Project site that has the potential to impact paleontological resources in undisturbed native sediments below 5 feet in depth. The monitor shall have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from the City of Lake Forest Director of Community Development, or designee.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered shall be deposited in an accredited and permanent scientific institution for the benefit of current and future generations. A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, shall be prepared and submitted to the City of Lake Forest Community Development Department.

4.8 Greenhouse Gas Emissions

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

This section is based on the *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project* prepared by Environmental Planning Development Solutions Inc., dated January 18, 2021 and included in its entirety as Appendix A, Air Quality, Greenhouse Gas, & Energy Impact Analysis.

GREENHOUSE GASES

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs, including CO_2, CH_4, and N_2O, occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 424 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2019 (California Energy Commission, 2019). Given that the U.S. EPA estimates that worldwide emissions from

human activities totaled nearly 46 billion gross metric tons of carbon dioxide equivalents ($BMTCO_2e$) in 2010, California's incremental contribution to global GHGs is approximately 2% (U.S. EPA, 2014).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2014, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%) and the agriculture sector (8%) (California Energy Commission, 2016).

REGULATORY FRAMEWORK

U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency's (EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO2, CH4, N2O, hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF6]) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Clean Air Act and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500-38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to Assembly Bill (AB) 1493 (Pavley Bill) should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then the California Air Resources Board (CARB) should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Senate Bill 375

Senate Bill (SB) 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocations. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities' strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, is required to provide each affected region with GHG reduction targets emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets are to be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is

also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding.

Executive Order S-3-05

Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the California Environmental Protection Agency (Cal/EPA) Secretary to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary is required to submit biannual reports to the Governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with Executive Order S-3-05, the Cal/EPA Secretary created the California Climate Action Team, made up of members from various State agencies and commissions. The Climate Action Team released its first report in March 2006, which proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Title 24, Part 6

The California Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6 of the California Code of Regulations (CCR) and commonly referred to as "Title 24" were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Part 6 of Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Title 24 standards took effect on January 1, 2020.

Title 24, Part 11

The California Green Building Standards Code (CCR Title 24, Part 11), commonly referred to as CALGreen, is a Statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in five green building topical areas. The most recent update to the CALGreen Code went into effect on January 1, 2020.

Senate Bill 3

Signed into law on September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). SB 32 authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

CARB Scoping Plan

On December 11, 2008, CARB adopted its Climate Change Scoping Plan (Scoping Plan), which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted

regulations. The Scoping Plan contains the main strategies California will implement to reduce CO2eq emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions levels of 596 million MTCO2eq under a business as usual (BAU) scenario. This is a reduction of 42 million MTCO2eq, or almost ten percent, from 2002 to 2004 average emissions, and requires the reductions in the face of population and economic growth through 2020.

The Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, industrial, commercial, and residential). CARB used three-year average emissions, by sector, from 2002 to 2004 to forecast emissions to 2020. The measures described in the Scoping Plan are intended to reduce projected 2020 BAU emissions to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The 2014 Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The 2014 Scoping Plan also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The 2014 Scoping Plan did not establish or propose any specific post-2020 goals, but identified such goals adopted by other governments or recommended by various scientific and policy organizations.

In December 2017, CARB approved California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan). This update focused on implementation of a 40-percent reduction in GHGs by 2030 compared to 1990 levels. To achieve this, the 2017 Scoping Plan draws on a decade of successful programs that addresses the major sources of climate changing gases in every sector of the economy:

- More Clean Cars and Trucks: The 2017 Scoping Plan establishes far-reaching programs to incentivize the sale of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight Statewide.
- Increased Renewable Energy: California's electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The 2017 Scoping Plan guides utility providers to 50 percent renewables, as required under SB 350.
- Slashing Super-Pollutants: The 2017 Scoping Plan calls for a significant cut in super-pollutants, such as CH_4 and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- Cleaner Industry and Electricity: California's renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- Cleaner Fuels: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- Smart Community Planning: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.

- Improved Agriculture and Forests: The 2017 Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

South Coast Air Quality Management District Threshold Development

The South Coast Air Quality Management District (SCAQMD) has established recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"). SCAQMD has published a draft five-tiered draft GHG threshold which includes a 10,000-metric ton of CO2e per year for stationary/industrial sources and 3,000 metric tons of CO2e per year significance threshold for residential/commercial projects. Tier 3 is anticipated to be the primary tier by which the SCAQMD will determine significance for projects. The Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90-precent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to CEQA analysis. The 90-percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the SCAQMD's annual Emissions Reporting Program.

The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
    - All land use types: 3,000 MTCO2e per year
    - Based on land use types: residential is 3,500 MTCO2e per year; commercial is 1,400 MTCO2e per year; and mixed use is 3,000 MTCO2e per year
- Tier 4 has the following options:
    - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
    - Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans;
    - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

To determine whether the Project's GHG emissions are significant, this analysis uses the SCAQMD draft local agency tier 3 screening threshold of 3,000 MTCO2e per year for all land use types.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The proposed Project would generate GHGs during the construction and operational phases. The greenhouse gas emissions from Project construction are shown in Table 4.8-1, *Project Construction Greenhouse Gas Emissions*. As per SCAQMD guidance, the Project's construction emissions are amortized over 30 years and added to the operational emissions to quantify the Project's

total GHG emissions. The total construction emissions amortized over a period of 30 years are estimated at 23 metric tons of CO_2e per year; refer to Appendix A for annual CalEEMod output calculations.

Table 4.8-1
Project Construction Greenhouse Gas Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2021	393
2022	269
Total Emissions	689
Total Emissions Amortized Over 30 Years	23
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.	

Table 4.8-2, *Project Operational GHG Emissions,* summarizes the Project's operational GHG emissions, along with the construction GHG emissions, and the total Project GHG emissions. The Project would result in GHG emissions of 1,404 $MTCO_2e$ per year. The Project's operational emissions do not exceed the SCAQMD draft threshold of 3,000 $MTCO_2e$ per year. Therefore, the proposed Project would have a less than significant individual and cumulative impact for GHG emissions.

Table 4.8-2
Project Operational Greenhouse Gas Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Project Operational Emissions	
Area	0
Energy	21
Mobile	518
Waste	7
Water	4
Off-road (Chippers)	831
Total	**1,381**
Project Construction Emissions	23
Project Construction and Operation	**1,404**
Significance Threshold	**3,000**
Project Exceeds Threshold?	**No**
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021.	
Note: CO2 comprises over 99 percent of the indicated CO2- equivalent emissions, with the remainder consisting of methane and nitrous oxide emissions.	

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact.

California Air Resources Board Scoping Plan Consistency

The SCAQMD's tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. Additionally, in the 2040 General Plan, the City of Lake Forest established communitywide per capita GHG reduction targets, in order to meet the requirements established by the state under AB 32 and SB 32, consistent with the CARB's Scoping Plan. The Project's consistency with applicable recommended actions to reduce greenhouse gas emissions in CARB's Scoping Plan are analyzed in Table 4.8-3, *Project Consistency with CARB Scoping Plan Policies and Measures*.

Table 4.8-3
Project Consistency with CARB Scoping Plan Policies and Measures

2008 and 2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. The Project would be compliant with the current Title 24 standards.
Million Solar Roofs (MSR) Program	Consistent. The MSR program sets a goal for use of solar systems throughout the state as a whole. While the Project currently does not include solar energy generation, the building roof structure would be designed to support solar panels in the future, consistent with Title 24 requirements.
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and	Consistent. These are CARB enforced standards; vehicles

2008 and 2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
heavy duty vehicle efficiency measures.	that access the Project (that are required to comply with these standards) would comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The Project would be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the Project (that are required to comply with these measures) would comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The Project would be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Sustainable Forest	Consistent. The Project would remove dead and unhealthy trees that pose a safety issue; however, a majority of trees would be maintained and additional trees would be planted as part of the Project, increasing carbon sequestration.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The Project would comply with all applicable City ordinances and CAL Green requirements, including the use of low flow fixtures and water efficient landscaping.
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low- NO_x standard.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.

2008 and 2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions	Project Compliance with Recommended Action
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NO_x or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) would comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The Project would be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The Project would be required to comply with City programs, such as City's recycling and waste reduction program, which comply with the 75 percent reduction required by 2020 per AB 341.
Source: EPD, *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021; CARB Scoping Plan (2008 and 2017).	

The City of Lake Forest General Plan Recreation and Resources Element includes goals, policies, and actions addressing air quality and GHG emissions (Goal RR-4). Goal RR-4 Actions include specific actions relative to GHGs. Table 4.8-4, *Project Consistency with the Applicable Lake Forest General Plan Goal RR-4 Actions*, summarizes the Project's consistency with the applicable RR-4 Actions identified for the purposes of reducing GHG emissions.

Table 4.8-4
Project Consistency with the Applicable Lake Forest General Plan Goal RR-4 Actions

RR-4 Actions	Project Compliance with Recommended Action
RR-4d. Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations (CCR), Title 24 standards as well as the energy efficiency standards established by the Lake Forest Municipal Code.	Consistent. The Project would be reviewed by the City as part of the development review process and would be required to comply with the latest regulations under Title 24, CalGreen, and the City of Lake Forest.
RR-4K: Establish and adopt standards and requirements for electric vehicle parking, including minimum requirements for the installation of electric vehicle charging stations in new multi-family residential and commercial, office, and light industrial development.	Consistent. The Project would provide for an electric vehicle charging stall.
RR-4n: Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD construction emission thresholds. Where emissions from individual projects exceed SCAQMD thresholds, the following actions shall be incorporated as necessary to minimize impacts. These measures do not exclude the use of other, equally effective mitigation measures. ● Require all off-road diesel equipment greater than 50 horsepower (hp) used for this Project to meet USEPA Tier 4 final off-road emission standards or equivalent. Such equipment shall be outfitted with Best Available Control Technology (BACT) devices including a California Air Resources Board Certified Level 3 Diesel Particulate Filter (DPF) or equivalent. This DPF will reduce diesel particulate matter and NO_x emissions during construction activities. ● Require a minimum of 50 percent of construction debris be diverted for recycling. ● Require building materials to contain a minimum 10 percent recycled content. ● Require materials such as paints, primers, sealants, coatings, and glues to have a low volatile organic compound concentration compared to conventional products. If low VOC materials are not available, architectural coating phasing should be extended sufficiently to reduce the daily emissions of VOCs.	Consistent. As demonstrated in Section 4.3, Air Quality, the proposed Project would not exceed SCAQMD construction emission thresholds.
RR-4o: Future development projects implemented under the General Plan will be required to	Consistent. As demonstrated in Section 4.3, Air Quality, the proposed Project would not exceed SCAQMD

RR-4 Actions	Project Compliance with Recommended Action
demonstrate consistency with SCAQMD's operational emission thresholds. For projects where operational emissions exceed regulatory thresholds, the following measures may be used to reduce impacts. Note the following measures are not all inclusive and developers have the option to add or substitute measures that are equally or more appropriate for the scope of their project. ● Develop a project specific TDM program for residents and/or employees that provides opportunities for carpool/vanpools. ● Provide onsite solar/renewable energy in excess of regulatory requirements. ● Require that owners/tenants of non-residential or multi-family residential developments use architectural coatings that are 10 grams per liter or less when repainting/repairing properties. ● Require dripless irrigation and irrigation sensor units that prevent watering during rain storms. ● Ensure all parking areas are wired for capability of future EV charging and include EV charging stations that exceed regulatory requirements.	operational emission thresholds. It is noted that while the Project currently does not include solar energy generation, the building roof structure would be designed to support solar panels in the future, consistent with Title 24 requirements. Additionally, the Project would provide for an EV charging station.

As shown in Table 4.8-3 and Table 4.8-4, the Project would be consistent with the goals and policies of CARB's Scoping Plans and the General Plan actions specific to reducing greenhouse gas emissions. Since the Project's emissions meet the threshold for compliance with Executive Order S-3-05, the Project's emissions would also comply with the reduction goals of AB 32. Additionally, as the Project meets the current interim emissions targets/thresholds established by SCAQMD, the Project would also be on track to meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, all of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level and the Project would be required to comply with these regulations as they come into effect.

At a level of 1,404 MTCO2e per year, the Project's GHG emissions do not exceed the SCAQMD draft threshold and is incompliance with the reduction goals of the goals of the City of Lake Forest General Plan, AB-32 and SB-32. Furthermore, the Project would comply with applicable Green Building Standards and City of Lake Forest's policies regarding sustainability (as dictated by the City's General Plan). Impacts are considered to be less than significant.

2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Consistency

SCAG recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal). At the regional level, Connect SoCal is adopted for the purpose of reducing GHGs resulting from vehicular emissions by passenger vehicles and light duty trucks. In order to assess the

Project's consistency with Connect SoCal, the Project's land use assumptions are reviewed for consistency with those utilized by SCAG in its SCS. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as Connect SoCal, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. The Project site is designated Regional Park/Open Space by the Lake Forest 2040 General Plan Land Use Map. This designation applies to land that is generally maintained as natural open space with minimal improvements. The maximum intensity of development is a floor area ratio of 0.1:1. The Project proposes a General Plan Amendment (GPA) to change the General Plan land use designation for the Project site from Regional Park/Open Space to Urban Industrial 25. The Project also proposes a Zone Change to change the zoning designations for the Project site from M1 Light Industrial/PD Planned Development Overlay and A1 Agricultural to M1 Light Industrial.

Although the Project would change the General Plan land use designation for the site, the proposed Project would not result in significant population or employment growth that would exceed SCAG's growth projections. A total of approximately 47 employees would operate from the site, with four to six employees being on-site during hours of operation and the remaining employees dispatching from the site into the field. The removal of the existing office use with approximately five employees would offset the employees associated with the GSTS administrative functions that would be located within the Project site. Further, these jobs would not be new jobs, but would be existing jobs that are relocated to the Project site from within Orange County. Locating GSTS's daily tree trimming and maintenance operations within the City of Lake Forest (from the City of Stanton) would place its operations closer to a large portion of its customer base within the City and surrounding area, which would reduce the vehicles miles traveled associated with the tree trimming and maintenance vehicles, as these vehicles would be dispatched from the Project site to areas within south Orange County. The Project would not cause SCAG growth forecasts to be exceeded and would not conflict with any policies adopted for the purpose of reducing the emissions of greenhouse gases. Impacts are considered to be less than significant.

Mitigation Measures: No mitigation measures are required.

4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?				X
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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?				X
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

This section is based in part on the *Phase I Environmental Site Assessment* (Phase I ESA), prepared by Hillmann Consulting, dated September 2, 2020 and the *Limited Subsurface Investigation Report* (Subsurface Investigation), prepared by Hillmann Consulting, dated September 25, 2020 and included in their entirety as Appendix E, Hazardous Materials Documentation.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. In addition miscellaneous debris would be removed from the site. Refer to Response 4.9(b) regarding on-site conditions associated with existing structures and previous agricultural operations.

Generally, the exposure of persons to hazardous materials could occur in the following manners: 1) improper handling or use of hazardous materials or hazardous wastes during construction or operation of future development, particularly by untrained personnel; 2) an accident during transport; 3) environmentally unsound disposal methods; or 4) fire, explosion or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

Project construction activities would involve the routine transport, use, or disposal of hazardous materials, such as petroleum-based fuels or hydraulic fluid used for construction equipment with the potential of accidental release. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law.

In addition to GSTS administrative functions, vehicles and equipment associated with GSTS tree trimming and maintenance operations would be stored within the site. The Project would not involve the use or storage of hazardous substances other than limited quantities such as solvents, fertilizers, pesticides, and other materials used for regular maintenance of buildings and landscaping. The quantities of these materials would not typically be at an amount that would pose a significant hazard to the public or the environment. While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials, and the safety procedures mandated by applicable Federal, State, and local laws and regulations, which would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with implementation of the proposed Project would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact.

PHASE I ESA

A Phase I ESA was prepared to identify adverse environmental conditions, including historical recognized environmental conditions (HRECs), controlled recognized environmental conditions (CRECs), and recognized environmental conditions (RECs) that may exist at the Project site. The term recognized environmental conditions (RECs) refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. The term historical recognized environmental condition (HREC) is defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls or engineering controls). The term controlled recognized environmental condition (CREC) is defined as a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. Conditions determined to be "de minimis conditions" are not considered to be RECs, HRECs or CRECs. De minimis condition is defined "…as a condition 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."

Records Review

As part of the Phase I ESA, historical sources of information were reviewed to develop the history of the Project site and surrounding area in order to evaluate if past uses may have resulted in RECs. A regulatory agency database search report was obtained from EDR, a third-party environmental database search firm (refer to Appendix E for complete copy of the report). The Project site is not listed in any regulatory databases.

A portion of the Project site appears to have been utilized as orchards since circa 1930. This use suggests the historical application of pesticides during this time, which could have accumulated in the shallow soils at that time. There is the potential for soil contamination due to current and historic pesticide applications, this is considered to be a REC in connection with the Project site. The owner of the property reported a 500-gallon underground gasoline tank with a pump that was used as part of the agricultural purposes, which is considered to be REC to the Project site. According to the Property owner, a leak was detected in 1984 and the pump was removed under the guidance of the local environmental jurisdiction. Records for the agencies were reviewed as part of the Phase I ESA; there are no records obtained in regards to the underground storage tank. As there have been no records of the underground storage tank (UST) having been removed, it is considered to be a REC in connection with the property.

Information from the database was also reviewed to evaluate the potential for conditions on an adjacent or nearby site to pose a REC, CREC, or HREC for the Project site. There were no adjacent or nearby

properties identified as a potential REC, CREC, or HREC due to lack of reported release or violation or the location of the property in relation to the Project site.

Review of local and regional environmental records from the Division of Oil, Gas, and Geothermal Resources, County of Orange, Santa Ana Regional Water Quality Control Board, Department of Toxic Substances Control, City of Lake Forest, and Irvine Ranch Water District, among others did not identify any RECs in connection with the Project site.

Site Reconnaissance

The site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions of the property that may indicate the presence of RECs. The western portion of the Project site was not accessible due to thick and overgrown vegetation. No obvious indication of past property usage likely to have involved the use, treatment, storage, disposal or generation of hazardous substances or petroleum products was observed at the time of the site visit. Additionally, no visual observations indicative of a potential environmental concern was noted on the adjoining properties. Miscellaneous lubricants were observed to be stored in containers of various size on shelves inside the garage (20795 Canada Road – Robert Cohen Landscape); no signs of leaking or staining were observed. Large amounts of pesticides were stored in a storage building and a shed, and small containers of degreaser were observed within the barn. De minimis oil staining was observed in the barn.

On-Site Structures

A cursory visual screening of the accessed portions of the building was conducted for suspect lead-based paint (LBP) and asbestos-containing materials (ACMs). The Phase I ESA noted the potential for ACM due to the age of construction. The presence or absence of LBP could not be confirmed due to the cursory nature of the screening.

Phase I ESA Findings and Recommendations

The Phase I ESA identified two RECs associated with the Project site: the use of a former UST at the property and the historical use of the property as a citrus and avocado grove. No other RECs or any HRECs or CRECs were identified. The Phase I ESA recommended a limited Phase II subsurface investigation be conducted to determine whether elevated pesticide compounds are present due to the history of agricultural/orchard use. Additionally, soil sampling is recommended to determine whether the owner-reported gasoline UST has adversely impacted the property and to evaluate the extent of residual impact. In addition, due to the residual impact in shallow soil and groundwater, a subsurface soil vapor survey is recommended prior to any planned redevelopment of the property.

It is noted that the Phase I ESA identified a septic system cleanout at the north side of the Project site, as well as the presence of new sewer lines. The Phase I ESA recommends the septic system be removed and capped under current regulations; however, this is not considered a REC. The above ground storage tank in the barn is not considered a REC, but should be properly removed and disposed of at an authorized off-site location. Similarly, the various pails containing grout and flooring construction material and five-gallon containers and pails of oil and small container of paint observed in the covered storage yard and garage should be properly disposed.

LIMITED SUBSURFACE INVESTIGATION

Based on issues identified during the Phase I ESA, a limited subsurface investigation was performed to determine if an existing UST or former UST excavation was present and to identify potential contamination from the possible UST system and from past pesticide use and storage at the Project site.

In order to determine if an existing UST or former UST excavation was present, a geophysical study was conducted. Results indicated no evidence of a UST, but a small anomaly was detected just south of the paved driveway, and upon physical investigation of the area, this appeared to be the former dispenser. In addition, the survey detected a septic system along the east side of the existing residence.

Three soil borings were installed to total depths ranging from six to 10 feet below grade in targeted locations near the possible former UST area and adjacent to the existing septic system. Four near surface soil samples were also obtained at 0.5 feet below grade near the pesticide shed and in areas of likely application; refer to Appendix E for detailed location information. Each boring drilled within the former UST area was completed as a soil gas sampling probe with sampling tips installed at maximum depth.

Results from soil sampling indicated none of the samples selected for analysis had detectable concentrations of petroleum hydrocarbons. The results from near surface soil sampling indicated low concentrations of DDE and chlordane detected in one sample, and low concentrations of arsenic and/or lead were detected in each sample. No mercury was detected in any of the soil samples. The detected concentrations were compared to the Regional Screening Levels (RSLs) for soil which are based on human health risk factors for residential and commercial settings and are commonly used as screening tools. Results indicated none of the concentrations exceeds current residential or commercial screening levels.

Results from soil gas sampling indicated one sample had detectable concentrations of chloroform. No other volatile organic compound (VOC) was detected in any of the samples. There is no known or suspected source of chloroform at the site. The detected concentrations were compared to the RSLs for soil gas. The screening criteria uses defined indoor air concentrations based on human health risk factors that are modified using attenuation factors provided by Environmental Protection Agency (EPA) and Department of Toxic Substances Control (DTSC). DTSC policy on which attenuation factor to use is currently under review; however, the current accepted screening level for commercial applications for chloroform is 0.53 ug/L. The more stringent screening levels (if applied) would be 0.018 ug/L. Results indicated the detected concentration does not exceed the current commercial screening level (although it would exceed the proposed commercial level if applied). Thus, a significant release in the vicinity of the UST area was not identified during the assessment.

Limited Subsurface Investigation Findings and Recommendations

One of the parcels reportedly had a gasoline UST system; however, no records were identified indicating a UST had ever been used at the Project site and the results of a geophysical survey indicated only a small anomaly. A portion of the Project site had been used for pesticide storage and application as part of a limited agricultural application. The results from soil sampling indicated no detectable concentrations of petroleum hydrocarbons. Results from soil gas sampling indicated low levels of chloroform, a chemical with no known or suspected use at the Project site. The detected chloroform concentration does not exceed current commercial screening levels. The results from pesticide sampling indicated none of the samples had concentrations of organochlorine pesticides (OCP), arsenic, lead or mercury that exceed current residential or commercial screening levels. No additional sampling is recommended based on the proposed use of the Project site. However, if the property is continued for residential use, additional testing of soil gas may be warranted.

CONCLUSION

Based on the results of the site investigations described above, the Project would not create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the release of hazard materials into the environment associated with previous on-site activities.

Given the age of the existing buildings on the Project site, the presence of lead-based paint (LBP) and asbestos-containing materials (ACMs) is considered likely. As a result, construction workers and the public could be exposed. Further, the potential exists that construction activities may release potential contaminants that may be present in building materials (e.g., mold, lead, etc.). Federal and State regulations govern the renovation and demolition of structures where ACMs and LBPs are present. All demolition that could result in the release of ACM or LBPs would be required to be conducted according to Federal and State standards, including but not limited to, California *Health and Safety Code* Sections 17920.10 and 105256. The National Emission Standards for Hazardous Air Pollutants mandates that building owners conduct an asbestos survey to determine the presence of ACMs prior to the commencement of any remedial work, including demolition. If ACM material is found, abatement of asbestos would be required prior to any demolition activities. If paint is separated from building materials (chemically or physically) during demolition of structures, the paint waste would be required to be evaluated independently from the building material by a qualified Environmental Professional. If LBP is found, abatement would be required to be completed by a qualified Lead Specialist prior to any demolition activities. Compliance with established regulatory framework would reduce potential impacts to less than significant.

Mitigation Measures: No mitigation measures are required.

c) 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 . The closest school to the Project site is Bella Montessori, located at the southwest corner of Dimension Drive and Prism Place, just to the north of the eastern portion of the Project site. As discussed in Responses 4.9(a) and 4.9(b), Project construction activities would involve the routine transport, use, or disposal of hazardous materials, such as petroleum-based fuels or hydraulic fluid used for construction equipment with the potential of accidental release. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law. Removal of on-site structures with the potential to contain ACMs or LBPs would be required to comply with Federal and State standards, including but not limited to, California *Health and Safety Code* Sections 17920.10 and 105256, which would ensure proper handling and disposal of the materials, if present. Impacts would be reduced to a less than significant level.

In addition to GSTS administrative functions, vehicles and equipment associated with GSTS tree trimming and maintenance operations would be stored within the site. The Project would not involve the use or storage of hazardous substances other than limited quantities such as solvents, fertilizers, pesticides, and other materials used for regular maintenance of buildings and landscaping. The quantities of these materials would not typically be at an amount that would emit hazardous emissions or pose a significant hazard to the public or the environment. While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous

materials, and the safety procedures mandated by applicable Federal, State, and local laws and regulations, which would ensure that risks associated with these materials would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. Government Code Section 65962.5, commonly referred to as the "Cortese List", requires the DTSC and the State Water Resources Control Board (SWRCB) to compile and update a regulatory sites list (pursuant to the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Health and Safety Code Section 116395. Government Code Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations, to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste. As documented within the Phase I ESA, the Project site is not included on any of the data resources identified as meeting the Cortese List requirements. Therefore, the Project site has not been included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Mitigation Measures: No mitigation measures are required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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 in not located within an airport land use plan, nor is the Project site located within two miles of a public airport or public use airport. The closest airport to the Project site is John Wayne Airport, located approximately 11 miles to the west of the site. Thus, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area.

Mitigation Measures: No mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. According to the General Plan, the City is a member of the Orange County Operation Area and the Orange County Emergency Management Organization. Both of these entities provide mutual aid to communities via the Orange County Sheriff's Department, Orange County Fire Authority and the State of California Office of Emergency Services. The General Plan ensures that the City's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency.

Within the Project area, Lake Forest Drive and Bake Parkway provide access to Dimension Drive. Dimension Drive can also be accessed from Bake Parkway via Commercentre Drive. Local access to the Project site (Linear Lane) is provided primarily from Dimension Drive, although the western portion of the Project site can be accessed from a private driveway along Canada Road. Construction vehicles and equipment would be staged within the Project site. Construction activities are not anticipated to result in

significant traffic or queuing along Linear Lane, Dimension Drive, or other roadways within the area that could potentially impede emergency vehicles or impair any emergency evacuation plan.

The Project does not propose any construction activities or improvements within the adjacent roadways; however, a new driveway would be constructed from Linear Lane within the eastern portion of the Project site. Overall, four separate gated driveways would provide access to the Project site: two entries with access directly from Linear Lane and two driveways from the existing private driveway that extends onto neighboring properties (APNs 610-301-29 and -24) from Linear Lane. This private driveway currently serves as access to the Project site via an access easement. The driveways from Linear Lane would provide access to the northern portion of the Project site via 30-foot ingress and egress driveways. The northernmost proposed driveway would provide one-way access to GSTS trucks to access the proposed concrete pad that would be utilized for wood chip drying. A one-way 32-foot-wide access driveway would be located to the east of the existing barn. A minimum 20-foot-wide fire lane would extend north/northwest from the access driveway and then west between the office and GSTS truck parking areas. The driveway would provide one-way access through the interior of the site with vehicles exiting through the existing driveway located to the west of the proposed automobile parking spaces. The gate controls would be operable by a Knox emergency override key switch allowing for emergency access by the Orange County Fire Authority (OCFA). Therefore, construction and operation of the Project would not impair implementation of or physically interfere an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. According to the General Plan and CalFire Fire Hazard Severity Zone Maps, the Project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ), nor are any of the properties within the surrounding area located within fire hazard zone. The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with GSTS tree cutting operations. As part of the Project, unhealthy and dead trees would be removed and the site would be cleared of miscellaneous debris and overgrown weeds and vegetation. The proposed use of the site for GSTS administrative functions would result in approximately four to six employees being on-site during hours of operation, which would be similar to the number of employees currently located within the site. GSTS field employees associated with tree cutting operations would dispatch from the site in the morning and return in the afternoon and would not be permanently located within the site. The Project does not propose expansion or significant modifications to the existing building that would result in an increase in the exposure of people or structures to wildland fires. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4.10 Hydrology and Water Quality

Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
Surface Water and Flooding				
a. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
b. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems?			X	
c. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
d. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
e. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
f. Cause inundation by a seiche, tsunami, or mudflow?				X
g. Deposit sediment and debris materials within existing channels obstructing flows?			X	
h. Exceed the capacity of a channel and cause overflow during design storm conditions.			X	
Groundwater				
i. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses			X	

or planned uses for which permits have been granted)?				
j. Adversely change the rate, direction or flow of groundwater?			X	
k. Have an impact on groundwater that is inconsistent with a groundwater management plan prepared by the water agencies with the responsibility for groundwater management?			X	
Water Quality				
l. Violate any water quality standards or waste discharge requirements?			X	
m. Cause a significant alteration of receiving water quality during or following construction?			X	
n. Substantially degrade groundwater quality?			X	
o. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
p. Create or contribute runoff water which would generate substantial additional sources of polluted runoff?			X	
q. Substantially degrade water quality by discharge which affects the beneficial uses (i.e, swimming, fishing, etc.) of the receiving or downstream waters?			X	
r. Increase in any pollutant for which the receiving water body is already impaired as listed on the Clean Water Act Section 303(d) list.			X	

This section is based in part on the *Preliminary Drainage Report in Support of Great Scott Tree Service Improvements* (Preliminary Drainage Report), prepared by Huitt-Zollars, dated June 17, 2021 and the *Lake Forest County of Orange/Santa Ana Region Priority Project Water Quality Management Plan, Great Scott Property* (Preliminary WQMP), prepared by Huitt-Zollars, dated June 17, 2021 and included in their entirety as Appendix F, Hydrology and Water Quality Studies.

SURFACE WATER AND FLOODING

a) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

b) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems?

Less Than Significant Impact.

Existing Conditions

In the existing condition, the Project site generally drains northwest and sheet flows into Serrano Creek. A small portion of the Project site is on the opposite side of Serrano Creek and sheet flows south, directly into the Creek. On-site soils are highly compacted and there are no catch basins, area drains, underground storm drain conduits, and no locations of concentrated storm water outlets into Serrano Creek. Existing site imperviousness is approximately 4.9 percent. Other than off-site flows within Serrano Creek, the Project site does not receive run-on from adjacent properties. All offsite flows are captured by inlets, which are routed under the Project site and expelled into the Creek.

Proposed Conditions

The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create an at-grade concrete pad for drying wood chips associated with tree cutting operations. Gravel would be laid over a large portion of the site to stabilize the existing native surface and allow for all-weather access and parking for vehicles.

The Project proposes to maintain existing grades and drainage patterns across the site and would not result in increases of flow rate, volume, and time of concentration for stormwater leaving the site during the 2-year, 25-year, and 100-year storm event; refer to Appendix F for detailed flow calculations. In the proposed condition, all offsite flows would continue to be captured by inlets which then outlet into Serrano Creek. The addition of parking stalls for the proposed office use and concrete pad for drying of wood chips would increase the imperviousness of the Project site. As part of the Project, vegetated bioswale systems would be constructed to treat the design capture volume (DCV), provide mitigation for the hydrologic conditions of concern (HCOC) and 2-year storm event, and mitigate the 100-year discharge.

Due to erosion issues along Serrano Creek future developments have been requested to reduce the site runoff into the Creek by 38 percent through detention. The proposed on-site detention basin has been designed to capture onsite peak flows and reduce the flow by the minimum 38 percent required. The proposed detention basin would reduce onsite flows for a 100-year storm event from 10.83 cubic feet per second (cfs) to 5.62 cfs, resulting in a peak flow reduction of approximately 48 percent.

A majority of the Project site runoff for all storm events would be conveyed through the storm drain pipe to the proposed detention basin before reaching Serrano Creek. Stormwater runoff would first infiltrate into the gravel layer and flow towards inlet curbs that would collect the water in a catch basin. Oil and hydrocarbon-based pollutants would be filtered through a filter sock before being directed to the bioswale for further filtration. Water would then be captured by an underdrain in the swale and then outlet to the detention basin. The detention basin would have an overflow to Serrano Creek to reduce

peak flow from the site. The existing grade would allow runoff to naturally drain to the proposed bioswale systems.

As demonstrated above, the proposed Project would maintain existing grades and drainage patterns across the site and would reduce flows from the site during the 2-year, 25-year and 100-year storm event. The amount of runoff entering Serrano Creek would not exceed that of existing conditions. Thus, the Project would not substantially alter the drainage pattern of the site or area, including through the alteration of a course of a stream, or substantially increase the rate or amount of surface runoff that would result in flooding on- or off-site. Further, the Project would not create or contribute runoff that would exceed the capacity of the stormwater drainage systems. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

c) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

d) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less Than Significant Impact. The Preliminary Drainage Report identifies the Project site as being located within FEMA flood zones AE and X. Zone AE presents a 1 percent annual chance of flooding and Zone X is defined as an area of minimal flood hazard. A Letter of Map Revision (LOMR) was filed (LOMR 17-09-1011P, effective date 7/16/18) for the segment of Serrano Creek within the Project site, which lowered the elevation of the regulatory floodway by several feet. The Creek portion of the Project site remains within Zone AE; the upper portion of the Project site, within the proposed improvement area, is in Zone X, which is outside of the 100-year flood hazard area. The Project does not propose to place housing within the site. The Project proposes to rehabilitate an existing residence into an office to accommodate GSTS administrative functions. The existing barn would be retained and used for equipment storage. No structures or expansion of existing structures are proposed within the area identified as located within Zone AE. Thus, the Project does not propose any housing or structures within a 100-year flood hazard area and impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

e) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The Project site is not located within proximity to a levee or dam. The closest water retention facilities to the Project site are the Upper Oso Reservoir and Lake Mission Viejo, which are located more than two miles from the Project site. The Project is not located in an area of potential dam inundation or levee failure, and therefore would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Mitigation Measures: No mitigation measures are required.

f) Cause inundation by a seiche, tsunami, or mudflow?

No Impact. Tsunamis are sea waves that are generated in response to large-magnitude earthquakes, which can result in coastal flooding. Seiches are the oscillation of large bodies of standing water, such as lakes, that can occur in response to ground shaking. The Project site is approximately ten miles inland of

the Pacific Ocean and there are no large bodies of standing water near the Project site. As a result, tsunamis and seiches do not pose hazards due to the Project site's inland location and lack of nearby bodies of standing water. The Project site and surrounding area have gently sloping topography; there are no significant hillsides or landforms that would result in inundation associated with mudflow.

Mitigation Measures: No mitigation measures are required.

g) Deposit sediment and debris materials within existing channels obstructing flows?

Less Than Significant Impact. Soil disturbance would temporarily occur during Project construction due to grading activities. Disturbed soils would be susceptible to increased rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff from the Project site. The Project would be subject to compliance with the requirements set forth in Lake Forest Municipal Code Chapter 8.30, *Grading and Excavation*, and Chapter 15.14, *Stormwater Quality Management*. Compliance with the Municipal Code would reduce the volume of sediment-laden runoff discharging from the site during construction activities.

As discussed in Response 4.10(a) and (b), stormwater flow from the Project site currently sheet flows across the site into Serrano Creek. Due to erosion issues along Serrano Creek, the Project would be required to reduce site runoff into the Creek by at least 38 percent through detention. The proposed on-site detention basin has been designed to capture onsite peak flows and reduce the flow by the minimum 38 percent required. The proposed detention basin would reduce onsite flows for a 100-year storm event from 10.83 cubic feet per second (cfs) to 5.62 cfs, resulting in a peak flow reduction of approximately 48 percent.

On-site stormwater quality measures would further reduce the potential for sediment and debris materials from entering Serrano Creek. Stormwater runoff from the Project site would first infiltrate into the gravel layer and flow towards inlet curbs that would collect the water in a catch basin. Oil and hydrocarbon-based pollutants would be filtered through a filter sock before being directed to the bioswale for further filtration. Water would then be captured by an underdrain in the swale and then outlet to the detention basin. The detention basin would have an overflow to Serrano Creek to reduce peak flow from the site. The existing grade would allow runoff to naturally drain to the proposed bioswale systems. Overall, the Project would reduce flows to Serrano Creek when compared to existing conditions and would improve the quality of stormflows entering the Creek through the proposed on-site bioswale and detention system. The Project would not deposit sediment and debris materials within Serrano Creek resulting in the obstruction of flows. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

h) Exceed the capacity of a channel and cause overflow during design storm conditions.

Less Than Significant Impact. As discussed in Responses 4.10(a), (b), and (g), the Project intends to maintain existing grades and drainage patterns across the site and would not result in increases of flow rate, volume, and time of concentration for stormwater leaving the site during the 2-year, 25-year, and 100-year storm event. The vegetated bioswales would be constructed along the perimeter of the Project site to intercept the onsite stormwater runoff before it reaches Serrano Creek. The underdrains of the bioswales would be connected to a proposed storm drain system that would convey site runoff underneath the Project site to a detention basin in the southwest corner of the site. The detention basin would have an underdrain that would outlet to Serrano Creek. The proposed on-site detention basin has

been designed to capture onsite peak flows and reduce the flow by the minimum 38 percent required. The proposed detention basin would reduce onsite flows for a 100-year storm event from 10.83 cubic feet per second (cfs) to 5.62 cfs, resulting in a peak flow reduction of approximately 48 percent. Therefore, the Project would not exceed the capacity of a channel and cause overflow during design storm conditions. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

GROUNDWATER

i) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

j) Adversely change the rate, direction or flow of groundwater?

k) Have an impact on groundwater that is inconsistent with a groundwater management plan prepared by the water agencies with the responsibility for groundwater management?

Less Than Significant Impact. Irvine Ranch Water District (IRWD) provides water to the Project site. According to IRWD's 2020 Urban Water Management Plan (UWMP), IRWD receives its water supplies from a mix of purchased imported water, surface water, groundwater and recycled water. Approximately 50 percent of IRWD's overall supply comes from local groundwater wells in the Orange County Groundwater Basin (Basin), and the Irvine and Lake Forest Sub-basins. IRWD is an operator of groundwater-producing facilities in the main portion of the Basin and the Sub-basins. The Orange County Water District (OCWD) manages the areas of the Basin that are located within the OCWD boundary. The Irvine Sub-basin is located within the OCWD boundary; however, the Lake Forest area Sub-basin is located outside of the OCWD boundary.

The Project site is currently developed with an occupied single-family residence and a second residence that was previously converted to an office use with five on-site employees. Water service is provided to the site by IRWD. The Project proposes to rehabilitate one existing single-family residence to be used as an office for GSTS administrative functions and remove the second residence (previously converted for office use). Project operations would result in four to six employees at the site during operating hours. Thus, Project operations would not significantly increase demand for water beyond existing conditions and therefore would not substantially deplete groundwater supplies used by IRWD to serve its customers.

In the existing condition, the Project site generally drains northwest and sheet flows into Serrano Creek. A small portion of the Project site is on the opposite side of Serrano Creek and sheet flows south, directly into the Creek. Borings conducted as part of the Preliminary Geotechnical Evaluation (refer to Section 4.7, Geology and Soils), encountered groundwater at a depth of approximately 15 feet below existing grade. Historic high groundwater is estimated to be approximately 10 feet below existing grade. The addition of parking stalls for the proposed office use and concrete pad for drying of wood chips would increase the imperviousness of the Project site from 26.0 percent to 57.2 percent. The Project proposes to maintain the existing grades and drainage patterns across the site, which would continue to allow for groundwater infiltration, similar to existing conditions. It is noted that the Preliminary Geotechnical Evaluation advises against intentional infiltration of stormwater due to low infiltration rate, shallow groundwater, and high liquefaction potential within the site. Therefore, as discussed in Responses 4.10(a) and (b), the Project

proposes vegetated bioswales to be constructed along the perimeter of the Project site to intercept the onsite stormwater runoff before it reaches Serrano Creek. The underdrains of the bioswales would be connected to a proposed storm drain system that would convey site runoff underneath the Project site to a detention basin in the southwest corner of the site. The detention basin would have an underdrain that would outlet to Serrano Creek. Overall, Project operations would not significantly alter existing groundwater conditions. The Project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table; adversely change the rate, direction, or flow of groundwater; or have an impact on groundwater that is inconsistent with a groundwater management plan. Impacts to groundwater would be less than significant.

Mitigation Measures: No mitigation measures are required.

WATER QUALITY

l) Violate any water quality standards or waste discharge requirements?

m) Cause a significant alteration of receiving water quality during or following construction?

p) Create or contribute runoff water which would generate substantial additional sources of polluted runoff?

q) Substantially degrade water quality by discharge which affects the beneficial uses (i.e, swimming, fishing, etc.) of the receiving or downstream waters?

r) Increase in any pollutant for which the receiving water body is already impaired as listed on the Clean Water Act Section 303(d) list.

Less Than Significant Impact. The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. The Project would not significantly increase impervious surfaces or introduce new uses to the site that would potentially increase pollutants at the site. The Project site is currently developed and within an area that is developed with commercial and industrial uses; the amount of runoff generated by the Project would be similar to existing site conditions.

Waters that are listed under Section 303(d) of the CWA are known as “impaired.” CWA Section 303(d) lists four water bodies within the City of Lake Forest: Aliso Creek, Serrano Creek, Borrego Creek (from SR 241 to Irvine Boulevard), and San Diego Creek Reach 2. The total maximum daily load (TMDL) is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved. The TMDLs for surface waters within Lake forest are described below (with estimated Total Maximum Daily Load completion date in parenthesis):

- Aliso Creek is listed as impaired from the following pollutants: benthic community effects (2025), indicator bacteria (2011), malathion (2029), nitrogen (2019), phosphorus (2019), selenium (2021), and toxicity (2019).
- Serrano Creek is listed as impaired from the following pollutants: ammonia (2021), benthic community effects (2027), indicator bacteria (2021), and toxicity (2027).

- Borrego Creek (from SR 241 to Irvine Boulevard) is listed as impaired from the following pollutants: ammonia (2021), and indicator bacteria (2021).
- San Diego Creek Reach 2 is listed as impaired from the following pollutants: benthic community effects (2027), indicator bacteria (2021), nutrients (1999), and sedimentation/siltation (1999).

Additionally, the Lower Newport Bay is impaired for chlordane, copper, DDT, indicator bacteria, nutrients, PCBs, pesticides, and sediment toxicity.

Construction

The proposed Project may result in water quality impacts during short-term construction activities. The grading and site preparation required for Project implementation would result in limited exposed soils that may be subject to wind and water erosion. The proposed Project is subject to the requirements of the County of Orange NPDES Stormwater Program. Construction activities would also be required to comply with water quality measures included in Lake Forest Municipal Code Chapter 8.30, *Grading and Excavation*, and Chapter 15.14, *Stormwater Quality Management*. These regulations would require the Project contractor to include best management practices (BMPs) to ensure that the discharge of pollutants from the site would be effectively prohibited and would not cause or contribute to an exceedance of water quality standards or alter water quality during construction. In accordance with Lake Forest Municipal Code Section 15.14.040, *Control of urban runoff from new development and significant redevelopment*, prior to the issuance of grading permits, the Department of Public Works and/or Community Development would be required to review the Project plans and impose terms, conditions and requirements of the Project in accordance with the best management practices for pollution prevention, the City's NPDES permit for discharges into and from its MS4, the Orange County Drainage Area Management Plan (DAMP), and any other conditions, requirements and water quality management plans adopted by the City. Thus, through adherence to the County of Orange NPDES Stormwater Program and City of Lake Forest Municipal Code regulations, water quality impacts associated with Project construction activities would be less than significant.

Operation

The Project site is located within the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB) and would be subject to compliance with the Phase I Municipal Separate Storm Sewer System (MS4) permit. Under the MS4 permit issued by the Santa Ana RWQCB (Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff, Order No. R8-2009-0030), co-permittees, including the City of Lake Forest, must prepare a WQMP and implement BMPs, where feasible, to capture and treat stormwater prior to discharge to their MS4 facilities. Prior to building permit issuance the Applicant would be required to submit a Final WQMP to the City for review and compliance with the County's NPDES stormwater permit. The Final WQMP would be required to specific the BMPs to be incorporated into the final Project design to address pollutants of concern associated with runoff from the Project site.

Under existing conditions, the Project site sheet flows into Serrano Creek; there are no water quality measures to provide treatment for stormwater runoff generated by the Project site. A Preliminary WQMP has been prepared for the Project to comply with the requirements of the County of Orange NPDES Stormwater Program. The Preliminary WQMP identifies pollutants of concern associated with proposed Project, including suspended-solid/sediment, nutrients, heavy metals, pathogens (bacteria/virus), pesticides, oil and grease, toxic organic compounds and trash and debris. Additionally, the Preliminary WQMP documents the various BMPs that would be implemented as part of the Project, which include

hydrologic source controls, biotreatment, treatment control, non-structural control, and structural source control BMPs to address water quality conditions associated with the proposed Project. Proposed hydrologic source control BMPs include impervious area dispersion, street trees (canopy interception), and impervious area reduction (permeable pavers site design); proposed biotreatment BMPs include vegetated swales; proposed treatment control BMPs includes grated inlet and hydrocarbon filter socks; proposed non-structural control BMPs include education, activity restrictions, common area landscape maintenance, BMP maintenance, Title 22 CCR Compliance, local industrial permit compliance, spill contingency plan, hazardous materials disclosure compliance, uniform fire code implementation, common area litter control, employee training, common area catch basin inspection, street sweeping private streets and parking lots; and structural source control BMPs include storm drain stenciling and signage, design and construction outdoor materials storage areas and trash and waste storage areas, efficient irrigation systems and landscape design, and protection of slopes and channels; refer to Appendix F for a detailed list of proposed BMPs.

The Project proposes to maintain existing grades and drainage patterns across the site. Due to erosion issues along Serrano Creek, the Project proposes an on-site detention basin to capture onsite peak flows and reduce the flows for a 100-year storm event from 10.83 cubic feet per second (cfs) to 5.62 cfs, resulting in a peak flow reduction of approximately 48 percent. On-site stormwater quality measures would further reduce the potential for sediment and debris materials from entering Serrano Creek. Stormwater runoff from the Project site would first infiltrate into the proposed gravel layer and flow towards inlet curbs that would collect the water in a catch basin. Oil and hydrocarbon-based pollutants would be filtered through a filter sock before being directed to the bioswale for further filtration. Water would then be captured by an underdrain in the swale and then outlet to the detention basin. The detention basin would have an overflow to Serrano Creek to reduce peak flow from the site. The existing grade would allow runoff to naturally drain to the proposed bioswale systems.

Implementation of the proposed on-site stormwater system and Final WQMP, including water quality operational BMPs, would reduce pollutants of concern associated with the stormwater runoff from the Project site in compliance with the County's MS4 Permit and ensure the proposed Project would not violate any water quality standards or waste discharge requirements; cause a significant alteration of receiving water quality; create or contribute runoff water which would generate substantial additional sources of polluted runoff; substantially degrade water quality by discharge which affects the beneficial uses of receiving downstream waters; or increase any pollutant for which the receiving water body is already impaired. Overall, the Project would reduce flows to Serrano Creek when compared to existing conditions and would improve the quality of stormflows entering the Creek through the proposed on-site bioswale and detention systems. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

n) Substantially* degrade *groundwater quality?

Less Than Significant Impact. As discussed in Response 4.10(k), in the existing condition, the Project site generally drains northwest and sheet flows into Serrano Creek. A small portion of the Project site is on the opposite side of Serrano Creek and sheet flows south, directly into the Creek. Borings conducted as part of the Preliminary Geotechnical Evaluation (refer to Section 4.7, Geology and Soils), encountered groundwater at a depth of approximately 15 feet below existing grade. Historic high groundwater is estimated to be approximately 10 feet below existing grade. The addition of parking stalls for the proposed office use and concrete pad for drying of wood chips would increase the imperviousness of the Project site. However, the Preliminary Geotechnical Evaluation advises against intentional infiltration of stormwater due to low infiltration rate, shallow groundwater, and high liquefaction potential within the

site. Therefore, as discussed in Responses 4.10(a) and (b), the Project proposes vegetated bioswales to be constructed along the perimeter of the Project site to intercept the onsite stormwater runoff before it reaches Serrano Creek. Stormwater runoff would first infiltrate into the gravel layer and flow towards inlet curbs that would collect the water in a catch basin. Oil and hydrocarbon-based pollutants would be filtered through a filter sock before being directed to the bioswale for further filtration. Water would then be captured by an underdrain in the swale and then outlet to the detention basin. The detention basin would have an overflow to Serrano Creek to reduce peak flow from the site. The existing grade would allow runoff to naturally drain to the proposed bioswale systems.

Implementation of the proposed on-site stormwater system and Final WQMP, including water quality operational BMPs, would reduce pollutants of concern associated with the Project site in compliance with the County's MS4 Permit. The proposed site improvements, including the placement of gravel and implementation of water quality measures would improve the overall water quality at the site, as there are no existing water quality measures to provide treatment for stormwater runoff generated by the Project site. Thus, the Project would not substantially degrade groundwater quality.

Mitigation Measures: No mitigation measures are required.

o) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. Refer to responses 4.10(a), (b), and (g). The Project proposes to maintain existing grades and drainage patterns across the site. In the improved condition, flows would be directed into vegetated bioswales located within the Project site. The bioswales would allow for water treatment before entering underground storm drain which then outlets into a proposed detention basin located at the southwest corner of the site. During peak flows the proposed detention basin would fill and discharge flow through a standpipe and underdrain system that would convey flows to Serrano Creek. Due to erosion issues along Serrano Creek future developments have been requested to reduce the site runoff into the Creek by 38 percent through detention. The proposed on-site detention basin has been designed to capture onsite peak flows and reduce onsite flows for a 100-year storm event from 10.83 cubic feet per second (cfs) to 5.62 cfs, resulting in a peak flow reduction of approximately 48 percent. Therefore, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				X
b. Substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (e.g., noise, aesthetics, etc.) that preclude use of the land as it was intended by the General Plan?			X	
c. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
d. Conflict with the Central and Coastal Natural Communities Conservation Program/Habitat Conservation Plan (NCCP/HCP) of which the City of Lake Forest is a participant?				X

a) Physically divide an established community?

No Impact. The approximately 6.72-acre Project site is comprised of three parcels (APNs 610-301-07, -20, and -21) and is currently developed with one single-family residence, one single-family residence converted to office use, a barn, multiple structures used for storage, and pens for various farm animals. Open dirt areas within the site are used for parking and storage. Serrano Creek forms the Project site's northern boundary. There are several trees and brush distributed throughout the site. The Project site is currently accessed from two driveways on Linear Lane and a driveway on Canada Road. The Project site is surrounded by a mix of industrial, open space, and commercial land uses and is not part of an established community.

The Project proposes to rehabilitate an existing single-family residence into an office, remove a second residence (previously converted for office use) and structures related to animal keeping, create parking areas for tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. The exterior of the building would remain largely unchanged. The Project would also retain the existing barn to be used for storage of equipment.

The Project proposes a General Plan Amendment (GPA) to change the General Plan land use designation for the Project site (APNs 610-301-07, -20, and -21) from Regional Park/Open Space to Urban Industrial 25 and a Zone Change to change the zoning designation for APNs 610-301-20 and -21 from A1 Agricultural to M1 Light Industrial and to change the zoning designation for APN 610-301-07 from M1 Light

Industrial/PD Planned Development Overlay to M1 Light Industrial. The proposed GPA and Zone Change and office use would be consistent with the land use and zoning of adjacent properties and would be a continuation of existing uses within the site and the surrounding area. The Project would not involve any roadways or significant infrastructure systems that would physically divide the site or separate the site from surrounding uses. Thus, no impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

b) Substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (e.g., noise, aesthetics, etc.) that preclude use of the land as it was intended by the General Plan?

Less Than Significant Impact. The Project site is comprised of three parcels (APNs 610-301-07, -20, and -21) designated as Regional Park/Open Space. The Regional Park/Open Space designation provides for public recreational uses designed to meet the active and passive recreational needs of the community and other nearby areas in the region. Two parcels (APNs 610-301-20 and -21) consisting of 1.16 acres are zoned A1 Agricultural. One parcel (APNs 610-301-07) consisting of 5.55 acres is zoned M1 Light Industrial/PD Planned Development Overlay. The M1 Light Industrial zoning district provides for the development and maintenance of light industrial uses and industry-supporting activities, and other uses that are compatible with light industrial uses. The A1 Agricultural district provides for agriculture, outdoor recreational uses, and those low-intensity uses which have a predominately open space character.

The proposed GPA (APNs 610-301-07, -20, and -21) to Urban Industrial 25 would be consistent with the land use designations for the properties within the surrounding area. Similarly, the proposed Zone Change (APNs 610-301-07, -20 and -21) to M1 Light Industrial, would be consistent with the existing underlying zoning for the majority of the Project site and the proposed use of the site for GSTS operations.

A Use Permit (UP) would also be required to allow for the proposed land use of Contractor Storage Yard in the M1 Light Industrial zone. Land Use regulations for the M1 Light Industrial zoning district are subject to the regulations in Lake Forest Municipal Code Section 9.72.090, *Non-Residential Land Use Matrix*, Column I. In accordance with Lake Forest Municipal Code Chapter 9.184, *Discretionary Permits*, a UP provides for public review of detailed final plans for a proposed use. A UP is a precise plan of development and is required to include a description of the use(s) and operating characteristics; a plot plan showing the location of all uses; supplementary exhibits, as necessary, to show other information which may be required such as building elevations, landscaping, and grading; and conditions of approval. Processing of a UP would require a public hearing.

With approval of the GPA, ZC, and UP, the proposed Project use would be consistent with the General Plan and Zoning Code, as well as surrounding land uses. As discussed throughout this Initial Study, the proposed use would not result in significant unavoidable indirect effects that would impact an existing on-site or adjacent land use precluding use of the land as it was intended by the General Plan. Thus, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

c. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. As discussed in Responses 4.11(a) and (b), the Project proposes a GPA to change the Project site's existing General Plan land use from Regional Park/Open Space to Urban Industrial 25. Upon its approval, the Project would be consistent with the land use designation for the site. The proposed Urban Industrial 25 land use designation provides for a mix of traditional light industrial and commercial uses, including uses such as warehousing, distribution, mini-warehouse, self-storage, auto uses and services, manufacturing and production of food, beverage, apparel, design, furniture, custom or small run manufacturing, and other similar uses which have historically been allowed in the City's industrial areas. Live-work units and home-based businesses are envisioned to locate in this designation. The intent of this designation is to promote creation of a vibrant mixed-use environment with employment and living opportunities located in proximity. The maximum intensity of development is a floor area ratio of 1.0:1. The potential environmental impacts associated with development of the proposed Project have been analyzed throughout this Initial Study. Within the relevant topical areas, the General Plan goals, policies, or actions for purpose of avoiding or mitigating an environmental effect and the Project's compliance have been discussed.

As discussed above, the Project site is comprised of three parcels (APNs 610-301-07, -20, and -21). The majority of the site (5.55 acres) is zoned M1 Light Industrial/PD Planned Development Overlay. However, two parcels (1.16 acres) are zoned A1 Agricultural. The Project proposes a zone change for the three parcels from A1 Agricultural and M1 Light Industrial/PD Planned Development Overlay to M1 Light Industrial. The Project's proposed use as a Contractor Storage Yard for GSTS operations is a permitted use within the M1 Light Industrial zone with approval of a Use Permit. Land Use regulations for the M1 Light Industrial zoning district are subject to the regulations in Lake Forest Municipal Code Section 9.72.090, *Non-Residential Land Use Matrix*, Column I. The proposed Project would comply with the required land use regulations. In accordance with Lake Forest Municipal Code Chapter 9.184, *Discretionary Permits*, a UP provides for public review of detailed final plans for a proposed use. A UP is a precise plan of development and is required to include a description of the use(s) and operating characteristics; a plot plan showing the location of all uses; supplementary exhibits, as necessary, to show other information which may be required such as building elevations, landscaping, and grading; and conditions of approval.

If the GPA, ZC, and UP are approved, the proposed Project would be consistent with the General Plan and Zoning for the site and the proposed Project would not 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.

Mitigation Measures: No mitigation measures are required.

d. Conflict with the Central and Coastal Natural Communities Conservation Program/Habitat Conservation Plan (NCCP/HCP) of which the City of Lake Forest is a participant?

No Impact. Refer to Response 4.4(f).

Mitigation Measures: No mitigation measures are required.

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4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X

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?

No Impact. The State Mining and Geology Board (SMGB) establishes Mineral Resources Zones (MRZs) to designate lands that contain mineral deposits. The following classifications are used by the State to define MRZs:

- *MRZ-1:* Areas where the available geologic information indicates no significant likelihood of significant mineral deposits.
- *MRZ-2a:* Areas where the available geologic information indicates that there are significant mineral deposits.
- *MRZ-2b:* Areas where the available geologic information indicates that there is a likelihood of significant mineral deposits.
- *MRZ-3a:* Areas where the available geologic information indicates that mineral deposits exist. However, the significance of the deposit is undetermined.
- *MRZ-3b:* Areas where the available geologic information indicates that mineral deposits are likely to exist. However, the significance of the deposit is undetermined.
- *MRZ-4:* Areas where there is not enough information available to determine the presence or absence of mineral deposits.

The General Plan EIR indicates approximately 62 acres of land in the eastern portion of the City was previously designated MRZ-2. The area was classified as an important MRZ for Portland cement concrete (PCC) grade aggregate by the State Department of Conservation. This resource area was previously mined for sand and gravel materials by the El Toro Materials Sand and Gravel Operation. However, the aggregate mining operation is no longer active and the area has since been developed.

The Project site is currently developed with a with one single-family residence, one single-family residence converted to office use, a barn, multiple structures used for storage, and pens for various farm animals. The Project site and surrounding area are not identified as MRZs and conversion of the existing residence into an office, as proposed, would not result in the loss of availability of a known mineral resources considered of value to the region or result in the loss of a locally-important mineral resource recovery site

delineated on a local general plan, specific plan, or other land use plan. No impact to mineral resources would occur.

Mitigation Measures: No mitigation measures are required.

4.13 Noise

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. A proposed project would normally have a significant offsite traffic noise impact if both of the following criteria are met:				
1) Project traffic will cause a noise level increase of 3dB or more on a roadway segment adjacent to a noise sensitive land use. Noise sensitive land uses include the following: residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools.			X	
2) The resulting "future with project" noise level exceeds the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan (refer to Table 3-1 in Section 3.3 Interior and Exterior Noise Standards).			X	
b. Exceed the stationary noise criteria for the City of Lake Forest as specified by the exterior noise standards set forth in the Noise Control Chapter of the Lake Forest Municipal Code?		X		
c. Generation of excessive groundborne vibration or groundborne noise levels?			X	
d. 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 two 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?				X

This section is based on the *Great Scott Tree Service Facility Noise Impact Study* (Noise Study) prepared by MD Acoustics, LLC, dated October 30, 2020 and included in its entirety as Appendix G, Noise Impact Study.

FUNDAMENTALS OF NOISE

Sound, Noise, Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by

pressure waves through a medium to a human ear. For traffic, or stationary noise, the medium of concern is air. Noise is defined as sound that is loud, unpleasant, unexpected, or unwanted.

Frequency and Hertz

A continuous sound is described by its frequency (pitch) and its amplitude (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting out at 20 Hz all the way to the high pitch of 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (µPa). One µPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or Lp) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels abbreviated dB.

Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds or equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this analysis, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 PM to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90 and L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: Refer to the description for L(n), above.

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

Traffic Noise Prediction

Noise levels associated with traffic depends on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2–3 axle) and heavy truck percentage (4 axle and greater), and sound

propagation. The greater the volume of traffic, higher speeds, and truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB.

Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity and turbulence can further impact how far sound can travel.

GROUND-BORNE VIBRATION FUNDAMENTALS

Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

- PPV – Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.
- RMS – Known as root mean squared (RMS) can be used to denote vibration amplitude.
- VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible

groundborne noise or vibration. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. This drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

EXISTING NOISE ENVIRONMENT

Stationary Sources

Stationary noise sources within the Project site and vicinity are primarily those associated with surface parking, loading/unloading activities, and mechanical equipment (e.g., heating ventilation and air condition [HVAC] equipment). The noise associated with these sources and other nearby sources may represent a single-event noise occurrence or short-term noise.

Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors near the Project site consist of multi-family residential uses to the south of the Project site, north of Canada Road.

Noise Measurements

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. Three short-term noise measurements were conducted at and around the site; refer to Exhibit E of Appendix G. The location of the measurement locations and receptors were based on the following criteria: locations expected to receive the highest noise impacts; locations that are acoustically representative and equivalent of the area of concern; human land usage; and sites clear of major obstruction and contamination. The short-term noise measurements measured the 1-hour Leq, Lmin, Lmax and other statistical data (e.g., L2, L8); refer to Table 4.13-1, *Short-Term Noise Measurement Data (dBA)*. As indicated in Table 4.13-1, ambient noise levels range between 46 and 48 dBA Leq. Maximum levels reached approximately 62 dBA at noise measurement location 2, located within the parking area of the multi-family residential development to the south of the Project site.

Table 4.13-1
Short-Term Noise Measurement Data (dBA)

Location	Start Time	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)
1	3:44 PM- 3:54PM	46.0	57.6	42.4	51.2	47.3	46.1	45.2	43.8
2	3:57 PM- 4:07 PM	47.8	61.0	40.7	58.8	48.6	46.1	43.9	41.7
3	4:15 PM- 4:25 PM	47.6	61.9	39.4	58.1	51.1	44.5	42.1	40.5
Source: MD Acoustics, LLC, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020.									
Notes: Measurements taken over a 10-minute interval.									

REGULATORY FRAMEWORK

Lake Forest General Plan

The City of Lake Forest outlines their noise regulations and standards within the Public Safety Element from the General Plan and the Noise Ordinance from the Municipal Code. Applicable policies and standards governing environmental noise in the City are set forth in the General Public Safety Element.

Public Safety Element Table PS-1 identifies the maximum allowable noise exposure standards to ensure acceptable noise levels for existing and future development and performance standards for stationary noise sources; refer to Table 4.13-2, *Land Use Compatibility for Community Noise Environment* and Table 4.13-3, *Performance Standards for Stationary Noise Sources, Including Affected Projects*.

Table 4.13-2
Land Use Compatibility for Community Noise Environment

Land Use	Outdoor Activity Areas[2,3]	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB[4]
Residential	60	45	--
Motels/Hotels	65	45	--
Mixed-Use	65	45	--
Hospitals, Nursing Homes	60	45	--
Theaters, Auditoriums	--	--	34
Churches	60	--	40
Office Buildings	65	--	45
Schools, Libraries, Museums	70	--	45
Playgrounds, Neighborhood Parks	70	--	--
Industrial	75	--	45
Golf Courses, Water Recreation	70	--	--

Source: MD Acoustics, LLC, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020.

Notes:
1. Where a proposed use is not specifically listed, the use shall comply with the standards for the most similar use as determined by the City.
2. Outdoor activity areas for residential development are considered to be the backyard patios or decks of single-family units and the common areas where people generally congregate for multi-family developments. Where common outdoor activity areas for multi-family developments comply with the outdoor noise level standard, the standard will not be applied at patios or decks of individual units provided noise-reducing measures are incorporated (e.g., orientation of patio/deck, screening of patio with masonry or other noise-attenuating material). Outdoor activity areas for non-residential developments are the common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities; not all residential developments include outdoor activity areas.
3. In areas where it is not possible to reduce exterior noise levels to achieve the outdoor activity area standard using a practical application of the best noise-reduction technology, an increase of up to 5 Ldn over the standard will be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in compliance with this table.
4. Determined for a typical worst-case hour during periods of use.

Table 4.13-3
Performance Standards for Stationary Noise Sources, Including Affected Projects

Noise Level Descriptor	Daytime 7 am to 10 pm	Nighttime 10 pm to 7 am
Hourly Leq, dBA	55	50

Source: MD Acoustics, LLC, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020.

Notes:

1. Each of the noise levels specified above should be lowered by 5 dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered to be particularly annoying and are a primary source of noise complaints.
2. No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.
3. Stationary noise sources which are typically of concern include, but are not limited to, the following:

HVAC Systems	Cooling Towers/Evaporative Condensers
Pump Stations	Lift Stations
Emergency Generators	Boilers
Steam Valves Steam	Turbines
Generators	Fans
Air Compressors	Heavy Equipment
Conveyor Systems	Transformers
Pile Drivers	Grinders
Drill Rigs	Gas or Diesel Motors
Welders	Cutting Equipment
Outdoor Speakers	Blowers

4. The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities, pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

Action PS-6d states: In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels have a substantial increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;
- When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;
- When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.

Action PS-6e states: Update the City's Noise Ordinance (Chapter 11.16) to reflect the noise standards established in this General Plan and proactively enforce the City's Noise Ordinance, including requiring the following measures for construction:

- Restrict construction activities to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted outside of these hours or on Sundays or federal holidays, without a specific exemption issued by the City.

- A Construction Noise Management Plan shall be submitted by the Applicant for construction projects, when determined necessary by the City. The Construction Noise Management Plan shall include proper posting of construction schedules, appointment of a noise disturbance coordinator, and methods for assisting in noise reduction measures.
- Noise reduction measures may include, but are not limited to, the following:
    - Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.
    - Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. This muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available. this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
    - Temporary power poles shall be used instead of generators where feasible.
    - Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.
    - The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.
    - Delivery of materials shall observe the hours of operation described above. Truck traffic should avoid residential areas to the extent possible.
- Require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.

Lake Forest Municipal Code

Operational Noise Regulations

The Project operational noise impacts are governed by the Lake Forest Municipal Code, Title 11, *Peace and Safety, Division II – Offenses Against Public Peace*, Chapter 11.16, *Noise Control*. Municipal Code Section 11.16.040, *Exterior Noise Standards*, identifies the maximum permissible exterior noise levels for residential uses shall be no greater than 55 dBA 7:00 a.m. to 10:00 p.m. and no greater than 50 dBA 10:00 p.m. to 7:00 a.m. for a period of 30 minutes. Further thresholds that are dependent on the duration of activity are described below. In order to properly assess the impact of events at an exterior residential property that occur for periods of time less than 30 minutes within a given hour, Section 11.16.040(B) provides the following noise level additions:

1. The noise standard for a cumulative period of more than 30 minutes in any hour; or
2. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
3. The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or
4. The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or
5. The noise standard plus 20 dBA for any period of time.

If the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect that ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under the fifth category shall be increased to reflect the maximum ambient noise level. Additionally, in the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by 5 dBA.

Construction Noise Regulations

Section 11.16.060 of the Noise Ordinance identifies specific activities that would be exempt from the provisions of the noise restrictions. Exempted activities include, but are not limited to, construction, repair, remodeling and grading, provided such activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or legal City of Lake Forest holiday.

Thresholds of Significance

According to the City of Lake Forest CEQA Significance Thresholds Guide:

Traffic Noise - A proposed project would normally have a significant offsite traffic noise impact if both of the following criteria are met:

- Project traffic will cause a noise level increase of 3 dB or more on a roadway segment adjacent to a noise sensitive land use. Noise sensitive land uses include the following: residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools.
- The resulting ”future with project” noise level exceeds the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan.

Stationary Noise - The Noise Ordinance sets limits on the level and duration of time a stationary noise source may impact a residential area. The determination that a project has the potential to exceed the City’s established noise limits is typically based on a noise technical report prepared by a qualified acoustical consultant. The project would normally have a significant noise impact if it would:

- Exceed the stationary source noise criteria for the City of Lake Forest as specified by the Exterior noise standards set forth in the Noise Control Chapter of the Lake Forest Municipal Code.

a) A proposed project would normally have a significant offsite traffic noise impact if both of the following criteria are met:

1) Project traffic will cause a noise level increase of 3dB or more on a roadway segment adjacent to a noise sensitive land use. Noise sensitive land uses include the following: residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools.

2) The resulting "future with project" noise level exceeds the noise standard for sensitive land uses as identified in the City of Lake Forest General Plan (refer to Table 3-1 of the City of Lake Forest CEQA Significance Thresholds Guide).

Less Than Significant Impact. The proposed Project would generate 151 average daily trips (ADT).[5] A doubling of the ADT along a roadway would be necessary to increase noise levels by approximately 3 dB. The Transportation Impact Analysis (2019) prepared for the Lake Forest General Plan EIR identifies ADTs for roadway segments within the City. The nearest roadways serving the Project site are Lake Forest Drive, Bake Parkway, and Dimension Drive. Bake Parkway, east and west of Commercentre Drive experiences 29,630 and 32,335 ADT, respectively. Lake Forest Drive west of Rancho Parkway experiences 20,894 ADT. Dimension Drive, north and south of Commercentre Drive experiences 5,963 and 12,021 ADT, respectively. The addition of 75 daily passenger trips associated with the Project would not result in a doubling of ADT along any of the identified roadways. The Project-related increase in traffic noise would not exceed 3 dBA; thus, the Project would not contribute to a substantial permanent increase in ambient noise levels in the Project vicinity. Impacts from Project-related mobile source noise would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Exceed the stationary noise criteria for the City of Lake Forest as specified by the exterior noise standards set forth in the Noise Control Chapter of the Lake Forest Municipal Code?

Less Than Significant Impact With Mitigation Incorporated.

Short-Term Construction Noise Impacts

The degree of construction noise may vary for different areas of the Project site and also vary depending on the construction activities. Noise levels associated with the construction would vary with the different phases of construction. Typical noise levels associated with construction equipment are shown in Table 4.13-4, *Typical Construction Noise Levels*.

[5] For purposes of the transportation analysis provided in Section 4.17, based on VMT guidance documents, the amount of automobile travel attributable to the Project is calculated and compared to the 110 daily vehicle trips screening threshold; truck trips are not included. However, for purposes of the mobile noise analysis, both automobile and truck trips are considered.

Table 4.13-4
Typical Construction Noise Levels

Type	Noise Levels (dBA) at 50 Feet[1]
Backhoe	80
Trucks	88
Concrete Mixers	85
2Pneumatic Tool	85
Pump	76
Saw, Electric	76
Air Compressor	81
Generator	81
Paver	89
Roller	74
Source: MD Acoustics, LLC, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020.	
Notes: 1. Referenced Noise Levels from the Environmental Protection Agency (EPA)	

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Construction would be limited to the permissible hours in accordance with the City's Municipal Code. Thus, construction impacts would be considered less than significant. However, construction noise level projections are provided for information purposes.

Typical operating cycles for the types of construction equipment associated with the Project may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels would be loudest during grading phase. A likely worst-case construction noise scenario during grading assumes the use of 1-grader, 1-dozer, 2-excavators, and 2-backhoes operating at 260 feet from the property boundary. Construction noise associated with the Project was calculated utilizing the Federal Highway Administration (FHWA) Roadway Construction Noise Model, together with several key construction parameters including: distance to the sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the Project site. Construction noise levels were calculated for each phase based on an approximately 18-month time period. Assuming a usage factor of 40 percent for each piece of equipment, unmitigated noise levels at 123 feet have the potential to reach 77 dBA Leq at the property boundary during building construction. This noise level does not take into account the attenuation afforded by intervening buildings and structures between the Project site and the closest sensitive receptor, which is located approximately 246 feet south of the Project site.

As stated, construction activities would be limited to the allowable times, as described in the City's Municipal Code. To further ensure that construction activities do not disrupt adjacent land uses, Mitigation Measure NOI-1 would be implemented to incorporate best management practices during construction activities, which includes ensuring construction equipment is equipped with appropriate noise attenuating devices that would reduce noise levels 3 to 10 dBA and that staging areas are located at a minimum distance from the nearest sensitive receptor. Thus, noise impacts associated with Project construction activities would be less than significant.

Long-Term Operational Noise Impacts

The Project proposes to rehabilitate one existing single-family residence to be used as an office, remove the second residence (previously converted for office use) and the structures related to animal keeping, create parking areas for the tree service vehicles and equipment, and create a concrete pad for drying wood chips associated with tree cutting operations. Noise associated with the proposed use would include noise within the employee parking areas and noise associated with the tree trimming and maintenance vehicles leaving and accessing the site.

Adjacent uses may be affected by Project operational noise. The worst-case stationary noise was modeled using SoundPLAN acoustical modeling software. Worst-case assumes all Project operational activities are always operational when in reality the noise would be intermittent and cycle on and off depending on usage. A total of six receptors, located around the perimeter of the Project site at the property line, were modeled (refer to Exhibit F in Appendix G) for the Project and for the Project plus ambient noise level projections.

Proposed Project only operational noise levels at adjacent uses would range between 39 dBA and 55 dBA, which would be at or below the City's daytime 55 dBA noise limit.

Table 4.13-5, Project Plus Ambient Operational Noise Levels, identifies the noise level projections associated with the proposed Project and ambient noise levels.

Table 4.13-5
Project Plus Ambient Operational Noise Levels

Receptor[1]	Existing Ambient Noise Level (dBA, Leq)[2]	Project Noise Level (dBA, Leq)[3]	Total Combined Noise Level (dBA, Leq)	Daytime (7AM -10PM) Noise Limit (dBA, Leq)	Change in Noise Level
1	46	39	47	55	1
2	46	55	56		10
3	46	45	49		3
4	46	50	51		5
5	48	50	52		4
6	48	43	49		1

Source: MD Acoustics, LLC, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020.

Note:
1. Receptors 1-6 represent the adjacent property lines.
2. Refer to Exhibit F of Appendix G for the operational noise level projections at each receptor.

As shown in Table 4.13-8, Project plus ambient noise level projections are anticipated to range between 47 to 56 dBA Leq at the measured receptors. The Project with ambient noise conditions would be below the City's 55 dBA noise limit with the exception of Receptor 2, where the projected noise would be 56 dBA. However, the Project's operational noise would not exceed the City's noise limit and the combined noise level of 56 dBA would result in a 1 dB increase, which would not result in a significant impact, as a 3 dB increase would be needed in order for the human ear to perceive a difference. The change in noise level would be characterized as "Not Perceptible" and impacts would be considered less than significant.

Mitigation Measures:

NOI-1 Prior to Grading Permit issuance, the Applicant shall demonstrate, to the satisfaction of the Lake Forest Public Works Department that the Project complies with the following:

- Construction shall occur during the permissible hours as defined in Lake Forest Municipal Code Section 11.16.060 D.
- During construction, the contactor shall ensure all construction equipment is equipped with appropriate noise attenuating devices that will reduce noise levels 3 to 10 dBA.
- The contractor shall locate equipment staging areas in order to create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the Project site during all Project construction. At all times the staging area shall be at least 123 feet from the nearest sensitive receptor.
- Idling equipment shall be turned off when not in use.
- Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

c) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Construction activities can produce vibration that may be felt by adjacent land uses. Project construction would not require the use of equipment, such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction would be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet, which is perceptible, but below any risk to architectural damage. The Caltrans Transportation and Construction Induced Vibration Guidance Manual provides general thresholds and guidelines as to the vibration damage potential from vibration impacts. Table 4.13-6, *Guideline Vibration Damage Potential Threshold Criteria*, identifies the thresholds and Table 4.13-7, *Vibration Source Levels for Construction Equipment*, identifies the approximate vibration levels for particular construction activities at a distance of 25 feet.

Table 4.13-6
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Source: Caltrans, *Transportation and Construction Vibration Guidance Manual*, Table 19, September 2013.		
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.		

Table 4.13-7
Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
Pile driver (impact	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 (upper range)	105
	0.170 (typical)	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 (in soil)	66
Slurry wall	0.017 (in rock)	75
Vibratory roller	0.21	94
Hoe ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.		

At a distance of 33 feet (distance of nearest structure from the Project site's south east boundary), a large bulldozer would yield a worst-case 0.066 PPV (in/sec), which may be perceptible for short periods of time during grading along the property line of the Project site, but is below any threshold of damage. Therefore, the potential impact from construction-related vibration is considered to be less than significant and no mitigation is required.

Mitigation Measures: No mitigation measures are required.

d) 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 two 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 Project site in not located within an airport land use plan, nor is the Project site located within two miles of a private airstrip, public airport or public use airport. Thus, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area.

Mitigation Measures: No mitigation measures are required.

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4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?			X	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

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)?

Less Than Significant Impact. The Project would not induce substantial unplanned population growth directly through new homes or indirectly through the extension of roads or other infrastructure. The Project site is within an urbanized area and served by existing roads and infrastructure. The Project site is developed with one occupied single-family residence and one single-family residence that was previously converted to an office that has five employees. The Project proposes to rehabilitate the residence into an office and remove the converted office structure. A total of approximately 47 employees would operate from the site, with four to six employees being on-site during hours of operation and the remaining employees dispatching from the site into the field. The removal of the existing office use with approximately five employees would offset the employees associated with the GSTS administrative functions that would be located within the Project site. The on-site employees associated with GSTS administrative functions would be similar to the number of employees that are currently located within the site. Thus, the Project would not induce substantial unplanned population growth to the area and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed rehabilitation of one occupied single-family residence into an office would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Mitigation Measures: No mitigation measures are required.

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4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
1) Fire protection?			X	
2) Police protection?			X	
3) Schools?			X	
4) Parks?			X	
5) Other public facilities?			X	

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:

1) Fire protection?

Less Than Significant Impact. The Orange County Fire Authority (OCFA) provides fire protection and emergency response services to the City, including the Project site. There are three fire stations within Lake Forest. Fire Station 54, located at 19811 Pauling Avenue, approximately 1.9 miles from the Project site, is the nearest fire station to the site. Fire Station 54 is staffed with three Fire Captains; three Fire Apparatus Engineers; and three Firefighters and is equipped with an urban search and rescue unit and paramedic assessment unit (PAU) Engine 54.[6]

The Project proposes to rehabilitate an existing single-family residence into an office and remove a second residence previously converted to an office with five employees. The proposed office would have four to six on-site employees during business hours, which would be similar to the number of office employees currently on site. The Project would not result in a significant increase in permanent employees at the site

[6] Orange County Fire Authority, *Operations Division 5*, https://www.ocfa.org/aboutus/departments/operationsdirectory/Division5.aspx accessed March 31, 2021.

or introduce a new use to the site that would require additional fire protection services beyond existing conditions.

Four separate gated driveways would provide access to the Project site: two entries with access directly from Linear Lane and two driveways from the existing private driveway that extends onto neighboring properties (APNs 610-301-29 and -24) from Linear lane. The driveways from Linear Lane would provide access to the northern portion of the Project site via 30-foot ingress and egress driveways. The northernmost proposed driveway would provide one-way access to the proposed concrete pad. The two additional driveways, accessed from the private driveway, would provide access to the southern portion of the Project site. A one-way 32-foot-wide access driveway would be located to the east of the existing barn. A minimum 20-foot-wide fire lane would extend north/northwest from the access driveway and then west between the office and GSTS truck parking areas. The driveway would provide one-way access through the interior of the site with vehicles exiting through the existing driveway located to the west of the proposed automobile parking spaces. The gate controls would be operable by a Knox emergency override key switch allowing for emergency access by OCFA to the site.

The proposed Project would not result in the construction of new or physically altered fire facilities. Service to the Project site by OCFA occurs under existing conditions and use of the site for GSTS's administrative operations is not anticipated to increase calls for service or alter response times or other performance objectives that would result in the need for new or substantially altered OCFA facilities. OCFA would require the Applicant to enter into a Secured Fire Protection Agreement with the OCFA. In addition, the Project would be required to comply with the California Fire Code, as amended, in accordance with Lake Forest Municipal Code Chapter 8.24, *California Fire Code*. Implementation of all Fire Code requirements would further reduce potential impacts concerning fire protection services. As part of the development review process, OCFA would review the proposed site plan to ensure the Project meets all fire safety requirements and that adequate access is provided. The Project would not require the need for new or physically altered fire station facilities in order to maintain acceptable service ratios, response times or other performance objectives and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

2) Police protection?

Less Than Significant Impact. Orange County Sheriff's Department (OCSD) provides law enforcement services to the City, including the Project site. Police Services for the City are located at 100 Civic Center Drive, approximately 1.2 miles from the Project site. OCSD staff includes five Sergeants, three Investigators, 37 Deputies, an Investigative Assistant, five Community Services Officers, and a Crime Prevention Specialist.[7]

The proposed Project would not result in the construction of new or physically altered police facilities. OCSD currently provides services to the Project site under existing conditions and use of the site for GSTS's administrative operations would be similar to the existing office use that occurs within the site. The Project would not result in a significant increase in permanent employees at the site or introduce a new use to the site that would require additional police protection services beyond existing conditions. The Project is consistent with surrounding land uses and would not require the need for new or physically

[7] Orange County Sheriff's Department, *Lake Forest*, https://www.ocsheriff.gov/patrol-areas/lake-forest accessed March 31, 2021.

altered police facilities in order to maintain acceptable service ratios, response times or other performance objectives; impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

3) Schools?

Less Than Significant Impact. The Project does not propose the development of residential uses; therefore, the Project would not directly result in new students to the Saddleback Valley Unified School District (SVUSD). Additionally, the proposed Project would not result in significant new employees to the Project site, indirectly resulting in an increase in the potential of new students to the SVUSD. The Project would not require the need for new or physically altered school facilities and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

4) Parks?

Less Than Significant Impact. According to the General Plan EIR, the City of Lake Forest maintains approximately 294 acres of public parkland. The Project would not involve a direct increase in residents to the City of Lake Forest, as the Project proposes to convert an existing single-family residence into an office with four to six on-site employees and remove a residence previously converted to an office with five employees. The proposed office use would result in a similar number of on-site employees when compared to existing conditions and would not induce population growth within the City that would potentially result in a significant increase in the use of existing parks requiring the construction or expansion of new parks or recreation facilities. Further, the Project does not propose parks or recreation facilities. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities.

Mitigation Measures: No mitigation measures are required.

5) Other public facilities?

Less Than Significant Impact. As described in Section 4.14, Population and Housing, the Project would not involve a direct increase in residents to the City of Lake Forest, as the Project proposes to convert an existing single-family residence into an office with four to six on-site employees and remove a residence previously converted to an office with five existing employees. Due to the nature of the proposed on-site uses, significant new employment opportunities would not be generated when compared to existing conditions. The proposed Project would not result in the need for new or physically altered public facilities. Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities.

Mitigation Measures: No mitigation measures are required.

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4.16 Recreation

Would the project:	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?			X	
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?			X	

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. Refer to Response to 4.15(a)(4).

Mitigation Measures: No mitigation measures are required.

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. Refer to Response to 4.15(a)(4). The development of recreational facilities, are not proposed as part of the Project. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. A proposed project would normally have a significant circulation/traffic impact if: 1) The proposed project does not meet any of the screening criteria set forth in the City of Lake Forest Transportation Analysis Guidelines?			X	
2) The proposed project exceeds the vehicle-miles of travel (VMT) thresholds of significance set forth in the City of Lake Forest Transportation Analysis Guidelines?			X	
b. Conflict with the General Plan or other applicable program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
c. Include design features or uses that may cause traffic hazards such as sharp curves, tight turning radii from streets, limited roadway visibility, short merging lanes, uneven road grades, or any other conditions determined by the City engineer to be a hazard?			X	
d. Result in inadequate emergency access?			X	

This section is based in part on the *Project Trip Generation Memorandum* (Project Trip Generation), prepared by Environmental Planning Development (EPD) Solutions, Inc., dated October 20, 2020 and included in its entirety as Appendix H, Project Trip Generation .

a) A proposed project would normally have a significant circulation/traffic impact if:

1) The proposed project does not meet any of the screening criteria set forth in the City of Lake Forest Transportation Analysis Guidelines?

2) The proposed project exceeds the vehicle-miles of travel (VMT) thresholds of significance set forth in the City of Lake Forest Transportation Analysis Guidelines?

Less Than Significant Impact. The City of Lake Forest Transportation Analysis Guidelines (July 21, 2020) provide criteria for projects that would be considered to have a less-than significant impact on VMT and therefore could be screened out from further analysis. If a project meets one of the following criteria,

then the VMT impact of the project is considered less-than significant and no further analysis of VMT would be required:

- The project serves the local community and thereby has the potential to reduce VMT.
- The project generates less than 110 daily vehicle trips[8].
- The project is located within a Transit Priority area.
- The project is located in a low VMT generating area.

The Project would not be considered a local-serving use, as defined in the guidelines. Further, the Project is also not located in either a Transit Priority Area or a low VMT generating area.

A proposed project can demonstrate that it will generate a less than significant level of VMT if the project generates fewer than 110 new daily trips per day. Trip generation estimates are to be prepared using the current version of the Institute of Transportation Engineers (ITE) Trip General Manual. Table 4.17-1, *Project Passenger Vehicle Trip Generation*, provides the proposed Project trip generation.

Table 4.17-1
Project Passenger Vehicle Trip Generation

Land use	# of employees	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Office	4	8	4	0	4	0	4	4
Sales	1	2	1	0	1	0	1	1
Maintenance	1	2	0	0	0	0	0	0
Supervisors[1]	3	12	0	3	3	3	0	3
Field Employees[2]	38	51	0	0	0	0	0	0
Total Employees	47							
Total Passenger Trips		75	5	3	8	3	5	8
Source: EPD, Great Scott Tree Service Lake Forest Facility Trip Generation Memorandum, October 20, 2020.								
Notes: 1. Supervisors arrive at the Project site, pick up a truck and depart to the job site. Therefore four total daily trips per supervisor are assumed. 2. Many field employees carpool; 1.5 persons/vehicle.								

The City's Transportation Analysis Guidelines discuss the type of VMT that should be evaluated for various types of projects. Per the guidelines, VMT is defined as "the amount and distance of automobile travel attributable to a project … the term 'automobile' refers to on-road passenger vehicles, specifically cars and light trucks." This is consistent with CEQA Guidelines Section 15064.3(a) which states, "For the purpose of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Based on both guidance documents, truck trips are not included in the VMT analysis.

[8] For purposes of the transportation analysis, based on VMT guidance documents, the amount of automobile travel attributable to the Project is calculated and compared to the 110 daily vehicle trips screening threshold; truck trips are not included. However, for purposes of the air quality analysis provided in Section 4.3 and the mobile noise analysis provided in Section 4.13, the total number of trips, including both automobile and truck trips are used.

As indicated in Table 4.17, the Project is anticipated to generate fewer than 110 daily passenger vehicle trips. In accordance with the City's Transportation Analysis Guidelines, a detailed VMT analysis is not required and the Project can be presumed to have a less than significant impact on VMT.

Mitigation Measures: No mitigation measures are required.

b) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact.

Transit Facilities

Orange County Transportation Authority (OCTA) provides public transportation services within the vicinity of the Project site. There are three bus routes that serve the Project area, as described below.[9, 10]

Community Route 177 provides local service within south Orange County. The nearest bus stop to the Project site is the Lake Forest-Dimension bus stop near the southwest corner of the Lake Forest Drive and Dimension Drive intersection. Community Route 177 provides service Monday through Saturday, generally operating from 6:00 A.M. to 7:00 P.M; however, it is noted that the typical schedule is temporarily modified due to COVID-19.

Bus Route 480 provides service between the Irvine Metrolink Station to Lake Forest via Alton Parkway, Bake Parkway, and Lake Forest Drive. The nearest bus stop to the Project site is the Dimension-Canada bus stop near the northwest corner of the Dimension Drive and Canada Road intersection. Bus Route 480 provides service Monday through Friday, generally operating from 6:00 A.M. to 9:00 P.M.

OC Express Route 206 is temporarily discontinued due to COVID-19, but normally travels on Bake Parkway and Commercentre Drive and provides service between Lake Forest and Santa Ana during weekday rush hour only. The nearest bus stop for route 206 is located at Bake Parkway and Commercentre Drive, north of the Project site.

The Project site would continue to be served by the existing transit system and no modifications to routes or the bus stops within the area would occur as a result of the proposed Project. Employees of the proposed GSTS facility may utilize existing transit services; however, their use would not conflict with a program plan, ordinance or policy addressing the circulation system specific to transit facilities. Impacts would be less than significant.

Roadway Facilities

Regional access to the Project site is provided via the Foothill Transportation Corridor (SR-241) located approximately 0.5-mile to the northeast and the Santa Ana Freeway (I-5) Freeway located approximately 3.45 miles to the southwest of the Project site. Local access to the site is primarily provided from Linear Lane via Dimension Drive. Dimension Drive is accessed from Lake Forest Drive to the southeast and Bake Parkway to the northwest. The Project does not propose any modifications to existing roadway facilities.

[9] OCTA, OCBus, February 14, 2021 Bus Book, https://www.octa.net/ebusbook/CompleteBusBook.pdf, accessed April 12, 2021.
[10] OCTA, OCBus, System Map, https://www.octa.net/ebusbook/RoutePdf/SystemMap.pdf, accessed April 12, 2021.

A new driveway would be constructed from Linear Lane, providing one-way access to GSTS trucks to access the proposed concrete pad that would be utilized for wood chip drying. There are no other properties situated north of Linear Lane and the additional driveway would not interfere with the operation of the roadway or the ability of vehicles to access properties situated south of Linear Lane. Thus, the Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including roadway facilities. Impacts would be less than significant.

Bicycle and Pedestrian Facilities

Lake Forest 2040 General Plan EIR Figure 3.14-3, Existing Bicycle/Pedestrian Facilities, identifies existing bicycle and pedestrian facilities within the City. The Serrano Creek Trail is an approximately 7.5-mile multi-use trail that abuts the northern property line of the Project site. The southern end of the Trail begins at Serrano Creek Park on Bake Parkway and Toledo Way, and extends north into Whiting Ranch Wilderness Park on Portola Parkway and Glenn Ranch Road, where it merges with another trail system within the park. Class II Bike Lanes, which are striped and stenciled lanes for one-way bicycle travel on a street or highway, are located on Lake Forest Drive, Rancho Parkway, and Bake Parkway within the Project area. There are no designated bicycle facilities on Dimension Drive or Canada Road. The Project does not propose any modifications to roadways within the area that would impact an existing or potential bicycle facility. Employees associated with the proposed GSTS facility could use existing bicycle facilities within the Project area and throughout the City.

Sidewalks are currently provided along the southern portion of Linear Lane and on Dimension Drive and Canada Road. The Project does not propose modifications to the existing sidewalks or the construction of new sidewalks. The Project would not conflict with a program, plan, ordinance, or policy addressing bicycle or pedestrian facilities and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

c) Include design features or uses that may cause traffic hazards such as sharp curves, tight turning radii from streets, limited roadway visibility, short merging lanes, uneven road grades, or any other conditions determined by the City engineer to be a hazard?

Less Than Significant Impact. Local access to the site is provided primarily from Linear Lane with a secondary access off Canada Road. Within the Project area, Dimension Drive provides access to both Canada Road and Linear Lane. Dimension Drive is accessed from Lake Forest Drive to the southeast and Bake Parkway to the northwest. The Project does not propose any construction activities or improvements to the roadways serving the Project site. A new driveway would be constructed from Linear Lane, providing one-way access to GSTS trucks to access the proposed concrete pad that would be utilized for wood chip drying. Two additional driveways, accessed from the private driveway, would provide access to the southern portion of the Project site, including the office, storage areas, and GSTS truck parking areas (the primary automobile parking area, including accessible spaces, would be directly accessed from the private driveway). A one-way 32-foot-wide access driveway would be located to the east of the existing barn. A minimum 20-foot-wide fire lane would extend north/northwest from the access driveway and then west between the office and GSTS truck parking areas. The driveway would provide one-way access through the interior of the site with vehicles exiting through the existing driveway located to the west of the proposed automobile parking spaces. The Project does not include any design features or uses that may cause traffic hazards such as sharp curves, tight turning radii from streets, limited roadway visibility, short merging lanes, uneven road grades, or any other conditions determined by the City engineer to be a hazard. The proposed driveways would be required to comply with all City and OCFD standards regarding access and sight distance requirements. Thus, compliance with the City's standard

engineering practices and design criteria, which would be verified through the City's construction plan review process would ensure potential impacts associated with design features or uses at the Project site would be reduced to a less than significant impact.

Mitigation Measures: No mitigation measures are required.

d) Result in inadequate emergency access?

Less Than Significant Impact. Within the Project area, Lake Forest Drive and Bake Parkway provide access to Dimension Drive. Dimension Drive can also be accessed from Bake Parkway via Commercentre Drive. Local access to the Project site (Linear Lane) is provided primarily from Dimension Drive, although the western portion of the Project site can be accessed from a private driveway along Canada Road. Construction vehicles and equipment would be staged within the Project site. Construction activities are not anticipated to result in significant traffic or queuing along Linear Lane, Dimension Drive, or other roadways within the area that could potentially impede emergency vehicles or result in inadequate emergency access.

The Project does not propose any construction activities or improvements within the adjacent roadways; however, as discussed above, a new driveway would be constructed from Linear Lane within the eastern portion of the Project site. Overall, four separate gated driveways would provide access to the Project site: two entries with access directly from Linear Lane and two driveways from the existing private driveway. The driveways from Linear Lane would provide access to the northern portion of the Project site via 30-foot ingress and egress driveways. The northernmost proposed driveway would provide one-way access to GSTS trucks to access the proposed concrete pad that would be utilized for wood chip drying. A one-way 32-foot-wide access driveway would be located to the east of the existing barn. A minimum 20-foot-wide fire lane would extend north/northwest from the access driveway and then west between the office and GSTS truck parking areas. The driveway would provide one-way access through the interior of the site with vehicles exiting through the existing driveway located to the west of the proposed automobile parking spaces. The gate controls would be operable by a Knox emergency override key switch allowing for emergency access by the Orange County Fire Authority (OCFA). Therefore, construction and operation of the Project would not result in inadequate emergency access and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
1) 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), or		X		
2) 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.		X		

This section is based in part on the *Phase I Cultural and Paleontological Resources Assessment* (Cultural Resources Assessment) prepared by Material Culture Consulting, dated November 2020 included as Appendix C, Cultural Resources Studies.

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:

1) 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)?

2) 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.

Less Than Significant Impact with Mitigation Incorporated. As part of the Cultural Resources Assessment, a search of the Sacred Lands File (SLF) was requested from the Native American Heritage Commission (NAHC). The NAHC responded indicating the search was negative for any previously known tribal cultural resources or sacred lands within the Project area or within a mile of the Project area. The NAHC provided a list of 18 tribes/individuals who may have knowledge of cultural resources in the Project area. Letters were sent to all 18 contacts requesting any information related to cultural resources or heritage sites within or adjacent to the Project area. Additional attempts at contact by letter, email or phone call were also made. Five tribes/contacts contacted MCC Consulting (preparer of the Cultural Resources Assessment). Three tribes expressed interest in the proposed Project. The Gabrieleno Band of Mission Indians – Kizh Nation requested the lead agency's contact information; the Gabrielino/Tongva San Gabriel Band of Mission Indians requested a Native American monitor to accompany an archaeologist and the Gabrielino Tongva Indians of California requested to be notified if any cultural resources and/or human remains are observed during construction. Two other tribes, San Luis Rey Band of Mission Indians and Soboba Band of Luiseno Indians, did not provide comments or concerns for the Project and deferred to local tribes.

As discussed in Section 4.5, Cultural Resources, the Cultural Resources Assessment determined the Project site has the potential for encountering significant cultural resources due to a positive pedestrian survey and 12 previously recorded resources within 0.5-mile of the Project site, with one resource being within the Project site.

Assembly Bill (AB) 52 requires that lead agencies evaluate a project's potential impact on "tribal cultural resources", which 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, based on substantial evidence, whether a resource qualifies as a "tribal cultural resource." AB 52 applies whenever a lead agency adopts an environmental impact report, mitigated negative declaration, or negative declaration.

AB 52 also establishes a formal consultation process for California tribes regarding tribal cultural resources. Under AB 52 the lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project". Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Senate Bill (SB) 18 requires that lead agencies, "prior to the adoption or amendment of a city or county's general plan, conduct consultations with California Native American tribes for the purpose of preserving specified places, features, and objects that are located within the city or county's jurisdiction. The bill would define the term "consultation" for purposes of those provisions. By imposing new duties on local governments with respect to consultations regarding the protection and preservation of California Native American historical, cultural, and sacred sites, the bill would impose a state-mandated local program." As the Project requests a General Plan Amendment, the Project is subject to compliance with SB 18.

In compliance with both AB 52 and SB 18, the City provided formal notification to those California Native American Tribal representatives requesting notification in accordance with AB 52 and those on the NAHC's list for Tribal Consultation under SB 18; refer to Appendix I. The consultation letters provided information regarding the proposed Project and contact information for the Project Planner. Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation.

Under SB 18, Native American tribes have 90 days to respond and request further project information and formal consultation. The 30-day and 90-day consultations were initiated on December 7, 2020.

The Gabrieleno Band of Mission Indians – Kizh Nation, requested formal consultation with the City; no other tribes responded or requested consultation. In response to the request for consultation, the City engaged with the Gabrieleno Band of Mission Indians – Kizh Nation which included telephone and email correspondence. Although no Native American tribal cultural resources are known to occur within the Project site, based on the location of the site adjacent to Serrano Creek, the Tribe's cultural affiliation with the site, the findings of the Cultural Resources Assessment, and characteristics of the surrounding area, the parties agreed to impose mitigation measures to mitigate potential impacts to previously unidentified Native American tribal cultural resources. Mitigation measures would require the retention of a qualified Native American Monitor who would be present during all construction related ground disturbances. In the event archaeological resources are unearthed, they would be evaluated by the Native American Monitor and if determined to be Native American in origin, appropriate treatment and curation of the resources would be coordinated with the Tribe and landowner. Additionally, in coordination with Mitigation Measure CUL-1 (refer to Section 4.5, Cultural Resources), mitigation would address the potential discovery of human remains, providing for coordination with the Tribe and Qualified Archaeologist. With implementation of Mitigation Measures TCR-1, TCR-2, and TCR-3, the proposed Project would not cause a substantial adverse change in the significant of a tribal cultural resource and impacts would be reduced to a less than significant level.

For potential impacts related to cultural resources, refer to Section 4.5.

Mitigation Measures:

TCR-1 The Project Applicant shall be required to retain the services of a qualified Native American Monitor(s) (Monitor) approved by the Tribal Representatives from the Gabrieleno Band of Mission Indians – Kizh Nation. The Monitor must be present during all construction related ground disturbance activities. Ground disturbance is defined as rough grading and remediation excavation activities within the Project area. The Monitor will complete monitoring logs on a daily basis. The logs will provide descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end at the earliest of when either the Project Site rough grading and remediation excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for archeological resources.

TCR-2 All archaeological resources unearthed by Project construction activities shall be evaluated by the Monitor. If the resources are Native American in origin, the Tribe shall coordinate with the landowner regarding treatment and curation of these resources. The preferred treatment will be reburial or preservation in place.

TCR-3 Refer also to Mitigation Measure CUL-1 (Section 4.3, Cultural Resources). If any human skeletal material or related funerary objects are discovered during ground disturbance, the Monitor will immediately divert work at minimum of 50 feet and place an exclusion zone around the burial. The Monitor will then notify the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the remains are Native American, the coroner will notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendent. In the case

where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. The preferred treatment will be to keep the remains in situ and protected. If that treatment is not feasible, as determined by the Applicant, the burials may be removed. The Tribe will work closely with the Qualified Archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all material. Once complete, a final report of all activities is to be submitted to the NAHC.

4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
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?			X	
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?			X	
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact.

Water

Uses within the Project site currently receive water service from Irvine Ranch Water District (IRWD). Water and wastewater services would be provided to the Project via existing facilities. A domestic water meter is located approximately 220 feet southeast of the Project site. An existing 15-foot-wide easement to IRWD allows for the servicing of the Project from the existing meter. The Project proposes to rehabilitate one occupied single-family residence to be used as an office for the GSTS administrative functions and remove a single-family residence operating as an office with five employees. At completion, the proposed office would have four to six on-site employees during regular business hours. Rehabilitation of the residence into an office would not require the relocation or construction of new or expanded IRWD water

facilities. Existing IRWD water lines located within Canada Road would remain unchanged and continue to serve the Project site. Impacts would be less than significant.

Refer to Response 4.19(b) regarding water supply.

Wastewater and Wastewater Treatment

In addition to providing water service to the Project site, IRWD provides wastewater service as well. The Project proposes to rehabilitate one occupied single-family residence to be used as an office for GSTS administrative functions and remove a second residence currently operating as an office with five employees. At completion, the proposed office would have four to six on-site employees during regular business hours. Operation of the building as an administrative office would not require the relocation or construction of new or expanded IRWD wastewater facilities. Existing IRWD wastewater lines located within Canada Road would remain unchanged and continue to serve the Project site. Impacts would be less than significant.

Refer to Response 4.19(c), regarding wastewater treatment.

Stormwater Drainage

The Project site generally drains northwest and sheet flows into Serrano Creek. A small portion of the site is on the opposite side of Serrano Creek and the sheet flows south directly into the Creek. There are no catch basins, area drains, underground storm drain conduits, and no locations of concentrated storm water outlets into Serrano Creek. The Project proposes three bioswales that would extend along a portion of the northern perimeter of the Project site, adjacent to Serrano Creek. The bioswales would provide for improved water quality and would be underlain with an underdrain. The underdrain from each bioswale would pipe flow and then discharge into a proposed detention basin, located within the southwestern portion of the Project site. The detention basin would have an overflow to Serrano Creek to reduce peak flow from the site. The proposed improvements would not result in an increase in flow rate of runoff for the 2-year, 10-year, 25-year, and 100-year storm events when compared to existing conditions; runoff to Serrano Creek would be reduced. The potential environmental effects associated with construction and operation of the Project, including the proposed on-site bioswales and detention systems are analyzed within this Initial Study and impacts have been determined to be less than significant with compliance with regulatory requirements and implementation of mitigation measures. Thus, the proposed Project would not require or result in relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

Refer to Section 4.10 regarding drainage patterns and the Project's hydrology and drainage conditions.

Electricity, Natural Gas, and Telecommunications

The City, including the Project site, is within the service area of Southern California Edison (SCE) and Southern California Gas (SoCalGas). Telecommunication services are provided by a variety of companies and are typically selected by the individual customer. Transmission lines/infrastructure for these services are provided within the Project area and currently serve the Project site and adjacent uses.

The existing uses currently receive electricity and natural gas services. The proposed rehabilitation of the single-family residence to an office would not require the relocation or construction of new or expanded electrical, natural gas or telecommunications facilities. The Project would connect to existing electrical, natural gas, and telecommunications infrastructure, and no off-site improvements are proposed. The potential environmental effects associated with the Project's energy demand are analyzed within this

Initial Study and impacts have been determined to be less than significant. Thus, the proposed Project would not require or result in relocation or construction of electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. IRWD supplies water to the Project site. In order to determine IRWD's full buildout demands, IRWD coordinates with the cities within its service area on the respective cities' general planning, which takes into consideration future growth of undeveloped areas. According to IRWD's 2020 Urban Water Management Plan (UWMP), IRWD receives its water supplies from a mix of purchased imported water, surface water, groundwater and recycled water. IRWD's supply model indicates adequate supplies exist to meet demands. IRWD's supply model indicates adequate supplies exist to meet demands. IRWD's supplies remain essentially constant between normal, single-dry, and five-year drought scenarios. The UWMP indicates that IRWD will have reserve water supplies (excess of supplies over demands) through 2040 during normal, single-dry, and multiple-dry years. The excess supplies are expected to be available for IRWD to serve as a buffer against variations in demand projections, future changes in land use, or modifications in supply availability. The UWMP water supply predictions are based in part on existing development and General Plan designations for future growth. The Project proposes to rehabilitate one occupied single-family residence to be used as an office and remove a single-family residence operating as an office with five employees. At completion, the proposed office would have four to six on-site employees during regular business hours. Rehabilitation of the residence into an office would not require significant new water supplies when compared to existing conditions, as the number of on-site employees associated with the proposed Project would be similar to the number of employees currently located within the site. Further, IRWD's UWMP indicates adequate water supplies would be available to serve future water demands during normal, dry and multiple years, which includes water demand associated with the existing site. Thus, impacts to water supplies would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. The existing residential and office uses generate wastewater requiring conveyance and treatment by IRWD. The Project proposes to rehabilitate the existing residence into an office use and remove the residence that currently operates as an office with five employees. Use of the site as an office for GSTS administrative functions would be consistent with the existing on-site office use. At completion, the proposed office would have four to six on-site employees during regular business hours. Thus, operation of the proposed Project would not result in a significant increase in the generation of wastewater requiring treatment by IRWD when compared to existing conditions. Adequate wastewater treatment would continue to be available to serve the proposed Project and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. CR&R provides solid waste and recycling collection services to the City of Lake Forest, including the Project site. Construction activities associated with the Project would generate solid waste requiring disposal. The Project would be required to comply with Lake Forest Municipal Code Chapter 16.12, *Construction and Demolition Debris Diversion*, which promotes the recycling of construction and demolition debris to meet the City's obligations under the California Integrated Waste Management Act of 1989 (AB 939) and the California Building Standards Code. Projects are required to reuse, recycle, salvage or divert a minimum percentage or amount of construction and demolition debris in accordance with the requirements of the California Building Standards Code. Compliance with the Lake Forest Municipal Code would ensure the Project's construction-related solid waste impacts would be less than significant.

The existing uses currently generate solid waste that is collected by CR&R and disposed of at local landfills serving the City. The Project site is located within Orange County Waste & Recycling (OCWR) service area. OCWR owns and operates three landfills in Orange County that accept municipal solid waste – Olinda Alpha Landfill, Frank R. Bowerman Landfill and the Prima Deshecha Landfill.[11] The landfills have a combined maximum permitted daily refuse of 23,500 tons.[12] The Project proposes conversion of a single-family residence to an office and removal of a residence currently operating as an office with five employees. Significant new employment opportunities would not be generated, as the proposed office would have four to six on-site employees during regular business hours. Thus, the Project would not significantly increase the amount of solid waste generated and disposed of at the Project site when compared to existing conditions. The Project would not 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. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

[11] County of Orange, OC Waste and Recycling, *About OC Waste & Recycling*, About OC Waste & Recycling | OC Waste & Recycling (oclandfills.com), https://www.oclandfills.com/about-us, accessed April 1,2021.

[12] County of Orange, OC Waste and Recycling, *Fact Sheets*, Fact Sheets, Active Landfills, | OC Waste & Recycling (oclandfills.com) https://www.oclandfills.com/landfills/fact-sheets, accessed April 1,2021.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
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?				X
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?				X
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?				X

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?

No Impact. According to the General Plan and CalFire Fire Hazard Severity Zone Maps, the Project site is not located in or near a state responsibility area or within a Very High Fire Hazard Severity Zone

(VHFHSZ).[13] Further, none of the properties within the surrounding area are located within a state responsibility area or within a VHFHSZ. No impact associated with wildfires would occur as a result of the proposed Project.

Mitigation Measures: No mitigation measures are required.

[13] CalFire, *Fire Hazard Severity Zone Maps*, https://osfm.fire.ca.gov/media/5889/c30_lakeforest_vhfhsz.pdf, accessed May 16, 2021.

4.21 Mandatory Findings of Significance

Would the project:	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?		X		
b. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.		X		
c. 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)?		X		
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

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?

Less Than Significant Impact With Mitigation Incorporated. As discussed throughout this Initial Study, the Project does not have the potential to substantially degrade the quality of the environmental or result in significant environmental impacts that cannot be reduced to a less than significant level with compliance with the established regulatory framework and implementation of mitigation measures.

As discussed in Section 4.4, Biological Resources, the Project would not substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten

to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Although western pond turtle has not been identified within the Project site and are anticipated to occur within the Project site, the Project would be required to implement Mitigation Measure BIO-1 to conduct pre-construction surveys to determine their presence or absence. If determined to be present, an avoidance plan would be prepared and submitted to CDFW for approval to ensure that no direct or indirect impacts to western pond turtle would occur. Additionally, the Project would be required to implement Mitigation BIO-2 in order to address the potential for nesting migratory birds within the trees proposed to be removed as part of the Project, which would reduce potential impacts to a less than significant level.

As discussed in Section 4.5, Cultural Resources, Project construction activities has the potential to encounter significant cultural resources. The Project would be required to comply with Mitigation Measure CUL-1, which requires preparation and implementation of a Cultural Resources Management Plan (CRMP). The CRMP would require archaeological monitoring during all initial ground-disturbance activities, including vegetation removal, site preparation and grading up to three feet below surface; development of an inadvertent discovery plan in the event potential cultural resources are discovered; and compliance with procedures in the inadvertent discovery of human remains. Additionally, as concluded in Section 4.18, Tribal Cultural Resources, the Project has the potential to encounter tribal cultural resources during ground disturbing activities. The Project would be required to comply with Mitigation Measures TCR-1 through TCR 3, which would require the retention of a qualified Native American Monitor who would be present during all construction related ground disturbances. In the event archaeological resources are unearthed, they would be evaluated by the Native American Monitor and if determined to be Native American in origin, appropriate treatment and curation of the resources would be coordinated with the Tribe and landowner. With implementation of identified mitigation,

The Project would not 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 with the implementation of mitigation measures. Impacts would be less than significant.

Mitigation Measures: No additional mitigation measures are required.

b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

Less Than Significant Impact With Mitigation Incorporated. As discussed throughout this Initial Study, the Project would not result in significant short-term or long-term environmental impacts that cannot be reduced to a less than significant level with compliance with the established regulatory framework and implementation of mitigation measures. Compliance with the regulatory requirements and implementation of mitigation measures would reduce the potential for short- and long-term environmental impacts that would occur with construction and operation of the proposed Project relevant to the environmental topical areas discussed within this Initial Study. Thus, the Project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.

Mitigation Measures: No additional mitigation measures are required.

c) 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)?

Less Than Significant Impact With Mitigation Incorporated. Based on the analysis contained in this Initial Study, the proposed Project would not have cumulatively considerable impacts with implementation of Project mitigation measures. Compliance with the regulatory requirements and implementation of mitigation measures at the Project-level would reduce the potential for the incremental effects that would occur with construction and operation of the proposed Project relevant to the environmental topical areas discussed within this Initial Study.

Mitigation Measures: No additional mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the proposed Project's potential impacts to human beings related to several environmental topical areas. As determined throughout this Initial Study, the proposed Project would not result in any potentially significant impacts that cannot be mitigated or reduced with compliance with the established regulatory requirements and implementation of mitigation measures by the City. The Project would not cause a substantial adverse effect on human beings, either directly or indirectly and impacts would be less than significant.

Mitigation Measures: No additional mitigation measures are required.

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5.0 REFERENCES

CalFire, Fire Hazard Severity Zones Maps, https://osfm.fire.ca.gov/media/5889/c30_lakeforest_vhfhsz.pdf accessed May 16, 2021.

California Department of Conservation, *California Important Farmland Finder*, https://maps.conservation.ca.gov/DLRP/CIFF/ accessed March 31, 2021.

City of Lake Forest, *City of Lake Forest CEQA Significance Thresholds Guide*, Published November 20, 2001, Revised July 21, 2020.

City of Lake Forest, Cit*y of Lake Forest Local Guidelines for Implementing the California Environmental Quality Act*, 2020, https://lakeforestca.gov/292/Planning-Documents.

City of Lake Forest, *Lake Forest 2040 General Plan*, Adopted June 2020, https://lakeforestca.gov/292/Planning-Documents.

City of Lake Forest, *Lake Forest 2040 General Plan Final Environmental Impact Report, SCH# 2019090102*, June 2020.

City of Lake Forest, *Lake Forest Municipal Code*, http://qcode.us/codes/lakeforest/.

County of Orange, OC Waste and Recycling, *About OC Waste & Recycling*, About OC Waste & Recycling | OC Waste & Recycling (oclandfills.com), https://www.oclandfills.com/about-us accessed April 1, 2021.

County of Orange, OC Waste and Recycling, *Fact Sheets*, Fact Sheets | OC Waste & Recycling (oclandfills.com), https://www.oclandfills.com/landfills/fact-sheets accessed April 1, 2021.

Environmental Planning Development (EPD) Solutions, Inc., *Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project*, January 18, 2021 (Appendix A).

Environmental Planning Development (EPD) Solutions, Inc., *Project Trip Generation Memorandum*, October 20, 2020 (Appendix H).

Glenn Lukos Associates, *Updated Review of Jurisdictional Limits for California Department of Fish and Wildlife and U.S. Army Corps of Engineers and Biological Resources for Serrano Creek Southern/Eastern Bank for Great Scott Landscape Facility*, April 28, 2021 (Appendix B).

Hillmann Consulting, *Limited Subsurface Investigation Report*, September 25, 2020 (Appendix E).

Hillmann Consulting, *Phase I Environmental Site Assessment*, September 2, 2020 (Appendix E).

Huitt-Zollars, *Lake Forest County of Orange/Santa Ana Region Priority Project Water Quality Management Plan*, June 17, 2021 (Appendix F).

Huitt-Zollars, *Preliminary Drainage Report in Support of Great Scott Tree Service Improvements*, June 17, 2021 (Appendix F).

Irvine Ranch Water District, *2020 Urban Water Management Plan*, June 2021, https://www.irwd.com/images/pdf/doing-business/environmental-documents/UWMP/2020_urban_water_management_plan_irwd_adopted_june2021.pdf

JM Research and Consulting, *Focused Cultural Resources Survey – Historic Resources Assessment for the Great Scott Project, Lake Forest, Orange County,* April 16, 2021 (Appendix C).

LGC Geotechnical, *Preliminary Geotechnical Evaluation and Design Recommendations for Proposed Great Scott Tree Service*, December 29, 2020 (Appendix D).

Material Culture Consulting, *Phase I Cultural and Paleontological Resources Assessment*, November 2020 (Appendix C).

MD Acoustics, *Great Scott Tree Service Facility Noise Impact Study*, October 30, 2020 (Appendix G).

Orange County Transportation Authority, OCBus, *February 14, 2021 Bus Book*, Complete Bus Book - October 11, 2020 (octa.net), www.octa.net/ebusbook/CompleteBusBook.pdf, accessed April 12, 2021.

Orange County Transportation Authority, OCBus, System Map, https://www.octa.net/ebusbook/RoutePdf/SystemMap.pdf, accessed April 12, 2021.

Orange County Fire Authority, *Operations Division 5*, https://ocfaorg/AboutUs/Departments/OperationsDirectory/Division5,aspx accessed March 31, 2021.

Orange County Sheriff's Department, Lake Forest, https://www.ocsheriff/gov/patrol-areas/lake-forest accessed March 31, 2021.

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