

City of Galt
Community Development Department



Caterina Estates Project
Initial Study/Mitigated Negative Declaration

September 2020

Prepared by



1501 Sports Drive, Suite A, Sacramento, CA 95834

TABLE OF CONTENTS

BACKGROUND.....	1
SOURCES	2
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED	4
DETERMINATION	5
BACKGROUND AND INTRODUCTION.....	6
PROJECT DESCRIPTION.....	6
ENVIRONMENTAL CHECKLIST.....	16
I. AESTHETICS.	17
II. AGRICULTURE AND FOREST RESOURCES.	19
III. AIR QUALITY.	20
IV. BIOLOGICAL RESOURCES.....	28
V. CULTURAL RESOURCES.	37
VI. ENERGY.	39
VII. GEOLOGY AND SOILS.	42
VIII. GREENHOUSE GAS EMISSIONS.	46
IX. HAZARDS AND HAZARDOUS MATERIALS.	48
X. HYDROLOGY AND WATER QUALITY.....	52
XI. LAND USE AND PLANNING.	56
XII. MINERAL RESOURCES.	57
XIII. NOISE.	58
XIV. POPULATION AND HOUSING.....	67
XV. PUBLIC SERVICES.....	68
XVI. RECREATION.	70
XVII. TRANSPORTATION.....	71
XVIII. TRIBAL CULTURAL RESOURCES.	75
XIX. UTILITIES AND SERVICE SYSTEMS.	76
XX. WILDFIRE.....	79
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.	80

APPENDICES:

- Appendix A – SMAQMD Minor Project Health Effects Screening Tool Output**
- Appendix B – Technical Biological Report**
- Appendix C – Arborist Report and Tree Inventory**
- Appendix D – Climate Action Plan Consistency Review Checklist**
- Appendix E – Phase 1 Environmental Site Assessment**
- Appendix F – Environmental Noise Assessment**

INITIAL STUDY

September 2020

BACKGROUND

1. Project Title: Caterina Estates Project
2. Lead Agency Name and Address: City of Galt
Community Development Department
495 Industrial Drive
Galt, CA 95632
3. Contact Person and Phone Number: Craig Hoffman
Interim Community Development Director
(209) 366-7230
4. Project Location: Southwest corner of Joy Drive and H Street
Galt, CA 95632
APNs: 150-0101-004, -040
5. Project Sponsor's Name and Address: Aidan Barry
TTLIC Caterina, LLC
110 Blue Ravine Road, Suite 209
Folsom, CA 95630
(916) 945-9719
6. Existing General Plan Designations: Low Density Residential (LDR)
7. Proposed General Plan Designations: Medium Density Residential (MDR)
8. Existing Zoning Designations: Low Density Single-Family Residential (R1A)
9. Proposed Zoning Designation: Medium-Density Residential (R2-PD)
10. Required Approvals from Other Public Agencies: None
11. Surrounding Land Uses and Setting:

The northeastern portion of the 12.754-acre subject property is developed with a single-family residence, while the remainder of the property consists of agricultural land, currently planted with row crops. The subject property is identified by Assessor Parcel Numbers (APNs): 150-0101-004 and -040. Surrounding existing land uses include residential development to the north, single-family residences and churches to the east, and Union Pacific Railroad (UPRR) tracks to the west. With the exception of a single-family residence located along Joy Drive, the area to the south of the subject property consists primarily of ruderal grasses. The Galt Arno Cemetery is located further to the south. The subject property is currently designated as Low Density Residential (LDR) under the City of Galt General Plan and is zoned Low-Density Single-Family Residential (R1A).

12. Project Description Summary:

The Caterina Estates Project (proposed project) would include the development of 67 single-family units and associated improvements on 12.404 acres on the subject property. The remaining 0.35-acre area within the northeast portion of the property, which contains a single-family residence, would not be altered by the project. The proposed project would require a General Plan Amendment (GPA) to change the General Plan land use designations of the 12.404-acre project site from LDR to Medium Density Residential (MDR) and a Rezone to change the site's zoning designation from R1A to Medium-Density Residential (R2-PD).

13. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1:

In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), tribal consultation letters were sent to the Wilton Rancheria and the Torres Martinez Desert Cahuilla Indian Tribe on March 19, 2020 seeking input regarding the potential for tribal cultural resources to be disturbed within the project site. The Wilton Rancheria responded on April 1, 2020 with no concerns regarding the project. The City did not receive communications from the Torres Martinez Desert Cahuilla Indian Tribe in response to requests for tribal consultation.

SOURCES

All of the technical reports and modeling results used for the project analysis are available upon request at the City of Galt Community Development Department, located at 495 Industrial Drive, Galt. Office hours are Monday through Thursday, 7:30 AM to 5:30 PM. The following documents are referenced information sources used for the purposes of this Initial Study:

1. Alameda County Superior Court. *California Building Industry Association v. Bay Area Air Quality Management District*. A135335 and A136212. Filed August 12, 2016.
2. California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures*. August 2020.
3. California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
4. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.
5. California Department of Conservation. *California Earthquake Hazards Zone Application*. Available at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed May 2020.
6. California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed May 2020.
7. California Department of Conservation. *Fault Activity of California*. 2010. Available at: <https://www.conservation.ca.gov/cgs/maps-data>. Accessed June 2020.
8. California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019, with 2010 Benchmark*. Available at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5>. Accessed June 2020.
9. California Department of Forestry and Fire Protection. *Sacramento County, Very High Fire Hazard Severity Zones in LRA*. October 2, 2007.
10. California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Sacramento County Landfill (Kiefer) (34-AA-0001)*. Available at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/34-AA-0001/>. Accessed May 2020.

11. California Department of Transportation. *California Scenic Highway Mapping System*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways. Accessed May 2020.
12. California Tree and Landscape Consulting, Inc. *Preconstruction Inventory Arborist Report: Arborist Report and Tree Inventory for Caterina Estates, 802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]*. August 20, 2020.
13. California Tree and Landscape Consulting, Inc. *Property Transition Arborist Report: Arborist Report and Tree Inventory for Caterina Estates, 802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]*. March 30, 2020
14. City of Galt. *2015 Urban Water Management Plan Update*. June 2016.
15. City of Galt. *City of Galt 2030 General Plan EIR*. April 2009.
16. City of Galt. *City of Galt General Plan Policy Document*. April 2009.
17. City of Galt. *Community Profile: City of Galt Demographic Overview*. Available at: <http://www.ci.galt.ca.us/city-departments/economic-development/community-profile>. Accessed April 2020.
18. City of Galt. *Wastewater Treatment Plant*. Available at: <http://www.ci.galt.ca.us/city-departments/public-works/utilities-division/wastewater-services/wastewater-treatment-plant>. Accessed April 2020.
19. City of Galt. *Wastewater Collection System Master Plan*. May 2010.
20. Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: <https://calepa.ca.gov/SiteCleanup/CorteseList/>. Accessed May 2020.
21. Empire Cat. *Tier 4 Emissions Technology*. Available at: <http://www.empire-cat.com/Power Systems/Emissions Solutions/Tier 4 Technology.aspx>. Accessed July 2020.
22. Federal Emergency Management Agency. *Flood Insurance Rate Map 06067C0606J*. Effective October 20, 2016.
23. Federal Highway Administration. *Roadway Construction Noise Model User's Guide*. January 2006.
24. Galt Joint Union Elementary School District. *Comments on the Notices of Intent to Adopt a Mitigated Negative Declaration for the East Galt Infill/Simmerhorn Ranch Project, Summerfield at Twin Cities Road Project, and Fairway Oaks Vesting Tentative Map and County Island Annexation Project*. June 29, 2020.
25. Live Oak Associates. *Caterina Estates, Technical Biological Report, City of Galt, Sacramento County, California*. April 17, 2020.
26. Petralogix Engineering, Inc. *Phase I Environmental Site Assessment: Caterina, Galt, California*. October 25, 2019
27. Sacramento Area Council of Governments. *2016 Total Residential VMT*. Available at: <http://www.arcgis.com/apps/webappviewer/index.html?id=43bc67ddaca444608b315dbb75381d08&extent=-13594123.3606%2C4624890.2515%2C-13416789.455%2C4747189.4968%2C102100>. Accessed July 2020.
28. Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. Available at: <https://www.sacog.org/post/adopted-2020-mtpscs>. Accessed July 2020.
29. Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*. January 31, 2020.
30. Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. May 2017.
31. Saxelby Acoustics. *Environmental Noise Assessment, Caterina Estates, City of Galt, California*. May 12, 2020.
32. South County Transit. *Welcome to South County Transit – SCT Link*. Available at: <http://www.sctlink.com/>. Accessed July 2020.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is “Less Than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial study:

- ☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. 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” 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 pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Craig Hoffman

Printed Name

Date

City of Galt

For

BACKGROUND AND INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) identifies and analyzes the potential environmental impacts of the Caterina Estates Project (proposed project). The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. Where the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures are prescribed. The mitigation measures prescribed for environmental effects described in this IS/MND would be implemented in conjunction with the project, as required by CEQA. The mitigation measures would be incorporated into the project through conditions of approval. The City would adopt findings and a Mitigation Monitoring/Reporting Program for the project in conjunction with approval of the project.

In April 2009, the City of Galt completed a comprehensive General Plan Update (GPU). An EIR was prepared for the GPU. The GPU EIR is a program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.). The Galt GPU EIR analyzed full implementation of the Galt GPU and identified measures to mitigate the significant adverse impacts associated with the General Plan.

Several technical reports were prepared for the proposed project, including a Technical Biological Report (Appendix B) prepared by Live Oak Associates, an Arborist Report and Tree Inventory prepared by California Tree and Landscape Consulting, Inc. (Appendix C), a Phase I Environmental Site Assessment (ESA) by Petralogix (Appendix E), and an Environmental Noise Assessment conducted by Saxelby Acoustics (Appendix F).

PROJECT DESCRIPTION

The following provides a description of the project site's current location and setting, as well as the proposed project components and the discretionary actions required for the project.

Project Location and Setting

The City of Galt is located within Sacramento County and is approximately 27 miles south of the City of Sacramento and 10 miles north of the City of Lodi. State Route (SR) 99 runs in a north-south direction through the City of Galt and provides regional access to the City. The subject property is located south of H Street and east of the UPRR tracks in the City of Galt (see Figure 1 and Figure 2). The subject property is identified by Assessor's Parcel Numbers (APNs) 150-0101-004 and -040. The subject property is currently designated LDR by the General Plan and zoned R1A.

It should be noted that for the purposes of this environmental analysis, the term "subject property" refers to the entire 12.754-acre parcel. The term "project site" is hereby defined as the 12.404-acre parcel that is proposed for development, while the remaining 0.35-acres located on the northeastern section of the subject property is hereby defined as the "remainder parcel," which contains an existing single-family residence and would not be altered by the project.

Currently, the project site consists primarily of agricultural land, currently planted with row crops, with scattered trees along the site's eastern and northern boundaries. Surrounding existing land uses include residential development to the north, single-family residences and churches to the east, and UPRR tracks to the west. With the exception of a single-family residence located along Joy Drive, the area to the south of the subject property consists primarily of ruderal grasses. The Galt Arno Cemetery is located further to the south.

Figure 1
Regional Project Location

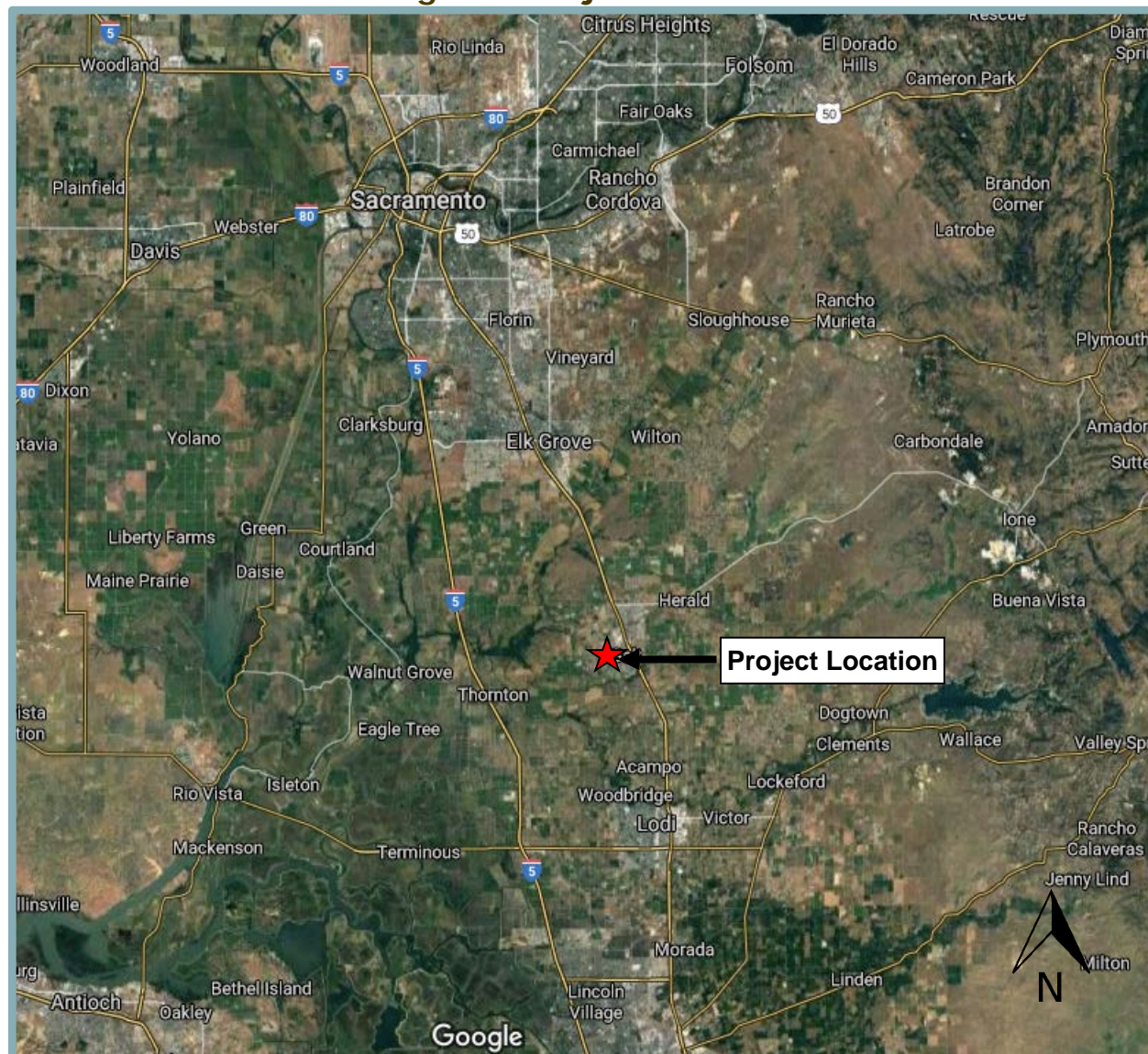


Figure 2
Project Site Boundaries



Project Components

The proposed project would include subdivision of the 12.754-acre subject property into 67 single-family lots and creation of a 0.35-acre remainder parcel within the northeastern portion of the subject property. The proposed lot sizes within the project site would range from 5,000 square feet (sf) to 7,457 sf. The proposed project would require approval of a GPA and a Rezone. The proposed project components and required approvals are described in further detail below.

General Plan Amendment and Rezone

The proposed project would require a GPA to change the land use designation of the 12.404-acre project site from LDR to MDR (see Figure 3). In addition, the proposed project would require a Rezone to change the zoning designation of the 12.404-acre project site from R1A to R2-PD (see Figure 4). The General Plan land use and zoning designations of the 0.35-acre remainder parcel would not be altered.

Tentative Subdivision Map

The proposed project would include a Tentative Subdivision Map to develop 67 single-family residences and associated improvements on the 12.404-acre project site. The subdivision would include a southerly extension of 4th Street that would extend along the western site boundary, providing access to the proposed residences. The proposed residences would be setback a minimum of 150 feet from the UPRR tracks, and a seven-foot tall sound wall would be constructed along the west side of the 4th Street extension to shield the proposed residences from noise impacts associated with the existing UPRR tracks. Of the 35 trees on-site, 31 trees would be removed as part of the project. The 0.35-acre area within the northeastern portion of the subject property would be retained as a remainder parcel, and would not be altered. The proposed lot sizes within the project site would range from 5,000 sf to 7,457 sf (see Figure 5). Construction of 67 new residences on 12.404 acres would result in a gross density of 5.4 units per acre.

Landscaping

The proposed project would include various landscaping improvements throughout the proposed development. Shrubs would be provided along the proposed seven-foot sound wall on the western border of the project site. Trees, shrubs, and various ground cover would be planted along the eastern boundary of the project site adjacent to Joy Drive.

Access and Circulation

The proposed project would include construction of an internal circulation network that would provide access to the proposed residences. Access to the project site would be provided by two new roads off of Joy Drive and a third road off of H Street extending 4th Street to the south. The rights-of-way for the new roadways within the project site would be approximately 48 feet wide. New curbs, gutters, and five-foot-wide sidewalks would be included along the internal circulation network. In addition to on-site circulation improvements, the proposed project would include widening of Joy Drive and H Street along the project frontage to expand the right-of-way along the northern and eastern edges of the subject property. At the northwestern corner of the project site, H Street curves northward and turns into 4th Street. The project would include a connection at the intersection of H Street and 4th Street to create a 3-way intersection. The widening of Joy Drive would disturb approximately 0.19-acre and would require removal of approximately 14 trees; the widening of H Street and 4th Street would disturb approximately 0.8-acre and would require removal of approximately 41 trees.

Figure 3
General Plan Amendment Exhibit

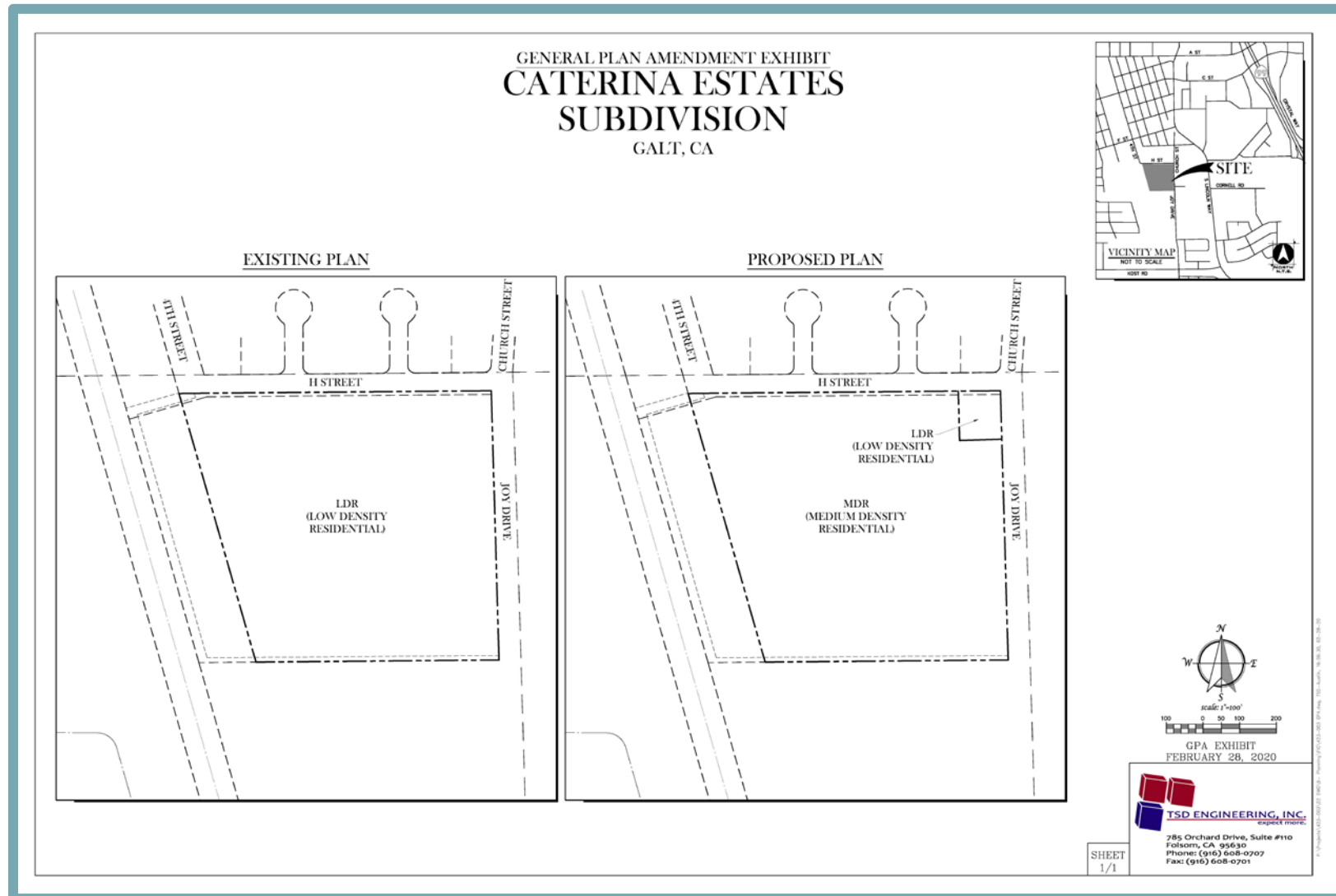
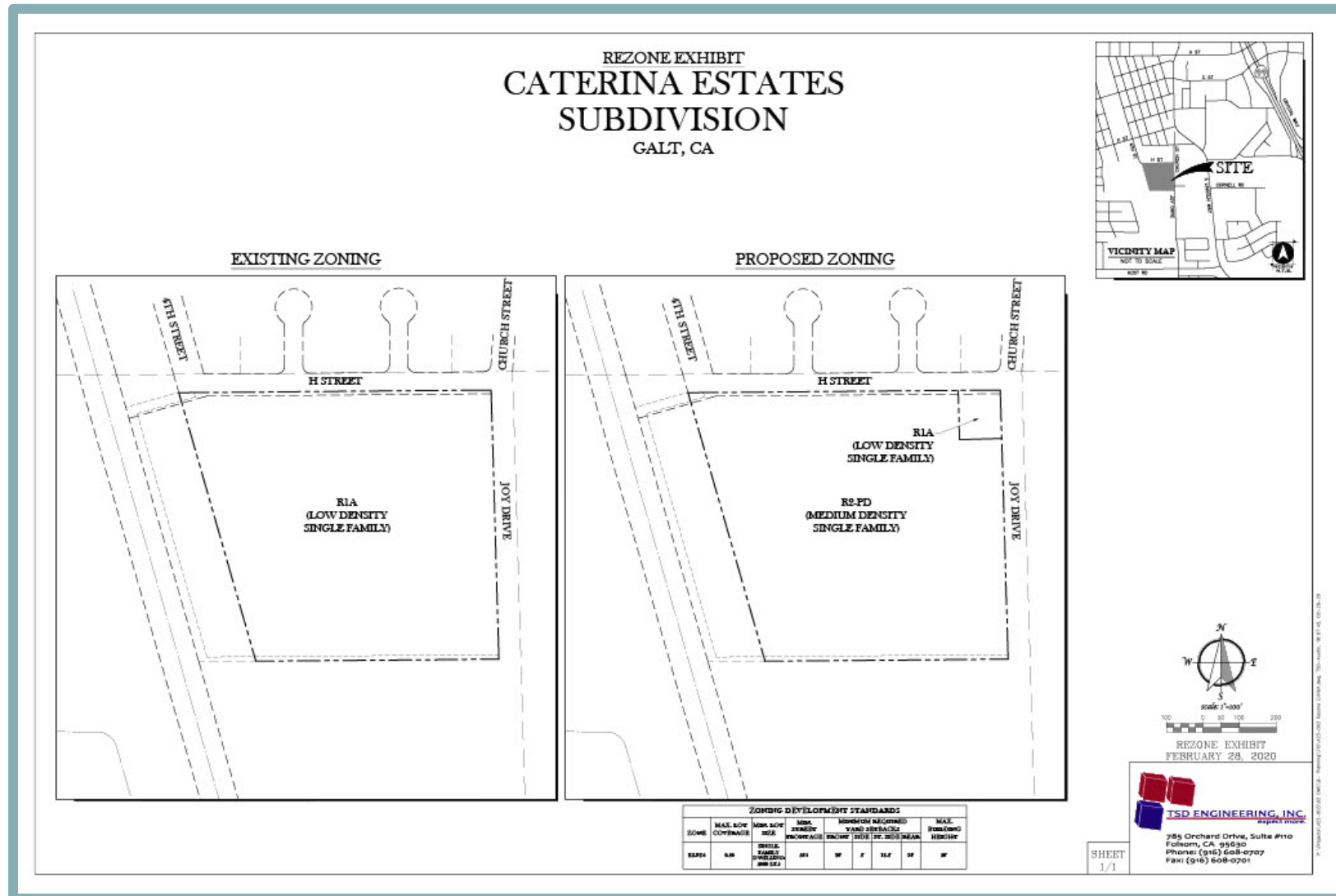


Figure 4
Rezone Exhibit





Utilities

Treated water service for the project would be provided by the City of Galt. The proposed project would include construction of new eight-inch water lines, eight-inch sewer lines, and 18- to 24-inch storm drain lines within the proposed rights-of-way at the project site. New 12- and 18-inch storm drain lines would also be included within H Street. The new water and sewer extensions would serve all units and connect to existing utilities infrastructure within Joy Drive and H Street. Additionally, four new fire hydrants would be provided throughout the project site (see Figure 6).

Sanitary sewer service for the proposed project would also be provided by the City of Galt. The City operates and maintains the sewer system, which collects wastewater flows from individual developments within the City and conveys them to the City's wastewater treatment plant located at 10059 Twin Cities Road. On-site sewage would be routed to existing sewer lines within Joy Drive and H Street by way of new eight-inch sewer lines.

Stormwater draining off impervious surfaces such as roofs, parking areas, and drive aisles within the project site would be routed by way of new 18- to 24-inch storm drain lines to a new bio-retention basin in the southern portion of the site (Figure 7). The bio-retention basin would provide for treatment and detention of stormwater prior to discharging to the City's existing 12-inch storm drain line in Joy Drive.

Demolition, Grading, and Construction Details

Construction of the proposed project would include grading of the 12.404-acre project site, as well as trenching for utility improvements. As part of the proposed grading activities, the project would require a net import of approximately 7,170 cubic yards of soil. In addition, off-site improvements associated with widening of Joy Drive along the project frontage would disturb approximately 0.19 acres and would require removal of approximately 14 trees. The widening of H Street and the extension of 4th Street would also require removal of approximately 17 trees along the northern border of the project site. A total of 24 trees located along 4th Street to the north of the project site would be removed as part of the proposed 4th Street widening.

As discussed previously, the proposed project would not include development of the northeastern 0.35-acre portion of the subject property (remainder parcel).

Discretionary Actions

The proposed project would require the following approvals from the City of Galt:

- Adoption of the IS/MND and a Mitigation Monitoring and Reporting Program;
- Approval of a General Plan Amendment;
- Approval of a Rezone; and
- Approval of a Tentative Subdivision Map.

Figure 6
Preliminary Utility Plan

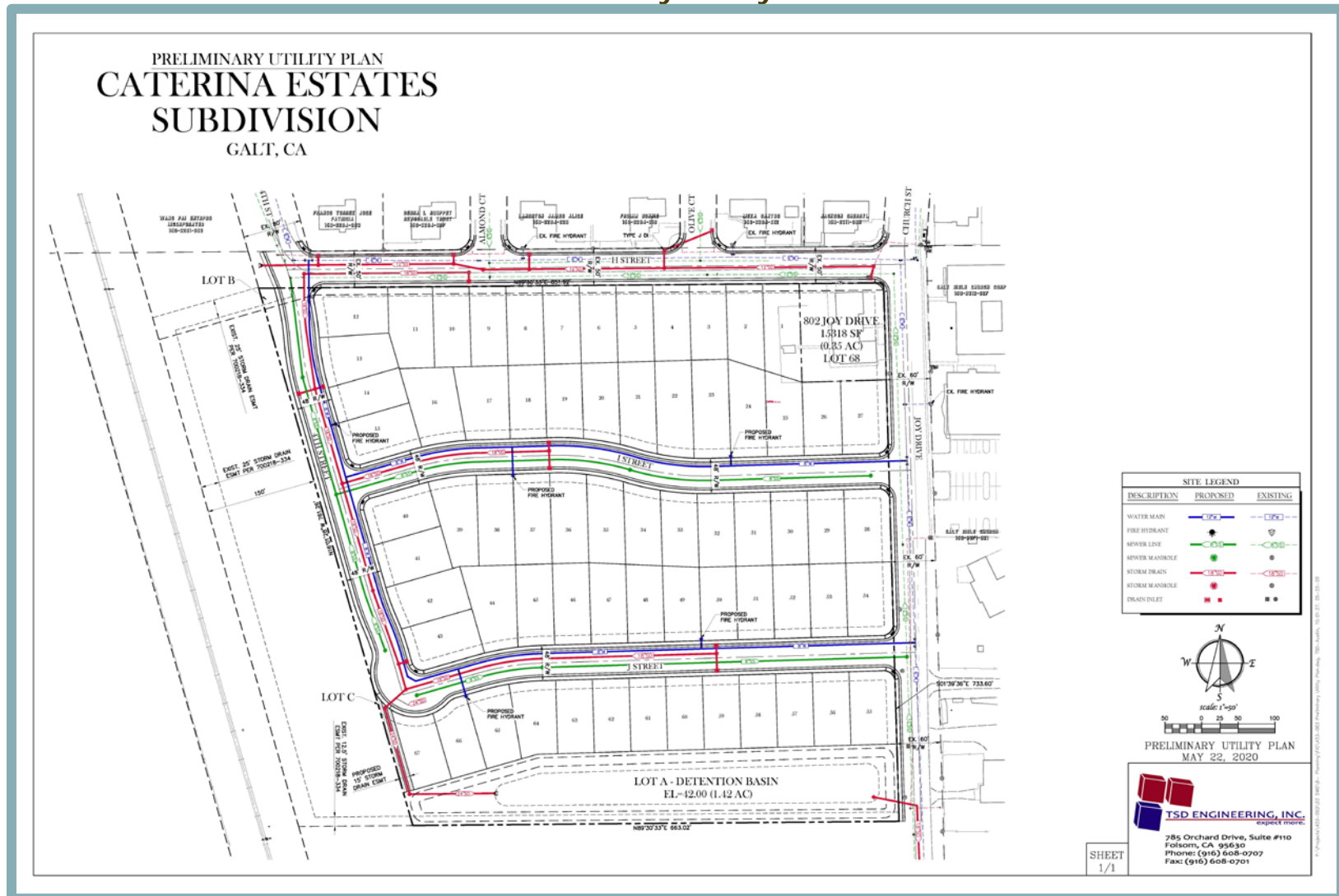
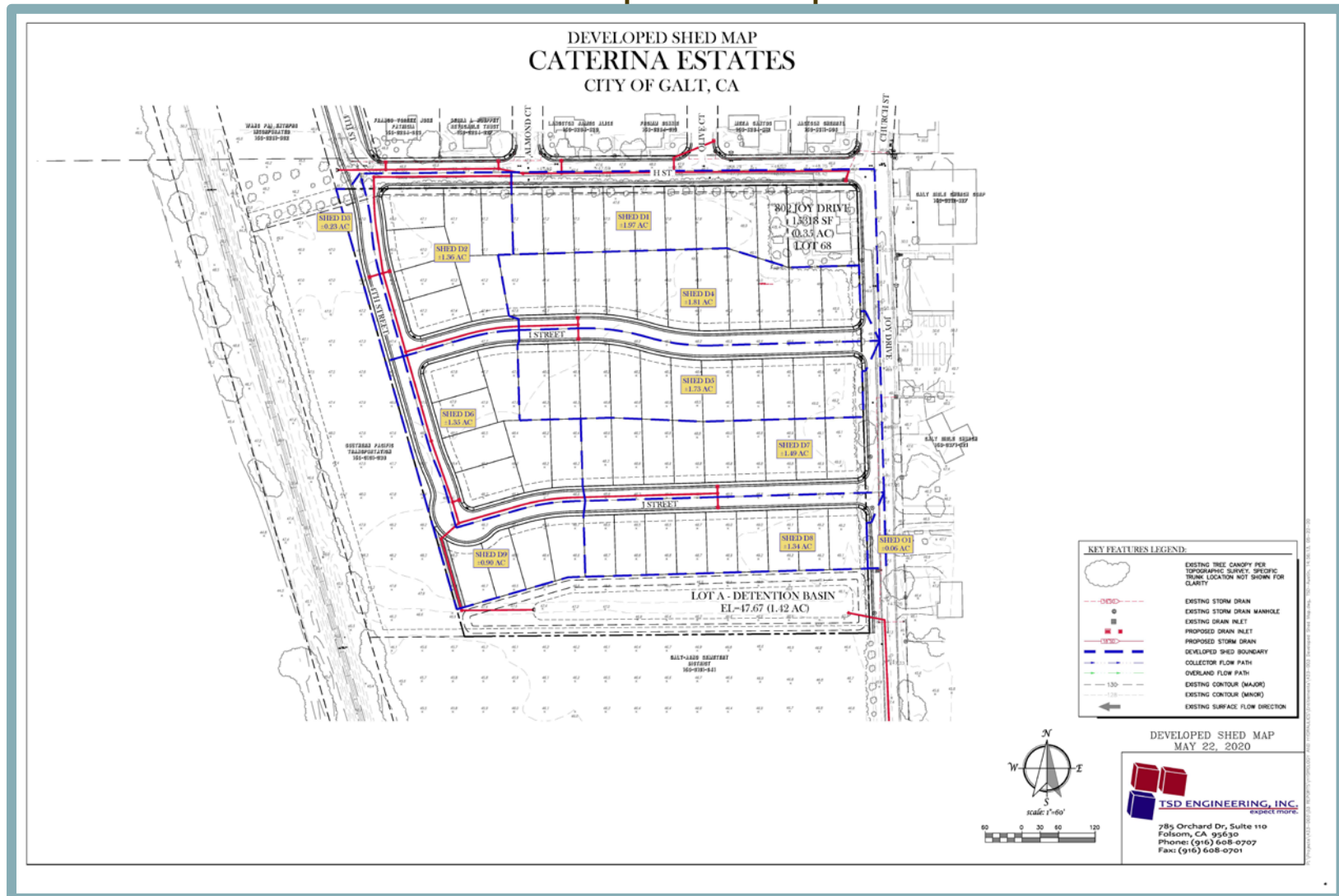


Figure 7
Developed Shed Map



ENVIRONMENTAL CHECKLIST

The following checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

I. AESTHETICS.

Would the project:

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

Discussion

- a,b. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. According to the City's General Plan, scenic vistas are not located in the vicinity of the project site, and therefore would not be affected by the proposed project.

In addition, per the California Scenic Highway Mapping System, the project site is not located within the vicinity of an officially designated State Scenic Highway.¹ Thus, the proposed project would not have the potential to damage scenic resources within a State scenic highway. The proposed project would not have a substantial adverse effect on a scenic vista or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. Therefore, **no impact** would occur.

- c. The project site is bordered by Joy Drive and H Street to the east and north, respectively. The areas beyond the roadways are developed with single-family residential development and churches. Directly to the south, vacant agricultural land is currently planted with row crops. Currently, the subject property consists of row crops and one single-family residence along the northeastern boundary. The proposed project would include development of the project site with 67 single-family residences and associated improvements, which include landscaping, setbacks, and utility infrastructure improvements. The remainder parcel would not be altered by the proposed project.

The proposed residences and associated improvements would alter public views of the site from the site vicinity, namely for motorists, pedestrians, and bicyclists travelling along Joy Drive and H Street from the east and north, respectively. The proposed changes would alter the visual landscape of the project site from agricultural land to a built-out urban neighborhood with single-family residences. However, the visual character of the proposed project would be consistent with existing surrounding development and supplemented by landscaping improvements and setbacks. The proposed project would

¹ California Department of Transportation. *California Scenic Highway Mapping System*. Available at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed April 2020.

improve the project site with well-maintained landscaping, including irrigated shrubs, grasses, and flowering trees. A dedicated area for artistic enhancement would also be located along the western sound wall. Therefore, the proposed project would not substantially degrade the visual character or quality of views of the site and its surroundings.

Pursuant to Section 18.68.100 of the Development Code, the project would undergo a Design Review. The purpose of Design Review is to establish procedures and standards to promote excellence in site planning and building design, to encourage the harmonious appearance of buildings and sites, to ensure that new and modified uses will be compatible with existing and potential development of the surrounding area, to ensure that projects comply with the design standards and intent of specific plans, and to produce an environment of stable and desirable character.

The project site has been previously anticipated for residential development per the City's General Plan, and impacts related to degradation of visual character and quality were analyzed in the General Plan EIR. While the project would require a rezone from R1A to R2-PD, the proposed development would be consistent with the existing residential development to the north and east of the site. In addition, landscaping improvements would be included to improve the visual quality of the site as viewed from H Street and Joy Drive in the project vicinity. As such, the proposed project would be consistent with surrounding urban development, would not conflict with applicable zoning and other regulations governing scenic quality, and would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Thus, a **less-than-significant** impact would occur.

- d. The subject property does not currently contain sources of light other than the interior and exterior lighting associated with the existing single-family residence on the northeast portion of the subject property. Therefore, construction of the proposed residences and associated improvements would result in new sources of light and glare within the project site.

Compliance with policies from the City's General Plan and Municipal Code would help to ensure that the light and glare created by the proposed project would be consistent with the levels of light and glare currently emitted in the surrounding area, and would not adversely affect the existing residences to the north or east of the site. Therefore, the proposed project would result in a **less-than-significant** impact related to creating a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

II. AGRICULTURE AND FOREST 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a,e. Currently, the northeastern portion of the subject property is developed with one single-family residence while the remainder of the subject property is planted with row crops. Per the California Department of Conservation Farmland Mapping and Monitoring Program, approximately 2.7 acres along the northern boundary of the subject property are designated as "Urban and Built Up Land," while the remainder of the project site is designated "Farmland of Local Importance."² The subject property and off-site improvement areas do not contain, and are not located adjacent to, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. In addition, the City's General Plan designates the project site for residential development. Therefore, the proposed project's impacts would be **less-than-significant**.
- b. The project site is currently zoned R1A and, thus, has been anticipated for development with residential uses by the City. In addition, the project site is not under a Williamson Act contract. Therefore, the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and **no impact** would occur.
- c,d. The project site is not considered forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), and is not zoned Timberland Production (as defined by Government Code section 51104[g]). As noted above, the project site is currently zoned R1A. Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, and the project would not otherwise result in the loss of forest land or conversion of forest land to non-forest use. Thus, **no impact** would occur.

² California Department of Conservation. *California Important Farmland Finder*. Available at: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed April 2020.

III. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a,b. The City of Galt is located within the boundaries of the Sacramento Valley Air Basin (SVAB) and under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). Federal and State ambient air quality standards (AAQS) have been established for six common air pollutants, known as criteria pollutants, due to the potential for pollutants to be detrimental to human health and the environment. The criteria pollutants include particulate matter (PM), ground-level ozone, carbon monoxide (CO), sulfur oxides, nitrogen oxides (NO_x), and lead. At the federal level, Sacramento County is designated as severe nonattainment for the 8-hour ozone AAQS, nonattainment for the 24-hour PM_{2.5} AAQS, and attainment or unclassified for all other criteria pollutant AAQS. At the State level, the area is designated as a serious nonattainment area for the 1-hour ozone AAQS, nonattainment for the 8-hour ozone AAQS, nonattainment for the PM₁₀ and PM_{2.5} AAQS, and attainment or unclassified for all other State AAQS.

Due to the nonattainment designations, SMAQMD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State AAQS for ozone and particulate matter. The attainment plans currently in effect for the SVAB are the 2013 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 Ozone Attainment Plan), PM_{2.5} Implementation/Maintenance Plan and Re-designation Request for Sacramento PM_{2.5} Nonattainment Area (PM_{2.5} Implementation/Maintenance Plan), and the 1991 Air Quality Attainment Plan (AQAP), including triennial reports. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SVAB. Adopted SMAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans.³ The SMAQMD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and NO_x, as well as for PM₁₀ and PM_{2.5}, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are

³ Sacramento Metropolitan Air Management District. *Guide to Air Quality Assessment in Sacramento County*. May 2017.

listed in Table 1. By exceeding the SMAQMD's mass emission thresholds for ROG, NO_x, PM₁₀, or PM_{2.5}, a project would be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

Table 1 SMAQMD Thresholds of Significance		
Pollutant	Construction Thresholds	Operational Thresholds
ROG	N/A	65 lbs/day
NO _x	85 lbs/day	65 lbs/day
PM ₁₀	80 lbs/day 14.6 tons/yr	80 lbs/day 14.6 tons/yr
PM _{2.5}	82 lbs/day 15 tons/yr	82 lbs/day 15 tons/yr
Source: SMAQMD, CEQA Guidelines, May 2017.		

In addition, SMAQMD has screening criteria for development projects based on default inputs in the California Emissions Estimator Model (CalEEMod) version 2016.3.1. software - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including greenhouse gas (GHG) emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the ITE Manual, vehicle mix, trip length, average speed, etc. The SMAQMD screening criteria has been developed to aid in determining if emissions from development projects would exceed the SMAQMD thresholds of significance presented in Table 1. The screening criteria provides a conservative indication of whether a development project could result in potentially significant air quality impacts. If all of the screening criteria are met by a project, a detailed air quality assessment of that project's air pollutant emissions would not be required.

Construction Emissions

The SMAQMD's screening criteria for construction-related emissions of NO_x, PM₁₀, and PM_{2.5} include whether the project is 35 acres or less in size and would not involve any of the following:

- Include buildings more than four stories tall;
- Include demolition activities;
- Include significant trenching activities;
- Have a construction schedule that is unusually compact, fast-paced, or involves more than two phases (i.e., grading, paving, building-construction, and architectural coatings) occurring simultaneously;
- Involve cut-and-fill operations (moving earth with haul trucks and/or flattening or terracing hills); and
- Require import or export of soil materials that will require a considerable amount of haul truck activity.

Projects that are 35 acres or less in size generally would not exceed the SMAQMD's construction NO_x, PM₁₀, and PM_{2.5} thresholds of significance. The proposed project would involve the development of 12.404 acres, which would be well below the construction screening criteria of 35 acres. Additionally, the project would not involve any of the activities listed above. While the project would require a net import of approximately 7,170

cubic yards of soil, this amount of soil movement is consistent with typical residential construction projects.

Because the proposed project would meet all of the screening criteria, the project would not be expected to result in construction-related emission in excess of the applicable thresholds of significance and, in accordance with SMAQMD guidance, would be considered to have a less-than-significant impact on air quality during construction. It should be noted, however, that all projects are required to comply with the SMAQMD Basic Construction Emission Control Practices.

Operational Emissions

The SMAQMD's screening criteria for operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5} involves whether a development project is below the size based on land use type identified by SMAQMD as the level at which the thresholds of significance would be exceeded. According to SMAQMD, if a project is below the screening level identified for the applicable land use type, emissions from the operation of the project would have a less-than-significant impact on air quality. The screening criterion for operational emissions associated with a single-family residential development is whether the development involves 445 dwelling units or less for ozone precursor emissions or 990 units or less for PM emissions. The proposed project involves the development of 67 units, which would be well below the operational screening criteria for a single-family residential development. Therefore, in accordance with SMAQMD guidance, the proposed project's operational emissions would not be expected to exceed SMAQMD thresholds of significance, and impacts on air quality would be considered less than significant.

Conclusion

As discussed above, the proposed project would be below the applicable screening criteria developed by SMAQMD. Thus, the proposed project would not be expected to result in construction or operational emissions in excess of the applicable thresholds of significance. Because the proposed project would result in emissions below the applicable thresholds of significance during both construction and operations, the proposed project would not violate an AAQS, contribute substantially to an existing or projected air quality violation, or result in PM concentrations in excess of the applicable thresholds. Therefore, impacts would be considered ***less than significant***.

- c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive receptors include the existing single-family residence located on the remainder parcel of the subject property; single-family residences located to the north of the project site, across H Street; and single-family residences and churches to the east of the site, across Joy Drive.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminant (TAC) emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Per the SMAQMD Guide, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years.⁴ Consequently, the proposed project is not anticipated to result in significant impacts to air quality related to localized CO emissions.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk. The nearest sensitive receptor would be the single-family residence located in the remainder parcel, approximately 25 feet from the project site.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy diesel truck traffic or idling. The proposed residential development does not include any operations that would be considered a substantial source of TACs. Accordingly, operation of the proposed project would not expose sensitive receptors to excess concentrations of TACs.

Construction activities have the potential to generate DPM emissions related to the number and types of equipment typically associated with construction. Off-road heavy-duty diesel equipment used for site grading, paving, and other construction activities result in the generation of DPM. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would be substantially shorter. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. In addition, only portions of the site and off-site improvement areas would be disturbed at a time, with operation of construction equipment regulated by federal, State, and local regulations, including SMAQMD rules and regulations, and occurring intermittently throughout the course of a day. Thus, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low.

Therefore, the proposed project would not expose any existing sensitive receptors to any new permanent or substantial TAC emissions.

⁴ Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment, Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions*. June 2020.

Criteria Pollutant Emissions

Recent rulings from the California Supreme Court (including the *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 case regarding the proposed Friant Ranch Project) have underscored the need for potential health impacts resulting from the emission of criteria pollutants during operations of proposed projects. Although analysis of project-level health risks related to the emission of CO and TACs has long been practiced under CEQA, the analysis of health impacts due to individual projects resulting from emissions of criteria pollutants is a relatively new field. In fact, the analysis of potential health impacts resulting from criteria pollutant emissions has long been focused on a regional or air basin wide level. The reason for a wide geographic focus on health impacts from criteria pollutants is that criteria pollutants act on a large, regional scale, whereas TACs and CO act on a more localized level. For instance, according to the CARB's *Air Quality and Land Use Handbook: A Community Health Perspective*, health impacts related to many common sources of TACs are experienced within the first 500 to 1,000 feet from a source of emissions.⁵ The localized nature of impacts from TACs allows for dispersion modeling of TACs to be undertaken with a detailed scope of focus and high degree of confidence. In contrast, health risks from criteria pollutants occur over entire air basins, such as the Sacramento Federal Nonattainment Area (SFNA) for ground-level ozone, which encompasses all of Sacramento and Yolo counties, and portions of Placer, El Dorado, Solano, and Sutter counties.

In many cases, the concern regarding health risks from criteria pollutants is not related to the specific pollutant itself, such as ROG or NO_x, but the potential for the pollutant to undergo reactions within the atmosphere and form secondary pollutants, such as ozone. In such cases, the secondarily formed ozone is the pollutant of concern related to health risks, rather than the pollutant ROG or NO_x itself. The formation of ozone is dependent upon various regional factors, including the presence or absence of chemicals and elements in the atmosphere, geography of the given area, the presence of solar energy, as well as meteorological and climatological conditions. In addition, while PM can be emitted directly to the atmosphere by projects, PM can also be formed secondarily by precursor emissions. Thus, the formation of PM can similarly be dependent on regional atmospheric chemistry, geography, weather, and climate. The complex reactions and conditions that lead to the formation of ozone and PM in the atmosphere can also result in the transport of pollutants over wide areas. For instance, transport of emissions from development within the San Francisco Bay Area are often cited as a leading cause of poor air quality in the SFNA. The potential for criteria pollutant emissions to be transported over wide areas means that the emissions of ozone precursor pollutants, such as ROG and NO_x, from a single project does not necessarily translate directly into a specific concentration of ozone, or a specific level of health risk, in that area.

In December of 2019, SMAQMD released the *Draft Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (Draft Guidance) for the analysis of criteria emissions in areas within the District's jurisdiction. The Draft Guidance represents SMAQMD's effort to develop a methodology that provides a consistent, reliable, and meaningful analysis in response to the Supreme Court's direction on correlating health impacts to a project's emissions.

⁵ California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

The Draft Guidance was prepared by conducting regional photochemical modeling, and relies on the USEPA's Benefits Mapping and Analysis Program (BenMAP) to assess health impacts from ozone and PM_{2.5}. SMAQMD has prepared two draft tools that are intended for use in analyzing health risks from criteria pollutants. Small projects with criteria pollutant emissions close to or below SMAQMD's adopted thresholds of significance may use the Minor Project Health Screening Tool, while larger projects with emissions between two and six times greater than SMAQMD's adopted thresholds may use the Strategic Area Project Health Screening Tool.⁶ Considering the proposed project would result in emissions lower than the SMAQMD's thresholds of significance, the project would qualify for the Minor Project Health Effects Screening Tool. Results from the Minor Project Health Effects Screen Tool are shown in Table below.

Table 2			
Health Effects from Proposed Project			
Health Incident	Age Range	Local Health Incidences from Project Emissions (per year)	Total Regional Health Incidences (per year)
PM_{2.5} Health Endpoint			
Emergency Room Visits, Asthma	0 - 99	0.64	18419
Hospital Admissions, Asthma	0 - 64	0.041	1846
Hospital Admissions, All Respiratory	65 - 99	0.20	19644
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.10	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.000050	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.0045	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.011	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.018	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.063	5052
Mortality, All Cause	30 - 99	1.2	44766
Ozone Health Endpoint			
Hospital Admissions, All Respiratory	65 - 99	0.036	19644
Emergency Room Visits, Asthma	0 - 17	0.19	5859
Emergency Room Visits, Asthma	18 - 99	0.28	12560
Mortality, Non-Accidental	0 - 99	0.020	30386
Source: Sac Metro Air District Minor Project Health Effects Tool, Version 2. June 2020. (Appendix A)			

As shown in the table above, the proposed project would result in 1.2 premature deaths per year due to the project's PM_{2.5} impacts, and would result in 0.02 premature deaths per year due to the project's ozone impacts. Such numbers represent a very small increase over the background incidence of pre-mature deaths due to PM_{2.5} and ozone concentrations (0.002681 percent and 0.000066 percent, respectively). PM_{2.5} emissions from the proposed project would result in 0.64 asthma-related emergency room visits, and ozone emissions would result in 0.47 asthma-related emergency room visits. Such numbers represent a minute increase over the background level of asthma-related emergency room visits (0.003475 percent and 0.002552 percent, respectively).

⁶ Sacramento Metropolitan Air Quality Management District. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* [pg. 5-10]. January 31, 2020.

As discussed above, the nature of criteria pollutants is such that the emissions from an individual project cannot be directly identified as responsible for health impacts within any specific geographic location. As a result, attributing health risks at any specific geographic location to a single proposed project is not feasible. Nonetheless, the results of the Minor Project Health Effects Screening Tool have been presented for informational purposes. Overall, because the proposed project would be relatively small compared to the regional growth and development that drives health impacts from criteria pollutants, and the anticipated air quality emissions would fall below all applicable thresholds of significance, potential health impacts related to criteria air pollutants would be less than significant.

Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to substantial concentrations of pollutants, including localized CO, TACs, or criteria air pollutants, during construction or operation. Therefore, the proposed project would result in a ***less-than-significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

- d. Emissions such as those leading to odor have the potential to adversely affect people. Emissions of principal concern include emissions leading to odors, emission that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections “a” through “c” above. Therefore, the following discussion focuses on emissions of odors and dust.

Per the SMAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.⁷ Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of the odor source to sensitive receptors; wind direction; and sensitivity of the receptor.

Examples of land uses that have the potential to generate considerable odors include, but are not limited to, wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. The proposed project would not introduce any such land uses. Furthermore, residential land uses are not typically associated with the creation of substantial objectionable odors. As a result, operations of the proposed project would not create any objectionable odors that would affect a substantial number of people.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and hours of operation for construction equipment would be limited to weekdays between 6:00 AM and 8:00 PM, and between 7:00 AM and 8:00 PM on Saturday and Sundays, per Sections 8.40.060(E) and (F) of the City of Galt Municipal Code. Project construction would also be required to comply with all applicable SMAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize

⁷ Sacramento Metropolitan Air Management District. *Guide to Air Quality Assessment in Sacramento County*. May 2017.

emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

The SMAQMD regulates objectionable odors through Rule 402 (Nuisance), which prohibits any person or source from emitting air contaminants that cause detriment, nuisance, or annoyance to a considerable number of persons or the public. Rule 402 is enforced based on complaints. If complaints are received, the SMAQMD is required to investigate the complaint, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications. Thus, although not anticipated, if odor complaints are made after the proposed project is approved, the SMAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

With regard to dust, the proposed project is required to comply with all applicable SMAQMD rules and regulations for construction, including, but not limited to, Rule 403 (Fugitive Dust) and Rule 404 (Particulate Matter). Furthermore, all projects are required to implement the SMAQMD's Basic Construction Emission Control Practices (BCECP). Compliance with SMAQMD rules and regulations and BCECP would help to ensure that dust is minimized during project construction.

For the aforementioned reasons, construction and operations of the proposed project would not result in emissions, such as those leading to odors, adversely affecting a substantial number of people, and a ***less-than-significant*** impact would result.

IV. 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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a. The following discussion is based primarily on a Technical Biological Report prepared for the proposed project by Live Oak Associates, Inc. (see Appendix B).⁸

Currently, the northeastern portion of the subject property is developed with one single-family residence, while the remaining portion of the subject property consists of agricultural land planted with row crops. Surrounding land uses include the UPRR tracks to the west, single-family residences to the north, churches and single-family residences to the east, and agricultural land to the south.

Several species of plants and animals within the State of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats the species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as “candidates” for such listing. Still others have been designated as “species of special concern” by CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered

⁸ Live Oak Associates. *Caterina Estates, Technical Biological Report, City of Galt, Sacramento County, California*. April 17, 2020.

rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special-status species.” Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on CNPS Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

The project site is located within the boundaries of the South Sacramento Habitat Conservation Plan (SSHCP), which is intended to provide an effective framework to protect natural resources in south Sacramento County, including special-status species. Per the Technical Biological Report, the northern portion of the subject property that would be developed is currently categorized as Agricultural land cover types.

Live Oak Associates, Inc. conducted a search of the California Natural Diversity Database (CNDDDB) for the project site. The intent of the database review was to identify documented occurrences of special-status species in the vicinity of the project area, to determine their locations relative to the project site, and to evaluate whether the site meets the habitat requirements of such species. In addition, a field survey of the subject property (project site and remainder parcel) was undertaken by Live Oak Associates, Inc. on April 9, 2020. Based on the results of the CNDDDB search, five special-status plant species and 25 special-status wildlife species are known to occur within the project region.

The potential for species covered by the SSHCP and other special-status species to occur on the project site is discussed in further detail below. It should be noted that the off-site improvement areas associated with the widening of 4th Street is primarily paved; however, the improvements would also include an unpaved strip of land along the western edge of the roadway. The unpaved off-site improvement areas consists primarily of ruderal grasses with scattered trees, similar to the project site.

Special-Status Plants

Of the five special-status plant species known to occur within the project region, none have the potential to occur on the project site or off-site improvement areas based on the habitat requirements of such species, which include coastal marshes, swamps, and vernal pools. The project site has been subject to prior disturbance associated with agricultural uses and does not provide suitable habitat for any of the species.

Based on the above, construction activities associated with the proposed project would not result in adverse effects to special-status plant species.

Special-Status Wildlife

Of the 25 special-status species that are documented within the project region, 14 are unlikely to occur within the proposed disturbance areas, as such species have habitat requirements that are not present on the project site (i.e., wetlands, chaparral, oak woodland, etc.). As noted previously, the site has been disturbed through past agricultural uses. The remaining 11 special-status wildlife species include the white-tailed kite, ferruginous hawk, Cooper’s hawk, northern harrier, Swainson’s hawk, greater sandhill crane, loggerhead shrike, Modesto song sparrow, tricolored blackbird, western red bat, and American badger. Of the 11 species that could potentially occur on the project site or off-site improvement areas, all are considered covered species under the SSHCP, with

the exception of the Modesto song sparrow. It should also be noted that the potential exists for other nesting raptors and migratory birds to occur on-site and within the off-site improvement areas. Therefore, mitigation has been included to address potential impacts to these species

Swainson's Hawk

Swainson's hawk is known to breed in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. The species is also found in adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations. According to the Technical Biological Report, the project site is modeled as high-value foraging habitat for Swainson's hawk with a nesting occurrence adjacent to and south of the project site. The existing trees occurring within the off-site improvement areas, the developed portion of the subject property, and along the eastern and northern margins present suitable nesting habitat for the species. The existing agricultural uses on the project site provide suitable foraging habitat for the species.

Given that the project area includes suitable nesting and foraging habitat for the Swainson's hawk, development of the project site could result in a significant adverse impact to the species. Pre-construction surveys and avoidance measures for Swainson's hawk are required by the SSHCP.

Covered Raptor Species

Breeding habitat for five species identified in the SSHCP as Covered Raptors (white-tailed kite, ferruginous hawk, Cooper's hawk, northern harrier, and loggerhead shrike) occurs along the margins of the project site, adjacent to the existing single-family residence to the northeast of the site, and within the off-site improvement areas. The site is within SSHCP-modeled foraging habitat for the loggerhead shrike, within SSHCP-modeled foraging habitat and adjacent to nesting habitat for the white-tailed kite, within SSHCP-modeled nesting-foraging and foraging habitat for the northern harrier, and adjacent to SSHCP-modeled Cooper's hawk foraging-nesting habitat. It should be noted that while ferruginous hawk species are covered under the SSHCP, modeled habitat for ferruginous hawk does not occur on or in proximity to the project site.

Given that the project site and the off-site improvement areas include suitable nesting and foraging habitat several species of Covered Raptors, development of the site could result in a significant adverse impact to such species.

Greater Sandhill Crane

Greater sandhill crane habitat includes open grasslands, marshes, and edges of lakes, ponds and river banks. Wintering habitat includes a communal roost in shallow water. As previously mentioned, the project site and off-site improvement areas are located within the SSHCP-modeled foraging habitat for greater sandhill crane. While the 2020 survey of the site did not detect the presence of the species, the species could occupy the area prior to the start of construction. Thus, in the absence of pre-construction surveys and other measures for greater sandhill crane, a potentially significant impact could occur.

Tricolored Blackbird

Tricolored blackbird is known to breed near fresh water in dense emergent vegetation, near adjacent foraging habitat. The subject property and the off-site improvement areas contain suitable foraging and nesting-foraging habitat for tricolored blackbird, and the

project site is within SSHCP-modeled nesting foraging habitat for the tricolored blackbird. The on-site agricultural uses could present suitable nesting habitat for the species, depending on the type of crop planted; wheat, a suitable nesting substrate for the tricolored blackbird, was planted at the time of the April 2020 site visit. Should tricolored blackbird occupy the site or off-site improvement areas prior to the start of construction, the proposed project could result in a potentially significant impact to the species.

Nesting Raptors and Migratory Birds

The project site and off-site improvement areas contain existing trees that could provide nesting habitat for raptors and migratory birds protected by the MBTA including, but not limited to, white-tailed kite, ferruginous hawk, Cooper's hawk, northern harrier, Swainson's hawk, loggerhead shrike, and Modesto song sparrow. Such trees would be removed as part of the proposed project. Construction activities that adversely affect the nesting success of raptors and migratory birds (i.e., lead to the abandonment of active nests) or result in mortality of individual birds constitute a violation of State and federal laws. Thus, in the event that such species occur on-site during the breeding season, project construction activities could result in an adverse effect to species protected under the MBTA.

Western Red Bat and Other Special-Status Bats

Western red bat is known to roost in trees or shrub foliage, as well as caves and vacant structures. The site and off-site improvement areas are adjacent to SSHCP-modeled foraging habitat and roosting-foraging habitat for western red bats. Furthermore, the palm tree within the developed portion of the subject property may support suitable roosting habitat for western red bats. Other bat species may also roost in the palm tree or within cavities of the several walnut trees that line the site's eastern and northern borders. At the time of the site survey performed by Live Oak Associates, Inc., the existing trees did not show any visible signs of bat use. Nonetheless, bat species could roost in trees on or adjacent to the project site or off-site improvement areas prior to the start of construction activities. Thus, the proposed project could result in a potential adverse impact to western red bat and other special-status bat species.

American Badger

American badger can be found in drier open areas of shrub, forest, and herbaceous habitats with friable soils, specifically grassland environments. The presence of agricultural land on the subject property presents suitable habitat for American badger. Additionally, the site is within SSHCP-modeled habitat for American badgers. While individuals and evidence of this species' presence were not detected during the 2020 survey, in the event that the species occurs on-site, project grading and construction activities could result in an adverse effect to American badger.

Conclusion

Based on the above, special-status plants do not have the potential to occur on-site and, thus, would not be impacted by the proposed development. In addition, 14 of the 25 special-status wildlife species that have been documented to occur in the project region do not have the potential to occur on-site or within the off-site improvement areas, based on habitat requirements. However, the project site and the off-site improvement areas provide potential habitat for white-tailed kite, ferruginous hawk, Cooper's hawk, northern harrier, Swainson's hawk, greater sandhill crane, loggerhead shrike, Modesto song sparrow, tricolored blackbird, western red bat, and American badger. Furthermore, the site

contains suitable nest trees for other nesting raptors and migratory birds protected by the MBTA. Thus, construction activities associated with the proposed project could have an adverse effect, either directly or through habitat modifications, on species identified as special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS, and a **potentially significant** impact could result.

Mitigation Measure(s)

Implementation of the following mitigation measures, as adapted from the SSHCP, would reduce the above potential impact to a *less-than-significant* level.

Swainson's Hawk

IV-1 *Prior to and during all ground-disturbing activities, the project applicant shall comply with SSHCP measures related to the protection and preservation of Swainson's Hawk. Specifically, the project applicant shall implement the following SSHCP measures:*

- SSHCP SWHA-1 (Swainson's Hawk Surveys)
- SSHCP SWHA-2 (Swainson's Hawk Pre-construction Surveys)
- SSHCP SWHA-3 (Swainson's Hawk Nest Buffer)
- SSHCP SWHA-4 (Swainson's Hawk Nest Buffer Monitoring)
- SSHCP SWHA-5 (Swainson's Hawk Nest Tree Avoidance)

Covered Raptor Species

IV-2. *Prior to and during all ground-disturbing activities, the project applicant shall comply with SSHCP measures related to the protection and preservation of Covered Raptor Species. Specifically, the project applicant shall implement the following SSHCP measures:*

- SSHCP RAPTOR-1 (Raptor Surveys)
- SSHCP RAPTOR-2 (Raptor Pre-construction Surveys)
- SSHCP RAPTOR-3 (Raptor Nest/Roost Buffer)
- SSHCP RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring)

Greater Sandhill Crane

IV-3. *Prior to and during all ground-disturbing activities, the project applicant shall comply with SSHCP measures related to the protection and preservation of Greater Sandhill Crane. Specifically, the project applicant shall implement the following SSHCP measures:*

- SSHCP GSC-1 (Greater Sandhill Crane Surveys)
- SSHCP GSC-2 (Greater Sandhill Crane Pre-construction Surveys)
- SSHCP GSC-3 (Greater Sandhill Crane Roosting Buffer)
- SSHCP GSC-4 (Greater Sandhill Crane Visual Barrier)
- SSHCP GSC-5 (Greater Sandhill Crane Roosting Buffer Monitoring)

Tricolored Blackbird

IV-4. Prior to and during all ground-disturbing activities, the project applicant shall comply with SSHCP measures related to the protection and preservation of Tricolored Blackbird. Specifically, the project applicant shall implement the following SSHCP measures:

- SSHCP TCB-1 (Tricolored Blackbird Surveys)*
- SSHCP TCB-2 (Tricolored Blackbird Pre-construction Surveys)*
- SSHCP TCB-3 (Tricolored Blackbird Nest Buffer)*
- SSHCP TCB-4 (Tricolored Blackbird Nest Buffer Monitoring)*
- SSHCP Objective TB-5*
- SSHCP Objective TB-8*

Nesting Raptors and Migratory Birds

IV-5. If initial site disturbance activities, including ground disturbance or tree, shrub, or vegetation removal, are to occur during the breeding season (typically February 1 to August 31), a qualified biologist shall conduct pre-construction surveys for nesting migratory birds within the proposed disturbance area and within 250 feet (for raptors) of the proposed disturbance area, where accessible. The survey shall occur within seven days prior to the onset of ground disturbance or vegetation removal, and the results of the survey shall be submitted to the City of Galt Community Development Department. If evidence of nesting migratory birds is not detected, no further mitigation shall be required. If a nesting migratory bird is detected, an appropriate construction-free buffer shall be established. Actual size of buffer, which shall be determined by the project biologist and approved by the Community Development Department, shall depend on species, topography, and type of activity that would occur in the vicinity of the nest. The project buffer shall be monitored periodically by the project biologist to ensure compliance. After the nesting is completed, as determined by the biologist and approved by the Community Development Department, the buffer shall no longer be required.

Western Red Bat

IV-6. Prior to and during all ground-disturbing activities, the project applicant shall comply with SSHCP measures related to the protection and preservation of Western Red Bat. Specifically, the project applicant shall implement the following SSHCP measures:

- SSHCP BAT-1 (Maternity Roost Surveys)*
- SSHCP BAT-2 (Maternity Roost Pre-construction Surveys)*
- SSHCP BAT-3 (Maternity Roost Buffer)*
- SSHCP BAT-4 (Bat Eviction Methods for Non-Maternity and Non-Hibernaculum Roosts)*

Other Special-Status Bats

- IV-7 *An approved biologist shall conduct a survey of trees on-site for other bat species. Should bat species be observed, SSHCP BAT-4 shall be implemented*

American Badger

- IV-8(a). *Prior to construction, pre-construction surveys conducted for other species shall also be used to determine the presence or absence of badgers in the development footprint. The results of the surveys shall be submitted to the Galt Community Development Department. If an active badger den is not found during the preconstruction surveys, the remainder of the mitigation measures for badgers below are not necessary.*
- IV-8(b). *If an active badger den is identified during pre-construction surveys within or immediately adjacent to the construction envelope, a construction-free buffer of up to 300 feet (or distance specified by the resource agencies, i.e., CDFW) shall be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers.*
- IV-8(c). *Once the biologist has determined that badgers have vacated the site to the satisfaction of the Galt Community Development Department, the burrows can be collapsed or excavated, and ground disturbance can proceed.*
- b,c. During the field survey conducted by Live Oak Associates, Inc., potentially jurisdictional habitats, riparian habitat, federally protected wetlands, and other sensitive natural communities were found to be absent from the subject property. Wetlands or other aquatic features have not been identified within the off-site improvement areas. Therefore, the proposed project would not have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands, and **no impact** would occur.
- d. The project site is bound by H Street and residential development to the north, UPRR to the west, and residential development and churches to the east, all of which act as impediments to wildlife movement. During the field survey conducted by Live Oak Associates, Inc. in 2020, established wildlife movement corridors were determined to be absent within the actively farmed subject property. Established wildlife movement corridors have not been identified within the off-site improvement areas. As such, the proposed project would not interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Therefore, **a less-than-significant impact** would occur.

- e. Of the 35 on-site trees, 31 would be removed as part of the proposed project. Per the Arborist Report and Tree Inventory prepared for the project (see Appendix C), the trees slated for removal are not considered protected trees according to Section 18.52.060, The Cutting and Removal of Heritage Oak and Public Trees, of the City's Municipal Code.⁹ However, the off-site improvement areas include 24 trees that would be removed as part of the widening of 4th Street, 22 of which are considered protected by the City of Galt under the Municipal Code. Therefore, the proposed project would be required to comply with Section 18.52.060 by acquiring the appropriate permits prior to tree removal. In addition, the proposed project would be required to comply with General Plan Policy COS-3.2: Mature Tree and Woodland Preservation, which indicates that the City of Galt will encourage retention of mature trees and woodlands to the maximum extent possible. Without compliance with such regulations, a **potentially significant** impact could occur related to conflicting with local policies or ordinances protecting biological resources.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

- IV-9. *Prior to the removal of any protected trees within the off-site improvement areas, a tree removal permit shall be obtained from the City of Galt, and the project applicant shall comply with all of the conditions of the permit. If the project applicant determines that one or more of the protected trees may be retained, a tree preservation plan shall be prepared for the proposed project identifying all protection and mitigation measures to be taken. The measures shall remain in place for the duration of the construction activities at the project site. The tree preservation plan shall be submitted to and approved by the City of Galt Community Development Department.*
- f. The project site is located within the boundaries of the SSHCP, which establishes an effective framework to protect natural resources in south Sacramento County, while improving and streamlining the environmental permitting process for impacts on endangered species, and provides guidance for the mitigation of impacts to covered species. According to the Technical Biological Report, the project site is located within Preserve Planning Unit 8 (PPU 8) of the SSHCP. Applicable Avoidance and Minimization Measures for SSHCP covered species known to occur within the project region have been included in Mitigation Measures IV-1 through IV-8 of this IS/MND. Additionally, the project applicant would be required to pay all applicable development fees according to the project site's land cover types. The current per-acre fees for land cover types/habitats occurring on the site are as follows:
- Agriculture: \$16,212
 - Low-density Development: No Fee

⁹ California Tree and Landscape Consulting, Inc. *Property Transition Arborist Report: Arborist Report and Tree Inventory for Caterina Estates, 802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]*. March 30, 2020.

California Tree and Landscape Consulting, Inc. *Preconstruction Inventory Arborist Report: Arborist Report and Tree Inventory for Caterina Estates, 802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]*. August 20, 2020.

Alternatively, a project may dedicate land in lieu of paying development fees. Given implementation of Mitigation Measure IV-1 through IV-8 and payment of required fees, if applicable, the proposed project would not conflict with the applicable provisions of the SSHCP and a ***less-than-significant*** impact would occur related to conflicts with an adopted HCP, NCCP, or other approved local, regional, or State HCP.

V. 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 Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a. Existing buildings are not located on the project site or within the off-site improvement areas. On April 7, 2020, a records search of the California Historic Resources Information System (CHRIS) was completed for cultural resources site records and survey reports in Sacramento County by the North Central Information Center. Based on the results of the records search, three previously recorded historic-period cultural resources were determined to be located near the project site. The resources include evidence of nineteenth-century Galt roads and a railroad in the vicinity. Additionally, the search found evidence of twentieth-century crops within surrounding developments adjacent to the project site, including buildings, roads, and the railroad within the project vicinity. However, the records search did not identify any recorded historic resources within the project site.

Based on the above, development of the site would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, and a **less-than-significant** impact would occur.

- b,c. As noted above, a records search of the CHRIS was completed for the proposed project by the North Central Information Center. In addition, on April 6, 2020, the Native American Heritage Commission (NAHC) conducted a Sacred Lands File (SLF) search for the project area. The results on the CHRIS search and NAHC SLF search indicated that historical, archaeological, and other cultural resources are not known to be present in the project vicinity.

The project site has been subject to ground disturbance associated with agricultural activities. As a result of past disturbance, the North Central Information Center determined that a low potential exists for buried resources to occur within the project site and the off-site improvement areas. Nonetheless, unknown archaeological resources, including human remains, have the potential to be uncovered during ground-disturbing construction and excavation activities within the project site and road widening within the off-site improvement areas. If previously unknown resources are encountered during construction activities, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of dedicated cemeteries. Therefore, impacts could be considered **potentially significant**.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

- V-1. *Prior to grading permit issuance, the developer shall submit plans to the City of Galt Community Development Department for review and approval which indicate (via notation on the improvement plans) that if historic and/or cultural resources are encountered during site grading or other work within the project site or off-site improvement areas, all such work shall be halted immediately within 100 feet and the developer shall immediately notify the Community Development Department of the discovery. In such case, the developer shall be required, at their own expense, to retain the services of a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The archaeologist shall be required to submit to the Community Development Department for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding work has occurred.*
- V-2. *If human remains, or remains that are potentially human, are found during construction, a professional archeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance. The archaeologist shall notify the City of Galt Community Development Department and the Sacramento County Coroner (per §7050.5 of the State Health and Safety Code). The provisions of §7050.5 of the California Health and Safety Code, §5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the project (§5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the applicant does not agree with the recommendations of the MLD, the NAHC can mediate (§5097.94 of the Public Resources Code). If an agreement is not reached, the qualified archaeologist or most likely descendent must rebury the remains where they will not be further disturbed (§5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center, using an open space or conservation zoning designation or easement, or recording a reinternment document with the county in which the property is located (AB 2641). Work cannot resume within the no-work radius until the Galt Community Development Department, through consultation as appropriate, determines that the treatment measures have been completed to their satisfaction.*

VI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2019 California Green Building Standards Code and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the proposed project's potential effects related to energy demand during construction and operations, are provided below.

California Green Building Standards Code

The 2019 California Green Building Standards Code, otherwise known as the CAL Green Code (CCR Title 24, Part 11), is a portion of the California Building Standards Code (CBSC), which became effective with the rest of the CBSC on January 1, 2020. The purpose of the CAL Green Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CAL Green standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CAL Green Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

Building Energy Efficiency Standards

The 2019 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2016 Building Energy Efficiency Standards resulting in a seven percent reduction in energy consumption from the 2016 standards for residential structures. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high-performance attics and walls.

One of the improvements included within the 2019 Building Energy Efficiency Standards is the requirement that certain residential developments, including some single-family and low-rise residential developments, include on-site solar energy systems capable of producing 100 percent of the electricity demanded by the residences. Certain residential developments, including developments that are subject to substantial shading, rendering the use of on-site solar photovoltaic systems infeasible, are exempted from the foregoing requirement; however, such developments are subject to all other applicable portions of the 2019 Building Energy Efficiency Standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use approximately 53 percent less energy than those under the 2016 standards.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the sites where energy supply cannot be met via a hookup to the existing electricity grid.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site and off-site improvement areas would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. In addition, all construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

The CARB has recently prepared the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan),¹⁰ which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The Carb Diesel Vehicle Regulation described above, with which the proposed project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

¹⁰ California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, construction activities would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, SMUD and PG&E would provide electricity and natural gas to the project site. Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity and natural gas for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, refrigeration, appliances, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed single-family homes.

The proposed residential project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project site by SMUD would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, a portion of the energy consumed during operation of the proposed project would originate from renewable sources.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as discussed in Section XVII, Transportation, of this IS/MND, the City of Galt and surrounding areas provides residents with numerous public transportation options. Transit options include Dial-A-Ride, Highway 99 Express, Delta Route, and other modes of public transit. Transit would provide access to several grocery stores, restaurants, banks, and schools within close proximity to the project site. The site's access to public transit and proximity to bicycle and pedestrian facilities, such as existing sidewalks along Joy Drive and H Street, would reduce VMT and, consequently, fuel consumption associated with the proposed single-family residences.

Conclusion

Based on the above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

VII. 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:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

ai-ii. Per the City of Galt General Plan EIR, the City of Galt is not located within an Alquist-Priolo Earthquake Fault Zone and is not located in the immediate vicinity of an active fault.¹¹ The nearest active fault is the Clayton-Marsh Creek-Greenville Fault, which is located over 40 miles southwest of the project site. Thus, the potential for fault rupture risk at the project site is relatively low.

An earthquake of moderate to high magnitude generated by the above fault could cause considerable ground shaking at the project site. However, Policy SS-1.7 requires all new buildings to be properly engineered in accordance with the CBSC, which includes engineering standards appropriate for the seismic area in which the project site is located. Conformance with the design standards is verified by the City prior to the issuance of building permits. Projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural, damage. Although conformance with the CBSC does not guarantee that substantial structural damage would not occur in the event of a maximum magnitude earthquake, conformance with the CBSC can reasonably be assumed to ensure structures would be survivable, allowing occupants to safely evacuate in the event of a major earthquake.

¹¹ City of Galt. *City of Galt General Plan Policy Document*. April 2009.

Based on the above, people and structures would not be exposed to potential substantial adverse effects involving rupture of a known earthquake fault or strong seismic ground-shaking and a **less-than-significant** impact would occur.

aiii,aiv,

- c. The proposed project's potential effects related to liquefaction, landslides, lateral spreading, and subsidence/settlement are discussed in detail below.

Liquefaction

Liquefaction is a phenomenon in which granular material is transformed from a solid state to a liquefied state as a consequence of increased pore-water pressure and reduced effective stress. Increased pore-water pressure is induced by the tendency of granular materials to densify when subjected to cyclic shear stresses associated with earthquakes. Per the California Earthquake Hazards Zone Application, the project site is not located within a designated seismic hazard zone for liquefaction.¹² Thus, the proposed project would not be subject to substantial liquefaction risk.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. According to the Phase I ESA, the topography of the project site is relatively flat, sloping shallowly toward the east-southeast. Per the California Earthquake Hazards Zone Application, the project site is not located within a designated seismic hazard zone for landslides.¹³ Thus, the proposed project would not be subject to substantial liquefaction risks.

Lateral Spreading

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. The project site does not contain any slopes and is not located near any open faces that would be considered susceptible to lateral spreading. Therefore, the potential for lateral spreading to pose a risk to the proposed development is low.

Subsidence/Settlement

Per the General Plan EIR, subsidence is the gradual settling or sinking of the earth's surface with little horizontal movement. Subsidence takes place gradually, usually over a period of several years. The General Plan EIR determined that subsidence in Galt has occurred primarily along the Delta within the City's planning area. The City is considered a potential subsidence area due to the underlying groundwater basin and the rates of groundwater withdrawal that have occurred in the past. Although subsidence has the potential to occur in the project area, the EIR concluded that with implementation of General Plan Policies SS-2.1, SS-2.2, SS-2.3, and LU-1.9, impacts related to subsidence and settlement would be reduced to a less-than-significant level. Such policies include limits on development within unstable areas and requirements related to preparation of grading and erosion control plans for new development projects. Given that the proposed project would comply with the aforementioned policies, as well as General Plan Policy SS-

¹² California Department of Conservation. *California Earthquake Hazards Zone Application*. Available at: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed April 2020.

¹³ *Ibid.*

1.7, requiring new buildings be built in accordance with the CBSC, the potential for subsidence to pose a risk to the proposed Caterina Estates residential development would be relatively low. In addition, soil imported to the project site would consist of engineered fill meeting established standards and would, therefore, not result in subsidence risks. Given the proposed project's compliance with established standards in the General Plan, impacts related to subsidence and settlement would be anticipated to be less than significant.

Conclusion

Based on the above, the proposed project would not be subject to substantial risks related to liquefaction, landslides, or lateral spreading. Compliance with standard construction regulations included in the CBSC would ensure that the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving subsidence or settlement. Furthermore, the proposed project would not 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 subsidence, liquefaction, or collapse. Thus, a **less-than-significant** impact would occur.

- b. Issues related to erosion and degradation of water quality during construction are discussed in further detail in Section X, Hydrology and Water Quality, of this IS/MND. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil. Thus, a **less-than-significant** impact would occur.
- d. Expansive soils are those possessing clay particles that react to moisture changes by shrinking or swelling. Expansive soils can also consist of silty to sandy clay. If structures are underlain by expansive soils, foundation systems must be capable of tolerating or resisting any potentially damaging soil movements, and building foundation areas must be properly drained. Per the Natural Resources Conservation Service (NRCS) Web Soil Survey, 85 percent of on-site soils are identified as Kimball silt loam. Such soils have a moderate potential to experience shrink-swell. The expansive soil conditions of the project site could cause detrimental effects to the structures included in the proposed project. Because a site-specific geotechnical study has not been prepared to study the potential risks related to expansive soils and liquefaction, potential on-site impacts related to expansive soils and direct or indirect risks to life or property are **potentially significant**.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- VII-1. *Prior to issuance of a grading permit, the applicant/developer shall incorporate the recommendations of a design-level geotechnical report into project Improvement Plans for review and approval by the City Engineer. Should expansive or otherwise unstable soils be found within the project site, the design-level geotechnical report shall include measures necessary to ensure that such on-site conditions are fully mitigated. Methods of mitigating potential on-site soil expansive soils may include, but shall not be limited to, the following measures:*

- *Remove and replace potentially expansive soils; and/or*
 - *Strengthen foundations (e.g., post-tensioned slab, reinforced mat or grid foundation, or other similar system) to resist excessive differential settlement associated with seismically-induced soil expansion.*
- e. The proposed project would connect to existing City sewer infrastructure. Thus, the construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, **no impact** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.
- f. The City's General Plan indicates that known paleontological resources could exist along the major waterways, especially the Cosumnes River, and along the Dry Creek corridor. Development allowed under the General Plan could result in the discovery and disturbance of previously unknown or undiscovered paleontological resources. The City's General Plan EIR concluded that with implementation of Policy HRE-4.1 through HRE-4.4, which require all new development projects to comply with procedures upon discovery of unique paleontological resources, impacts related to disturbance of paleontological resources would be less than significant. The City's General Plan does not note the existence of any unique geologic features within the City.

The proposed project would not have the potential to result in the destruction of unique geologic features; however, previously unknown paleontological resources could exist within the subject property or off-site improvement areas due to the presence of the Dry Creek channel within five miles of the project site. Thus, ground-disturbing activity, such as grading, trenching, or excavating associated with implementation of the proposed project, could have the potential to disturb or destroy such resources. Therefore, the proposed project could result in the direct or indirect destruction of a unique paleontological resource, and a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- VII-2. *Should construction or grading activities result in the discovery of unique paleontological resources, all work within 100 feet of the discovery shall cease. The Community Development Department shall be notified, and the resources shall be examined by a qualified archaeologist, paleontologist, or historian, at the developer's expense, for the purpose of recording, protecting, or curating the discovery as appropriate. The archaeologist, paleontologist, or historian shall submit to the Community Development Department for review and approval a report of the findings and method of curation or protection of the resources. Work may only resume in the area of discovery when the preceding work has occurred.*

VIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

a,b. 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. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Multiple agencies maintain guidance for the analysis of GHG emissions in the project area. SMAQMD has adopted thresholds of significance for GHG emissions during construction and operations of projects. Although SMAQMD maintains GHG emissions thresholds, SMAQMD's CEQA Guidelines note that where local jurisdictions have adopted thresholds or guidance for analyzing GHG emissions, the local thresholds should be used in project analysis. The City of Galt has recently adopted a Climate Action Plan (CAP) which provides a jurisdiction-wide approach to the analysis of GHG emissions. The City's CAP includes Citywide measures intended to reduce emissions from existing sources, as well as measures aimed at reducing emissions from future sources related to development within the City.

The Galt CAP includes a sustainability checklist to be used in analyzing the consistency of new development projects within the City of Galt with the City's CAP. Accordingly, the sustainability checklist has been completed for the proposed project, and is included as Appendix D of this IS/MND. The analysis presented within the sustainability checklist is summarized below.

The sustainability checklist includes certain requirements for new developments within the City to ensure compliance with the City's CAP. For instance, the sustainability checklist requires that the project include bicycle, pedestrian, and/or transit infrastructure, pursuant to CAP Transportation Measures 1 and 2. Additionally, the project construction would be required to include a percentage of construction equipment meeting the U.S. EPA's Tier 4 standards. In addition to resulting in reduced particulate matter and NO_x emissions, operation of Tier 4 engines consumes approximately five percent less fuel than standard construction equipment. Increased fuel efficiency and decreased total fuel consumption would directly reduce construction-related GHG emissions.¹⁴ All construction equipment in operation would be reported to SMAQMD on a monthly basis. Furthermore, the Galt CAP sustainability checklist requires outdoor electrical outlets or infrastructure to support

¹⁴ Empire Cat. Tier 4 Emissions Technology. Available at http://www.empire-cat.com/Power_Systems/Emissions_Solutions/Tier_4_Technology.aspx. Accessed July 2020.

the use of all electric landscaping equipment. In the case of the proposed project, electric vehicle charging stations would be offered as part of the homebuilder option program, as well as outdoor electric outlets to support the use of electric landscaping equipment. It should be noted that yard equipment has traditionally been fossil fueled. Electrically powered alternatives have recently become available to allow consumers to opt for non-polluting yard equipment. The CAPCOA considers the use of electric yard equipment as a best management practice.¹⁵ Because individual homeowners cannot be required to use specific types of electric yard equipment, the GHG emissions reduction benefits of this measure are speculative. However, the existence of electrical outlets in outdoor areas of homes would make it easier for future home owners to adopt electric landscaping equipment in lieu of fossil fueled yard equipment. Given the proposed project's compliance with the aforementioned construction and design standards, the proposed project would comply with all requirements included in Section 1 of the sustainability checklist.

Per Section 2, Sustainable Design Options, of the sustainability checklist, the proposed project is required to meet at least two of the provided sustainable design options. The proposed project complies with the aforementioned requirement by constituting an infill project, and including sustainable design practices. The project site is surrounded by residential development to the north, single-family residences and churches to the east, and additional single-family development to the west, across the UPRR tracks. As such, the Caterina Estates project would qualify as an infill project. Pursuant to the CBSC and City's Municipal Code, the proposed project would include several sustainable design features, including the following:

- Outdoor landscaping must reduce outdoor water use through compliance with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) and landscape water efficiency standards set forth in Chapter 18.52 of the Municipal Code;
- 65 percent of construction and demolition waste must be diverted from landfills;
- Installation of high efficacy lighting and water heating systems;
- Inclusion of high-performance attics and walls; and
- Installation of on-site solar energy systems capable of producing 100 percent of the on-site electricity demand.

With the inclusion of the above sustainable design practices and the project's status as an infill project, the proposed project would comply with the requirements in Section 2 of the Galt CAP sustainability checklist.

Based on the above, the proposed project would not generate GHG emissions that would have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. Therefore, impacts would be considered ***less than significant***.

¹⁵ California Air Pollution Control Officers Association. *Quantifying Greenhouse Gas Mitigation Measures* [pg. 391]. August 2010.

IX. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a. Residential uses do not typically involve the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. Future residents may use common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing the use of such products and the amount used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a **less-than-significant** impact would occur.
- b. The following discussion provides an analysis of potential hazards related to the proposed construction activities and existing on-site conditions. The analysis of existing on-site conditions is based on a Phase I Environmental Site Assessment (ESA) conducted for the proposed project by Petralogix Engineering, Inc (see Appendix E).¹⁶

Construction Activities

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and the use of other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment)

¹⁶ Petralogix Engineering, Inc. *Phase I Environmental Site Assessment: Caterina, Galt, California*. October 25, 2019

would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and local City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Thus, construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Existing On-Site Hazardous Conditions

A discussion of potential on-site hazardous conditions based on the Phase I ESA is discussed below.

Septic System and Wells

Because the project site does not include development of the northeastern portion of the subject property which contains an existing single-family residence, the potential for a well or septic field to be uncovered during construction is unlikely to occur. Although the Sacramento County Environmental Management Department recorded a well as being constructed on the subject property in 1962, the location of the potentially abandoned well was not determined during records review or observed during the site reconnaissance. Thus, a significant impact would be unlikely to occur.

Asbestos-Containing Materials and Lead-Based Paint

Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be “fibrous” and, through processing, can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. They are also long, thin, and flexible, such that they can be woven into cloth. Because of the above qualities, asbestos was considered an ideal product and has been used in thousands of consumer, industrial, maritime, automotive, scientific, and building products. However, later discoveries found that, when inhaled, the material caused serious illness.

For buildings constructed prior to 1980, the Code of Federal Regulations (29 CFR 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as “presumed asbestos-containing material” unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act. Given that existing development is not present on-site, the proposed project would not expose construction workers to asbestos.

Lead-based paint (LBP) is defined by federal guidelines as any paint, varnish, stain, or other applied coating that has one milligram of lead per square centimeter or greater. Lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. In buildings constructed after 1978, the presence of LBP is unlikely. Structures built prior to 1978, and especially prior to the 1960s, are expected to contain LBP. Given that existing development is not present on-site, the proposed project would not expose construction workers to LBP.

Contaminated Soils

Past agricultural activities within the subject property have included the use of pesticides, fertilizers, or other chemicals that were sprayed on walnut trees located within the subject property and along the perimeter of the subject property from 1940 to the early 1990s. Furthermore, a former barn that was once located adjacent to the project site and demolished in 1968 may have been used to store pesticides and petroleum products for farm equipment. The Phase I ESA determined that it is possible that residual levels of persistent agricultural chemicals remain in the soil and that the possible former agricultural practices represent a reasonable environmental concern to the site.

Conclusion

Based on the above, the presence of trash, old farming equipment, and prior agricultural activities on-site which included pesticide use potentially contaminated soils within the subject property. Therefore, the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- IX-1. *Prior to issuance of grading permits, consistent with the findings of the Phase I Environmental Site Assessment (ESA) prepared by Petralogix Engineering, Inc., a Phase II ESA shall be prepared for the project site to evaluate whether on-site soils have been impacted by either of the following: persistent agricultural chemicals associated with prior agricultural uses; or lead-based paint and/or asbestos associated with the structure formerly located in the northeast portion of the subject property. The Phase II ESA shall be submitted to the City of Galt. If the Phase II ESA does not identify any soil contaminants in excess of applicable thresholds, further mitigation is not required. If the Phase II ESA identifies soil contaminant concentrations in excess of applicable thresholds, impacted soils shall be managed in accordance with the recommendations of the Phase II ESA and applicable federal, State, and local standards, to the satisfaction of the City of Galt and the Sacramento County Environmental Management Department.*
- c. The project site is located approximately 0.1-mile from Galt Christian School, 0.2-mile from Galt Head Start, 0.5-mile from Galt Joint Union Elementary School, and 0.7-mile from Galt High School. Thus, the project site is located within one-quarter mile of existing schools. However, as discussed above, the proposed residential uses would not involve the routine transport, use, or disposal of hazardous materials. Therefore, the proposed project would have a ***less-than-significant*** impact with respect to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- d. According to the Department of Toxic Substance Control's Hazardous Waste and Substances Site List, the project site and off-site improvement areas are not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.¹⁷ Thus, the proposed project would not create a significant hazard to the public or the environment related to such, and **no impact** would occur.
- e. The nearest airport to the project site is Vettters Sky Ranch Airport, which is located approximately 4.5 miles southeast of the project site. As such, the project site is not located within two miles of any public airports, and does not fall within an airport land use plan area. Therefore, **no impact** would occur related to the project being located within an airport land use plan or within two miles of a public airport or public use airport, thereby resulting in a safety hazard or excessive noise for people residing or working in the project area.
- f. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. During project operations, the development of three new roads within the project site would connect the proposed residences to H Street and Joy Drive along the northern and eastern boundaries and would ensure adequate access to the project site by emergency vehicles. The new internal circulation system would ensure that the proposed residences would not interfere with potential evacuation or response routes used by emergency response teams during operations. Therefore, the project would not substantially alter the existing circulation system in the surrounding area, and the project would have a **less-than-significant** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.
- g. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS/MND. As noted therein, the project site is not located within or near a Very High Fire Hazard Severity Zone.¹⁸ In addition, the project site is bordered by UPRR tracks to the west and residential development to the north and east, while the area to the south of the site consists primarily of actively maintained agricultural land. Thus, the potential for wildland fires to reach the project site would be limited. Based on the above, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, and a **less-than-significant** impact would occur.

¹⁷ Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: <https://calepa.ca.gov/SiteCleanup/CorteseList/>. Accessed May 2020.

¹⁸ California Department of Forestry and Fire Protection. *Sacramento County, Very High Fire Hazard Severity Zones in LRA*. October 2, 2007. Available at: <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>. Accessed May 2020.

X. HYDROLOGY AND WATER QUALITY.

Would the project:

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

Discussion

- a. The City of Galt has a Phase I National Pollutant Discharge Elimination System (NPDES) permit and is part of the Sacramento Stormwater Quality Partnership (SSQP). The City of Galt is regulated by Order No. R5-2002-0206 NPDES No. CAS082597, "Waste Discharge Requirements for County of Sacramento and the Cities Citrus Heights, Elk Grove, Folsom, Galt and Sacramento Storm Water Discharges From Municipal Separate Storm Sewer Systems Sacramento County" issued by the Central Valley Regional Water Quality Control Board (CVRWQCB). However, the City of Galt Municipal Separate Storm Sewer System (MS4) is noncontiguous with other MS4s and is surrounded by rural and agricultural areas that are not subject to NPDES regulations.

The City of Galt participates in the County-wide Sacramento Stormwater Quality Improvement Program (SQIP), which was established in 1990 to reduce the pollution carried by stormwater into local creeks and rivers. The SQIP is based on the NPDES municipal stormwater discharge permit. The comprehensive SQIP includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations.

Grading and excavation during construction, as well as implementation of new structures associated with the proposed project, would create the potential to degrade water quality from increased sedimentation and increased discharge (increased flow and volume of runoff) associated with stormwater runoff. During the early stages of construction

activities, topsoil would be exposed due to grading of the site. After grading and prior to overlaying the ground with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or pollutants into stormwater runoff. The discharge of sediment and/or pollutants into stormwater runoff could adversely affect the water quality in the project area. The State Water Resources Control Board (SWRCB) adopted a statewide general NPDES permit for stormwater discharges associated with construction activity. Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to the General Permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation. The proposed project would include disturbance of approximately 12.4 acres, and, thus, is subject to the relevant requirements within the aforementioned General Permit.

The proposed project would be required to implement all applicable goals, policies and BMP's set forth by the above programs. Construction related to BMPs would likely include, but are not limited to, installation of storm drain inlet protection, stabilization of construction exits, and proper maintenance of material stockpiles. The project's compliance with the requirements of the SWRCB, the SQIP, and the City of Galt's Stormwater Management Program would ensure that construction activities, and operation of the project, would not result in degradation of downstream water quality. However, the proposed project's construction activities could result in an increase in erosion, and consequently affect water quality. Compliance with the foregoing requirements is typically demonstrated through implementation of a SWPPP. However, a SWPPP has not yet been prepared for the project. Without preparation of a SWPPP, proper implementation of BMPs cannot be ensured at this time, and the proposed project's construction activities could result in an increase in erosion, and consequently affect water quality. Therefore, a **potentially significant** impact related to water quality and waste discharge requirements could result.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- X-1. *Prior to the issuance of grading permits, the developer shall obtain and comply with the NPDES general construction permit including the submittal of a Notice of Intent (NOI) and associated fee to the SWRCB and the preparation of a SWPPP that includes both construction stage and permanent storm water pollution prevention practices, in conformance with the SQIP, to be submitted to the City Engineer for review.*
- b,e. Water for the project site would be supplied by the City of Galt. Per the City's 2015 Urban Water Management Plan (UWMP),¹⁹ the City of Galt's groundwater is derived from the Cosumnes Subbasin, which is part of the San Joaquin Valley Groundwater Basin. Despite growth within the City of Galt, on-going groundwater use, and the uncertainty of overdraft conditions, monitoring groundwater levels within the City has shown little change in depth to groundwater since 1961. The 2015 UWMP concludes that groundwater resources within the City are anticipated to be sufficient at least through the year 2040. Increases in demand for groundwater that occur with buildout of the City can be met through continued

¹⁹ City of Galt. 2015 Urban Water Management Plan Update. June 2016.

pumping from existing wells and the construction of new wells as needed.²⁰ The proposed project is not anticipated to require construction of a new well, and continued pumping from existing City of Galt wells is not anticipated to inhibit the use of groundwater by the City.

Given that the project site represents a relatively small area compared to the size of the groundwater basin, the site does not currently represent a substantial source of groundwater recharge. In addition, the proposed landscaped areas within the project site, including the proposed 1.4-acre bio-retention basin within the southern portion of the site, would continue to allow stormwater runoff to percolate into underlying soils, thereby contributing to groundwater recharge. Although the proposed project would require a GPA to amend the site's current General Plan land use designation from LDR to MDR, the project site has been previously designated for urban development and the loss of groundwater infiltration at the site due to development has been previously anticipated in the General Plan EIR. Overall, the proposed project would result in a ***less-than-significant*** impact with respect to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin.

- ci-iii. The project site currently consists of agricultural land used for row crops. Implementation of the proposed project would involve development of 67 single-family residences. Such development would increase the amount of impervious surfaces within the project site from existing conditions. With implementation of the proposed project, stormwater draining from impervious surfaces within the project site would be captured by curb inlets and routed, by way of new 18- to 24-inch storm drain lines within the project site, to a new bio-retention basin to be located in the southern portion of the site. The bio-retention basin would be designed with sufficient capacity to provide treatment and detention of stormwater runoff associated with the proposed project and would be consistent with the City of Galt's Stormwater Management Program and all other applicable standards and regulations. Treated runoff would flow to an existing 18-inch storm drain line located within Joy Drive, which ultimately drains into Dry Creek to the east of the project site. The proposed project's compliance with the SQIP requirements and the City of Galt's Stormwater Management Program would ensure that the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site, substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, or creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, a ***less-than-significant*** impact would occur.
- civ. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map that includes the subject property, the project site and off-site improvement areas are located in an Area of Minimal Flood Hazard (Zone X).²¹ As such, the project would not impede or redirect flood flows or expose people or structures to a significant loss, injury, or death involving flooding. Therefore, the proposed project would result in a ***less-than-significant*** impact.

²⁰ City of Galt. 2015 *Urban Water Management Plan Update*. June 2016.

²¹ Federal Emergency Management Agency. *Flood Insurance Rate Map 06067C0606J*. Effective October 20, 2016.

- d. As discussed under question 'civ' above, the proposed development area and off-site improvement areas are not located within a flood hazard zone. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir. The project site is not located in proximity to a coastline and would not be potentially affected by flooding risks associated with tsunamis. Seiches do not pose a risk to the proposed project, as the project site is not located adjacent to a large closed body of water. Based on the above, the proposed project would not pose a risk related to the release of pollutants due to project inundation from flooding, tsunami, or seiche zones, and ***no impact*** would occur.

XI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. The proposed project would include development of 67 single-family residences within the project site. The proposed project would be consistent with the single-family subdivisions to the north and existing residences to the east. Although the project would include a GPA from LDR to MDR and a rezone from R1A to R2-PD, the project site has been previously anticipated for residential uses, and the proposed project would not isolate an existing land use. As such, the proposed project would not physically divide an established community, and a **less-than-significant** impact would occur.
- b. The project site is currently designated LDR per the City of Galt General Plan and is zoned R1A. The proposed project would include a rezone from R1A to R2-PD for the project site; the current General Plan land use and zoning designations of the remainder parcel would not be altered. While the project would require an amendment to the intensity of residential uses anticipated for the site in the General Plan, the proposed project would generally be consistent with surrounding development to the north and east. Additionally, the proposed project would adhere to the General Plan goals, policies, and objectives regarding land use and planning including, but not limited to, Policy LU-1.7 and Policy LU-4.4. Policy LU-1.7 establishes the goal of designating land for development with the needs of the community, while Policy LU-4.4 ensures standards for MDR developments. In addition, as discussed throughout this IS/MND, the proposed project would not conflict with any City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, the proposed project would comply with the City of Galt General Plan Noise Element. Additionally, as discussed in Section IV, Biological Resources, the proposed project would comply with Section 18.52.060, The Cutting and Removal of Heritage Oak and Public Trees, of the City's Municipal Code.

Based on the above, the project would not cause a significant environmental impact due to conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, a **less-than-significant** impact would occur.

XII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗

Discussion

- a,b. Impacts to mineral resources were determined to be less-than-significant during the General Plan EIR scoping stage of the analysis, and further assessment was not performed by the City of Galt. The City of Galt is within Sacramento County's General Plan area, which analyzes mineral resources within the County. According to the County's General Plan, the mineral zone closest to the project site is located near New Hope Road, approximately 3.5 miles to the east. The project site itself is not known to contain mineral resources and the construction of the proposed project would not result in the loss of any known mineral resources. Therefore, ***no impact*** to mineral resources would occur.

XIII. NOISE.

Would the project result in:

	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	×	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	×

Discussion

The following discussion is based on an Environmental Noise Assessment prepared by Saxelby Acoustics (see Appendix F).²²

- a. The following sections present information regarding sensitive noise receptors in proximity to the project site, the existing noise environment, and the potential for the proposed project to result in noise impacts during project construction and operation. The following terms are referenced in the sections below:
- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to decibels (dB) in this analysis are A-weighted unless noted otherwise.
 - Average, or equivalent, sound level (L_{eq}): The L_{eq} corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour).
 - Day-Night Average Level (L_{dn}): The average sound level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. In the vicinity of the project site, sensitive land uses include the existing single-family residence located on the remainder parcel of the subject property; single-family residences located to the north of the project site, across H Street; and single-family residences and churches scattered to the east of the site, across Joy Drive.

²² Saxelby Acoustics. *Environmental Noise Assessment, Caterina Estates, City of Galt, California*. July 6, 2020.

Existing Noise Environment

The existing noise environment in the project area is primarily defined by rail activity on the adjacent UPRR tracks located 150 feet west of the project site.

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted one continuous (24-hour) noise level measurement and one short-term noise level measurement at two different locations within the project site. Noise measurement locations are shown in Figure 8, and a summary of the noise level measurement survey results is provided in Table 3.

Table 3 Summary of Existing Background Noise Measurement Data								
Site	Date	CNEL/ L _{dn}	Average Measured Hourly Noise Levels (dBA)					
			Daytime (7 AM to 10 PM)			Nighttime (10 PM to 7 AM)		
			L _{eq}	L ₅₀	L _{max}	L _{eq}	L ₅₀	L _{max}
LT-1	04/09/20 - 4/10/20	69	63	45	83	62	41	72
ST-1	04/09/20 -10:00 AM	N/A	55	48	75	N/A	N/A	N/A
Source: Saxelby Acoustics, 2020.								

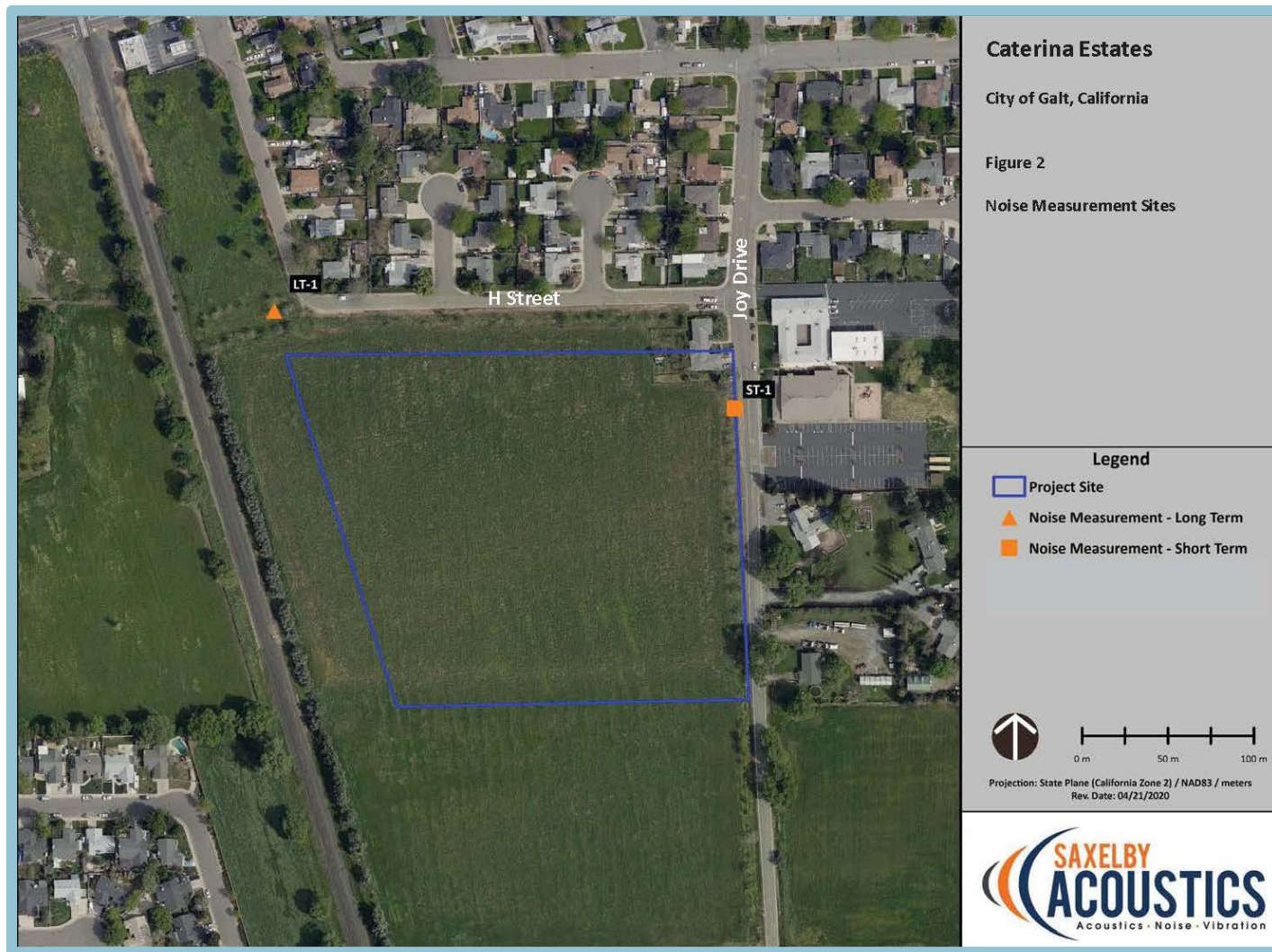
Standards of Significance

The City of Galt General Plan Noise Element establishes a noise level standard of 60 dB as normally acceptable at residential land uses. Noise levels up to 70 dB are considered conditionally acceptable for residential uses. The City of Galt considers the following significance criteria for noise impacts:

- If the noise level resulting from project operations would exceed the “normally acceptable” range for a given land use where the existing noise level exceeds the normally acceptable range, a 3 dB L_{dn} or greater increase due to a project is considered significant; and
- If the noise level resulting from project operations would exceed the “normally acceptable” range for a given land use where the existing noise level is within the normally acceptable range, a 5 dB L_{dn} or greater increase due to a project is considered significant; and
- If the noise level resulting from project operations would be within the “normally acceptable” range for a given land use, a 10 dB L_{dn} or greater increase due to a project is considered significant.

In addition to General Plan standards noted above, Section 8.40.040 of the City's Municipal Code outlines criteria for “non-transportation” or “locally regulated” noise sources. The noise level performance standards for non-transportation noise in the City of Galt are shown in Table 4 below.

Figure 8
Noise Measurement Locations



Source: Saxelby Acoustics, 2020.

Table 4 Noise Level Performance Standards for Residential Areas Affected by Non-Transportation Noise		
Noise Level Descriptor	Exterior Noise Level Standards, dBA	
	Daytime (7 AM-10 PM)	Nighttime (10 PM-7 AM)
Hourly L_{eq} , dB	50	45
Maximum Level, dB	70	65
Source: City of Galt Municipal Code		

Impact Analysis

The following sections provide an analysis of potential noise impacts associated with construction and operation of the proposed project.

Construction Noise

During construction of the proposed project, heavy-duty equipment would be used for grading, excavation, paving, and building construction, which would result in temporary noise level increases. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. Standard construction equipment, such as backhoes, dozers, and dump trucks would be used on-site.

Table 5 shows the predicted construction noise levels for development of the proposed project. Based on the table, activities involved in typical construction would generate maximum noise levels up to 90 dB at a distance of 50 feet. Construction activities would be temporary in nature and are anticipated to occur during normal daytime hours.

Table 5 Construction Equipment Noise	
Type of Equipment	Maximum Level, dB at 50 feet
Auger Rill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85
Source: Federal Highway Administration, Roadway Construction Noise Model User's Guide, January 2006.	

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. Noise increase from truck traffic related to the movement of material would be of short duration, and would likely occur primarily during daytime hours.

The City of Galt establishes permissible hours of construction in Section 8.40.060(E) and (F) of the Municipal Code. The ordinance restricts noise-producing construction activities to weekday hours between 6:00 AM and 8:00 PM Monday through Friday, and from 7:00 AM to 8:00 PM on Saturdays and Sundays. During the permissible hours, construction activities are conditionally exempt from the standards established by Section 8.40.040(A) of the City's Municipal Code.

Although construction activities are temporary in nature and would likely occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the project if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance could be considered significant.

Operational Noise

The proposed residences would be subject to railroad noise associated with the existing UPRR tracks located to the west of the project site. In addition, operations of the proposed project would generate noise associated with increased traffic on nearby roadways. Transportation related noise at the proposed residences and existing sensitive receptors in the project vicinity is discussed in further detail below.

Railroad Noise at New Sensitive Receptors – Exterior Areas

The western boundary of the site is 150 feet east of UPRR tracks. The 2030 General Plan EIR states that freight trains pass through the City between 20 to 40 times per day, and on-site railroad noise measurements performed by Saxelby Acoustics identified 21 train events near the project site in one 24-hour period.

Under the 2030 Galt General Plan, residential uses are considered normally acceptable in ambient noise environments up to 60 dBA L_{dn} and conditionally acceptable in noise environments up to 70 dBA L_{dn} .

The proposed project would include the construction of a seven-foot tall sound wall along the western project site boundary that would help to shield the proposed residences from noise associated with railroad traffic. According to the Environmental Noise Assessment prepared by Saxelby Acoustics, the project site is predicted to be exposed to exterior noise levels of up to 69 dBA L_{dn} , exceeding the City of Galt's 60 dB L_{dn} "normally acceptable" exterior noise level threshold. However, the proposed seven-foot sound wall would reduce exterior noise levels from the UPRR tracks by up to 3 dB, thereby reducing the exterior noise level to 66 dB. According to General Plan Policies N-1.10 and N-1.1, exterior noise levels of 70 dB and lower are considered conditionally acceptable when proposed developments along major streets, highways, and railroad tracks include appropriate noise mitigation, such as conventional construction techniques, closed windows, and fresh air supply systems or air conditioning. Therefore, mitigation would be required to ensure that future residents of the proposed project are not exposed to exterior noise levels exceeding the City's conditionally acceptable noise standards (i.e., 70 dB L_{dn}).

Railroad Noise at New Sensitive Receptors – Interior Areas

The City of Galt maintains an interior noise level criterion of 45 dBA L_{dn} for residential uses. The intent of this standard is to provide a suitable environment for indoor

communication and sleep. Based upon the Environmental Noise Assessment prepared by Saxelby Acoustics, the proposed residences would be exposed to exterior noise levels of up to 66 dB L_{dn} at the ground floor building facades closest to the UPRR tracks. Second floor locations would not receive substantial shielding from the seven-foot tall sound wall and would be expected to be exposed to exterior noise levels of up to 69 dBA L_{dn}.

Modern building construction typically yields an exterior-to-interior noise level reduction of 25 dBA. Therefore, where exterior noise levels are 70 dB L_{dn}, or less, typical construction techniques would result in an indoor noise level of 45 dBA L_{dn} or less. Exterior noise levels at the proposed project are predicted to be up to 69 dBA L_{dn}, resulting in an interior noise level of 44 dBA L_{dn} based on typical building construction. Therefore, the proposed project would comply with the City's 45 dBA L_{dn} interior noise level standard, and noise impacts on the interior areas of the proposed residences would be considered less than significant.

Transportation Noise at Existing Sensitive Receptors

A doubling in traffic volumes is required to increase traffic noise levels by 3.0 dB, which is considered to be the threshold for a significant increase per the City of Galt General Plan Noise Element. As discussed in Section XVII, Transportation, of this Initial Study, the proposed 67-unit residential development would generate approximately 51 trips during the AM peak hour and 67 trips during the PM peak hour. However, buildout of the project site with up to 50 units, and associated traffic noise impacts, was previously analyzed in the General Plan EIR. Thus, the proposed project would result in a net increase of 17 residential units relative to what was previously analyzed. An additional 17 units beyond what was anticipated by the City would generate 13 additional trips during the AM peak hour and 17 additional trips during the PM peak hour. Such a relatively small number of peak hour vehicle trips would not result in substantially increased traffic noise levels beyond what was analyzed in the General Plan EIR. Therefore, traffic-related noise generated from buildout of the proposed project would not result in a significant impact.

Conclusion

Based on the above, operation of the proposed project would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City's General Plan and the Municipal Code. However, construction noise could result in a significant impact, should activities occur outside the normal daytime hours. Therefore, considering the potential for construction noise to increase noise levels in the project area in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, a **potentially significant** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

XIII-1. Construction activities shall comply with the City of Galt Noise Ordinance and shall be limited to the hours set forth below:

<i>Monday-Friday</i>	<i>6:00 AM to 8:00 PM</i>
<i>Saturday and Sunday</i>	<i>7:00 AM to 8:00 PM</i>

The above criteria shall be included in the grading plan submitted by the applicant/developer for review and approval of the Public Works Department prior to issuance of grading permits. Exceptions to allow expanded construction activities shall be reviewed on a case-by-case basis as determined by the Chief Building Official and/or City Engineer.

- XIII-2. Construction activities shall adhere to the requirements of the City of Galt with respect to hours of operation, muffling of internal combustion engines, and other factors that affect construction noise generation and the associated effects on noise-sensitive land uses. Prior to issuance of grading permits, these criteria shall be included in the grading plan submitted by the applicant/developer for the review and approval of the Public Works Department.*
- XIII-3. During construction, the applicant/developer shall designate a disturbance coordinator and conspicuously post the person's number around the project site and in adjacent public spaces. The disturbance coordinator will receive all public complaints about construction noise disturbances and will be responsible for determining the cause of the complaint, and implement feasible measures to be taken to alleviate the problem. The disturbance coordinator shall report all complaints and corrective measures taken to the Community Development Director.*
- XIII-4. Prior to approval of project improvement plans, the improvement plans for the proposed project shall show that the proposed residential units shall be shielded from the UPRR tracks through the use of seven-foot tall masonry sound walls, subject to the approval of the City Engineer. The approximate locations of the barriers are shown on Figure 5 of this IS/MND. Other types of barrier may be employed, subject to City approval.*
- XIII-5. Prior to issuance of building permits, the applicant shall provide a detailed analysis of interior noise control measures. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City's 45 dBA L_{dn} interior noise level standard. Implementation of the appropriate construction techniques and noise control measures shall be shown on building plans for the proposed project, and such plans shall be reviewed by the City Engineer.*

- b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived

vibration events. Table 6, which was developed by the California Department of Transportation (Caltrans), shows the vibration levels that would normally be required to result in damage to structures. As shown in the table, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and paving occur. Table 7 shows the typical vibration levels produced by construction equipment at various distances. The most substantial source of groundborne vibrations associated with project construction would be the use of vibratory compactors. Use of vibratory compactors/rollers could be required during construction of the proposed roadways. The proposed project would only cause elevated vibration levels during construction, as the proposed project would not involve any uses or operations that would generate substantial groundborne vibration. Although noise and vibration associated with the construction phases of the project would add to the noise and vibration environment in the immediate project vicinity, construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Table 6 Effects of Vibration on People and Buildings			
PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage
Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.			

<p>Table 7 Vibration Levels for Various Construction Equipment</p>		
Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)
Large Bulldozer	0.089	0.031
Loaded Trucks	0.076	0.027
Small Bulldozer	0.003	0.001
Auger/drill Rigs	0.089	0.031
Jackhammer	0.035	0.012
Vibratory Hammer	0.070	0.025
Vibratory Compactor/roller	0.210 (less than 0.20 at 26 feet)	0.074
<p>Source: Saxelby Acoustics, 2020.</p>		

Based on Table 7, at distance of 26 feet or less, construction vibration levels anticipated for the proposed project would be higher than the 0.2 in/sec threshold established by Caltrans. Nearby sensitive receptors include the single-family residences 70 feet to the north of the site, across H Street, and 110 feet east of the site, across Joy Drive. In addition, a single-family residence is located on the northeastern boundary of the project site. The proposed project would not be anticipated to require the use of vibratory rollers within 26 feet of the residence on the remainder parcel or within 26 feet the off-site residences to the north and east of the subject parcel; thus, vibration levels at the nearest sensitive receptors would not exceed the applicable Caltrans threshold. In addition, construction activities would be temporary in nature and would occur during normal daytime working hours.

Based on the above, the proposed project would not expose people to or generate excessive groundborne vibration or groundborne noise levels, and a **less-than-significant** impact would occur.

- c. The nearest airport to the site is Vettors Sky Ranch Park, located approximately 4.5 miles southeast of the site. The site is not covered by an existing airport land use plan. Given that the project site is not located within two miles of a public or private airport, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airports. Thus, **no impact** would occur.

XIV. 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 (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✗

Discussion

- a. The proposed project would include the development of 67 single-family residential units on 12.404 acres. Using the City of Galt average persons per household value for single-family uses of 3.27, the proposed project's addition of 67 single-family residences would result in approximately 220 new residents.²³ In comparison, the 2009 General Plan EIR analyzed buildout at an average density of four developed units per acre (du/ac), which would permit approximately 164 new residents at the proposed project site. Therefore, the proposed project would exceed the maximum density limits imposed by the City. However, an increase of 56 people would not be considered a substantial increase in population growth. In addition, based on the 2010 Census, the Department of Finance estimates the 2020 population of Galt to be approximately 25,849.²⁴ The increase in population associated with the proposed project would constitute an approximately 0.85 percent increase in the City's total population. A 0.85 percent increase in population would not be considered substantial growth. Furthermore, as discussed in Section XIX, Utilities and Service Systems, of this IS/MND, adequate utility infrastructure would be available to support the proposed project. As a result, the project would have a **less-than-significant** impact with respect to substantial unplanned population growth in an area, either directly or indirectly.
- b. The proposed project would not include the demolition of existing residences on the project site. In addition, the proposed project would add 67 new residential units to the City's housing stock. As such, the proposed project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, **no impact** would occur.

²³ City of Galt. *Community Profile: City of Galt Demographic Overview*. Available at: <http://www.ci.galt.ca.us/city-departments/economic-development/community-profile>. Accessed April 2020.

²⁴ California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019, with 2010 Benchmark*. Available at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>. Accessed June 2020.

XV. PUBLIC SERVICES.

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:

	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a,b. The proposed project would include development of 67 single-family residences. The Cosumnes Community Services District Fire Department (CFD) would provide fire protection services to the proposed project. The CFD operates eight fire stations to serve the cities of Galt and Elk Grove, as well as areas of unincorporated Sacramento County covering a total of approximately 157 square miles. Two fire stations are located in the City of Galt: Fire Station 45, at 229 Fifth Street, and Fire Station 46, at 1050 Walnut Avenue. Fire Station 45 is located approximately 0.45-mile from the project site to the north, and Fire Station 46 is located approximately 2.38 miles to the northeast.

The increase in the overall demand on fire and police protection services associated with buildout the City of Galt has been previously anticipated by the City and analyzed in the Galt 2030 General Plan EIR. The project site was anticipated for residential development under the existing LDR land use designation. Despite the proposed GPA from LDR to MDR, the proposed project would not involve a substantially increased demand on fire and police protection services relative to what was analyzed in the General Plan EIR. The project applicant would also be required to pay all applicable fees, including a development impact fee and public safety fee. The payment of fees would ensure that adequate fire and police protection services would be available to serve the proposed project, and the proposed project would not require the construction of new or physically altered fire or police protection facilities, the construction of which could cause an environmental impact. Thus, the proposed project would result in a **less-than-significant** impact.

- c. The project site is served by the Galt Joint Union Elementary School District (GJUESD) and the Galt Joint Union High School District. According to the Galt 2030 General Plan Existing Conditions, Galt High School and GJUESD are anticipated to exceed capacity as a result of cumulative development occurring within the City;²⁵ however, funding for school facilities is provided through State and local revenue sources. For instance, Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) governs the amount of fees that can be levied against new development. Payment of fees authorized by the statute is deemed "full and complete mitigation." These fees would be used in combination with State and other funds to construct new schools, and the applicant would be required to pay development impact

²⁵ Galt Joint Union Elementary School District. *Comments on the Notices of Intent to Adopt a Mitigated Negative Declaration for the East Galt Infill/Simmerhorn Ranch Project, Summerfield at Twin Cities Road Project, and Fairway Oaks Vesting Tentative Map and County Island Annexation Project.* June 29, 2020.

fees in order to fund new facilities. The payment of development impact fees would be sufficient to ensure compliance with SB 50 and a ***less-than-significant*** impact would occur related to schools.

- d. Using an average persons per household value of 3.27 per residential unit, the proposed project would generate a population of 220 persons. The 2030 Galt General Plan requires five acres of parkland per 1,000 residents; therefore, the project would be required to provide 1.1 acres of parkland. The applicant has not provided a parkland dedication as part of the proposed project; however, the proposed project would be subject to compliance with Section 18.64.080B of Galt's Municipal Code, which requires the applicant to pay a fee in-lieu of land dedication. Payment of in-lieu fees would be considered sufficient to ensure that adequate public parkland is provided for future residents, and a ***less-than-significant*** impact would occur.
- e. The Galt 2030 General Plan anticipates increased demand for public facilities with growth in the City of Galt. The project site is currently designated for residential uses. An increase of 56 residents in addition to the 164 residents anticipated in the General Plan EIR would not be expected to result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service for any other public services. Therefore, a ***less-than-significant*** impact would occur.

XVI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a,b. As discussed in Section XIV, Population & Housing, the proposed project would include 67 single-family residences, housing approximately 220 persons. Thus, an increase in demand on recreational facilities would occur. Section 18.64.080B of Galt's Municipal Code requires developments that include subdivision of land to either dedicate parkland or pay in-lieu fees. Because the proposed project would not include the dedication of parkland, the project would be subject to the payment of in-lieu park fees, which would be used to fund park facilities throughout the City. The payment of such fees would ensure that adequate parkland be provided with the City, and existing recreational facilities would not experience impacts due to increased population growth. Thus, the proposed project would result in a **less-than-significant** impact related to recreational facilities.

XVII. TRANSPORTATION.

Would the project:

	Potentially Significant Impact	Less-Than- Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a. The proposed project would include the development of the project site with 67 single-family residences and associated improvements. Primary access to the project site would be provided from Joy Drive to the east of the site and from H Street to the north of the site.

The Galt 2030 General Plan Circulation Element specifies minimum Level of Service (LOS) standards for all streets and intersections within the City of Galt's jurisdiction. Policy C-1.3, Level of Services, requires that roadway systems shall be developed and managed to maintain LOS E on all streets and intersections within a quarter-mile of State Routes, along A Street and C Street between SR 99 to the railroad tracks, and along Lincoln Highway between Pringle Avenue to Meladee Lane. A LOS D or better shall be maintained on all other streets and intersections.

In order to determine the potential impact on surrounding roadways by increased vehicle trips associated with operation proposed project, the Institute of Traffic Engineer's (ITE) Trip Generation Handbook was used to estimate weekday AM, PM, and daily trip generation forecasts for the proposed project. As shown in Table 8 below, implementation of the proposed project would be expected to result in 51 trips occurring during the AM peak hour and 67 trips occurring during the PM peak hour, with approximately 638 daily trips. Because the proposed project would require a GPA from LDR to MDR, the project would generate traffic impacts beyond the type and intensity anticipated by the City and analyzed in the General Plan EIR.²⁶ An additional 17 units beyond what was anticipated by the City would generate 13 additional trips during the AM peak hour and 17 additional trips during the PM peak hour, with 162 additional daily total trips beyond what was anticipated previously by the City. An increase of 30 combined AM and PM peak hour trips would not substantially alter the analysis of cumulative traffic impacts presented in the General Plan EIR for cumulative buildout of the City.

Table 8 Weekday Project Trip Generation Rates and Estimates										
Size	Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
			Rate	In	Out	Total	Rate	In	Out	Total
67 units	9.52	638	0.75	13	38	51	1.00	42	25	67

Source: Institute of Transportation Engineers, 2012.

²⁶ City of Galt. *Environmental Impact Report for the 2030 Galt General Plan, Circulation and Transportation* [pg. 5-12]. July 2008.

Because the proposed project would not substantially increase the number of average trips anticipated by the City, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. For instance, new sidewalks would be included as part of development within the project site and would connect to the existing sidewalks located along H Street and Joy Drive. The proposed sidewalks would be consistent with General Plan Policy C-6.1, which requires that the City establishes safe and interconnected pedestrian networks. In addition, while most of the residential roadways surrounding the subject property do not include designated bicycle lanes, the streets are of sufficient width and have slow speed limits, making the roadways relatively bikeable. Lastly, transit services are available in Galt through South County Transit, which includes the following systems: Dial-a-Ride, Highway 99 Express, Delta Route, and Commuter Express. Dial-A-Ride provides service within the City limits of Galt, and the Highway 99 Express provides service connecting Galt with the Lodi Transit Center, Elk Grove, and South Sacramento. Delta Route provides service from Isleton and other Delta communities to Galt, and the Commuter Express provides direct service from Galt to midtown and downtown Sacramento.²⁷ The South County Transit systems service a bus station at City Hall, which is located approximately 0.9-mile north of the project site. Given that the proposed project would be located in close proximity to public transportation and implementation of the proposed project would not conflict with any transit systems, a less-than-significant impact would occur.

Thus, adequate transit, roadway, bicycle, and pedestrian facilities would be available for the proposed project, and the project would not conflict with any existing or planned transportation facilities in the project vicinity. Therefore, a ***less-than-significant*** impact would occur.

- b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts, including impacts based on VMT beginning July 1, 2020. Per Section 15064.3, analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. It should be noted that the City of Galt is currently in the process of establishing citywide VMT policies and thresholds. A qualitative discussion of impacts based on VMT has been provided below in compliance with the most recent CEQA Guidelines.

VMT is the measure of the amount of automobile travel in a geographic region over a given period of time, typically on a daily basis. As an efficiency measure, VMT can be reported on a "per capita" basis. A lower VMT "per capita" value generally represents a more efficient land use pattern and transportation system, as it requires fewer and/or shorter trips by car to get around. According to the Sacramento Area Council of Governments (SACOG), household daily VMT per capita for the project area is approximately 20.82. Estimated daily VMT for the project area is approximately 0.23 lower than estimated household VMT for the City of Galt, which is approximately 21.05 VMT per capita.²⁸

²⁷ South County Transit. *Welcome to South County Transit – SCT Link*. Available at: <http://www.sctlink.com/>. Accessed July 2020.

²⁸ Sacramento Area Council of Governments. *2016 Total Residential VMT*. Available at: <http://www.arcgis.com/apps/webappviewer/index.html?id=43bc67ddaca444608b315dbb75381d08&extent=-13594123.3606%2C4624890.2515%2C-13416789.455%2C4747189.4968%2C102100>. Accessed July 2020.

The proposed project is located within an area designated as an Established Community in both the 2016 and 2020 Metropolitan Transportation Plan/Sustainable Community Strategy (MTP/SCS).²⁹ The MTP/SCS is aimed at reducing GHG emissions through VMT reduction, and these efforts are primarily focused on urban areas, where investments in the roadway system and transit, bike, pedestrian infrastructure are built into the MTP/SCS to achieve identified air quality targets.

According to the MTP/SCS, Established Community areas are typically the areas adjacent to, or surrounding, Center and Corridor communities. Many are characterized as “first tier”, “inner ring” or mature suburban communities. Local land use patterns aim to maintain the existing character and land use pattern in these areas. Land uses in Established Communities are typically made up of existing low- to medium-density residential neighborhoods, office and industrial parks, or commercial strip centers. Depending on the density of existing land uses, some Established Communities have bus service; others may have commuter bus service or very little service. For Galt, the 2020 MTP/SCS assumes an additional 5,050 jobs and 9,330 housing units would be developed in Established Communities by 2040 (see Appendix C of the 2020 MTP/SCS). Note this represents an increase in the job forecasts provided in the 2016 MTP/SCS for Year 2035 (4,850 jobs and 9,330 housing units).

Figures 3-10 and 3-11 of the 2020 MTP/SCS show the 2016 and projected 2040 vehicle miles traveled per capita for the six-County SACOG region. The sub-region in which the project is located is shown as having greater than 115 to 150 percent of the regional average VMT per capita in 2016. Future projections for the Year 2040 anticipate the subregion reducing regional average VMT per capita to less than or equal to 100 to 115 percent. The MTP/SCS anticipates some increased activity/growth within Established Communities. Additionally, these areas are recognized as having high VMT per capita both now and in the future (2040 MTP/SCS Planning Period). Thus, it can be concluded that the potential increased activity associated with the proposed project would not conflict with the MTP/SCS' strategy for reducing VMT through investments in roadway and multi-modal infrastructure primarily in urban areas and therefore the project's impact associated with VMT increases are considered less than significant.

Per Section 15064.3(3), a lead agency may also analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving. Development of the proposed project would increase connectivity to the nearby neighborhoods and include pedestrian infrastructure within the project site and along Joy Drive. For example, the proposed project would include new and expanded sidewalks along the frontage of Joy Drive, which would connect project residents to a hub of commercial and retail shopping opportunities less than one mile from the project site.

²⁹ Sacramento Area Council of Governments. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. Available at: <https://www.sacog.org/post/adopted-2020-mtpscs>. Accessed July 2020.

As mentioned previously, the project site is located in close proximity to alternative forms of transportation, including bus routes. The Commuter Express is a form of public transportation which operates within South Sacramento County. The Commuter express includes two bus stop locations within the City of Galt; one stop located at City Hall, and another stop located at the Twin Cities Road Park and Ride. Additionally, the Highway 99 Express makes scheduled stops throughout the County, including one located approximately 0.9-mile north of the proposed project in the City of Galt at City Hall. Access to multiple forms of public transportation would ultimately encourage residents to use alternative means of transportation to and from the project site and, as a result, reduce VMT associated with the proposed project.

Based on the above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a ***less-than-significant*** impact would occur.

- c,d. Primary access to the project site would be provided from Joy Drive to the east of the site and from a southerly extension of 4th Street that would permit access from the 4th Street and H Street intersection. Connected driveways would be attached to each proposed residence. The proposed circulation improvements would be subject to compliance with all applicable roadway design standards. In addition, the proposed internal roadways would allow sufficient emergency vehicle access throughout the project site.

Construction traffic associated with the proposed project would include heavy-duty vehicles which would share the area roadways with normal vehicle traffic, as well as transport of construction materials, and daily construction employee trips to and from the site. However, such heavy-duty truck traffic would only occur throughout the duration of construction activities and would cease upon buildout of the proposed subdivision. It should be noted that construction equipment associated with the proposed project would be staged on-site to prevent traffic conflicts on Joy Drive and H Street. Given that increased construction traffic would be temporary in nature, construction traffic on local roadways would not result in significant hazards to the circulation system or restrict emergency vehicle access to the project site.

Based on the above, the project would not substantially increase hazards due to a design feature, or incompatible uses, or result in inadequate emergency access. Thus, a ***less-than significant*** impact would occur.

XVIII. TRIBAL CULTURAL RESOURCES.

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:

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. 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).	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>
b. 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	✗	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

- a,b. As discussed in Section V, Cultural Resources, of this IS/MND, a records search of the CHRIS was completed for the proposed project by the North Central Information Center. In addition, a records search of the NAHC SLF was conducted for the proposed project. Per the NAHC SLF and CHRIS search, the site does not contain known tribal cultural resources.

In compliance with AB 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to the chairpersons of the Wilton Rancheria and the Torres Martinez Desert Cahuilla Indian Tribe. The Wilton Rancheria responded on April 1, 2020 with no concerns regarding the project. The City did not receive communications from the Torres-Martinez Desert Cahuilla Indian Tribe in response to requests for tribal consultation.

Based on the history of disturbance at the project site as a result of past development and agricultural uses, as well as the lack of identified tribal cultural resources at the site and within the off-site improvement areas, tribal cultural resources are not expected to occur within the proposed improvement areas. Nevertheless, the possibility exists that development of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown tribal cultural resources are uncovered during grading or other ground-disturbing activities. Thus, a **potentially significant** impact to tribal cultural resources could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

- XVIII-1. Implement Mitigation Measures V-1 and V-2.

XIX. 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, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	×	<input type="checkbox"/>

Discussion

- a,c. Sewer and water service for the proposed project would be provided by the City by way of new connections to new and existing sewer and water lines located within Joy Drive and H Street (see Figure 5). Stormwater from impervious surfaces such as roofs and paved surfaces within the project site would be captured by curb inlets and routed, by way of new 18- to 24-inch storm drain lines, to a new bio-retention basin to be located in the southern portion of the site. Treated runoff from the bio-retention basin would be routed to an existing 18-inch storm drain line that flows directly to Dry Creek. Electricity would be provided by SMUD, while natural gas would be provided by PG&E, by way of connections to existing infrastructure located within the immediate project vicinity. The proposed project would require a GPA from LDR to MDR for the project site. The proposed project would result in an increase of 17 residential units, housing approximately 56 more residents than what was anticipated in the General Plan for buildout of the project site under the LDR land use designation. Because an additional 56 residents would not be considered substantial population growth, utilities demand associated with buildout of the project site are within the projections anticipated by the City and accounted for in regional planning efforts, including the 2015 Urban Water Management Plan (UWMP).

The City of Galt's current wastewater treatment collection system consists of approximately 79 miles of sewer mains and trunk sewers. The wastewater is collected through the sewer mains and trunk sewers, then conveyed to the City of Galt's wastewater treatment plant (WWTP), which is located approximately 3.8 miles northwest of the project site. The WWTP has a capacity of 3.0 million gallons per day (mgd) and is currently

operating at 2.0 mgd.³⁰ Thus, the WWTP has a remaining capacity of approximately 1.0 mgd. According to the Wastewater Collection System Master Plan, the average per capita flow between 2004 and 2008 is 92 gallons per capita per day (gpcd).³¹ Based on the average per capita flow rate, operation of the proposed project would contribute a total wastewater generation of approximately 20,240 gallons per day (0.020 mgd). Therefore, the WWTP has adequate remaining capacity to accommodate the minor increase of wastewater flows associated with the proposed project.

Based on the above, the proposed project would result in a ***less-than-significant*** impact related to the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects, and sufficient wastewater treatment capacity would be available to serve the project and other existing and planned development.

- b. Water supplies for the project site are supplied by the City of Galt. Per the City's 2015 UWMP, the City of Galt relies upon groundwater from the Cosumnes Subbasin of the San Joaquin Valley Groundwater basin as the sole source of domestic potable water for current and future water demand.³² The Cosumnes Subbasin is managed through the South Basin Groundwater Management Plan, which was adopted in 2011.

Per the 2015 UWMP, the City has eight active wells to extract groundwater from the Cosumnes Subbasin. The wells have capacities ranging from 600 to 1,900 gallons per minute (gpm), with a total capacity of approximately 10,400 gpm. The depth to groundwater is approximately 80 feet to 100 feet, with the wells drawing water from depths ranging from 652 feet to 1,539 feet. As discussed in the General Plan EIR, the City has the capacity to supply all of the water demands with groundwater from the Cosumnes Subbasin through the year 2040, which includes buildout of the General Plan.

According to the 2015 UWMP, the estimated baseline average per capita per day (gpcd) water demand between the years 2008 and 2009 was approximately 217 gallons per day per capita. The 2020 water demand target for the City of Galt is approximately 174 gpcd. Per the 2015 UWMP, the City can supply all of the water demands with groundwater from the Cosumnes Subbasin through the year 2040. Furthermore, the City is projected to have sufficient water supplies to meet projected water needs through 2040 during normal, dry, and multiple dry years. The UWMP notes that water usage could be reduced by over 30 percent should conservation measures be necessary. As mentioned previously, the proposed project would result in a population increase of 56 new residents beyond what was anticipated in the General Plan. Because an additional 56 residents would not be considered substantial population growth, water demand associated with buildout of the project site is within the projections anticipated by the City and accounted for in the 2015 UWMP. As such, the City would have adequate supply to accommodate the proposed project and meet target demands.

³⁰ City of Galt. *Wastewater Treatment Plant*. Available at: <http://www.ci.galt.ca.us/city-departments/public-works/utilities-division/wastewater-services/wastewater-treatment-plant>. Accessed April 2020.

³¹ City of Galt. *Wastewater Collection System Master Plan* [pg. 4-8]. May 2010.

³² City of Galt. *2015 Urban Water Management Plan Update*. June 2016.

Considering the above, the City would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years, and a **less-than-significant** impact would occur.

- d,e. Solid waste, recyclable materials, and compostable material collection within the City of Galt is operated by California Waste Recovery Systems (CWRS). CWRS is a private franchise that can haul solid waste to any approved landfill facility in the area. The Sacramento County Landfill located on Kiefer Boulevard has been recently expanded. The Sacramento County Landfill covers 1,084 acres of land; 660 acres are permitted for disposal. The site's permit allows the landfill to receive a maximum of 10,815 tons of waste per day. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Sacramento County Landfill has a remaining capacity of 112,900,000 cubic yards out of a total permitted capacity of 117,400,000, or 96 percent remaining capacity.³³

Because the proposed project would require a GPA to change the project site's current General Plan land use designation from LDR to MDR, construction and operation of the proposed project would result in increased solid waste generation beyond what has been previously anticipated for the site by the General Plan EIR. As noted previously, the proposed project would accommodate an additional 56 residents beyond what was analyzed for the project site in the General Plan EIR, representing an increase of 0.85 percent relative to the existing City population. Such a relatively minor population increase would not substantially affect the available capacity of the Sacramento County Landfill. In addition, the residential nature of the proposed project would not be expected to generate substantial amounts of solid waste. Furthermore, the project would be required to comply with all applicable provisions of Chapter 8.16, Garbage, of the City's Municipal Code.

Therefore, the proposed 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 and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, a **less-than-significant** impact would occur.

³³ California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Sacramento County Landfill (Kiefer) (34-AA-0001)*. Available at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/34-AA-0001/>. Accessed April 2020.

XX. 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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	✗	<input type="checkbox"/>

Discussion

- a-d. According to the CAL FIRE Fire and Resource Assessment Program, the project site is not located within or near a State responsibility area or lands classified as a Very High Fire Hazard Severity Zone (VHFHSZ).³⁴ The nearest VHFHSZ is approximately six miles east of the project site. Therefore, the proposed project would not be subject to substantial risks related to wildfires, and a **less-than-significant** impact would occur.

³⁴ California Department of Forestry and Fire Protection. *Sacramento County, Very High Fire Hazard Severity Zones in LRA*. October 2, 2007. Available at: <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>. Accessed May 2020.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.

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

Discussion

- a. As discussed in Section IV, Biological Resources, of this IS/MND, while a limited potential exists for special-status plants and wildlife to occur on-site and within the off-site improvement areas, Mitigation Measures IV-1 through IV-9 would ensure that any impacts related to special-status species would be reduced to less-than-significant levels. The project site and off-site improvement areas do not contain any known historic or prehistoric resources. Thus, implementation of the proposed project is not anticipated to have the potential to result in impacts related to historic or prehistoric resources. Nevertheless, Mitigation Measures V-1 and V-2 would ensure that in the event that previously unknown archaeological resources are discovered within the project site or off-site improvement areas, such resources would be protected in compliance with the requirements of CEQA and other State standards.

Considering the above, the proposed project would not degrade the quality of the environment, substantially reduce or impact the habitat of fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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. Therefore, a **less-than-significant** impact would occur.

- b. As demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would result in no impact or a less-than-significant level through compliance with applicable General Plan policies, Municipal Code Standards, and mitigation measures included in this IS/MND, as well as other applicable local and State regulations. Any incremental effects would not be considerable relative to the effects of all past, current, and probably future projects in the project area. In addition, although buildout of the site was not anticipated for MDR uses, development of the site for residential uses has been anticipated, and development of MDR uses is typically located and compatible with the surrounding low-density housing development adjacent to the project site. As such, the proposed project is within the realm of what has been anticipated for the site.

For the aforementioned reasons, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not result in a cumulatively considerable contribution to cumulative impacts, and the project's incremental contribution to cumulative impacts would be ***less than significant***.

- c. As described in this IS/MND, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, other applicable local and State regulations, in addition to the mitigation measures included herein. In addition, as discussed in Section III, Air Quality, Section IX, Hazards and Hazardous Materials, and Section XIII, Noise, of this IS/MND, the proposed project would not cause substantial effects to human beings, including effects related to exposure to air pollutants, hazardous materials, and noise. Therefore, the proposed project would result in a ***less-than-significant*** impact.

APPENDIX A

SMAQMD MINOR PROJECT HEALTH EFFECTS SCREENING TOOL OUTPUT



Minor Project Health Effects Tool

Latitude	38.246709	<-- Step 1: Input latitude (Please chose a value between 38.0 and 39.7)
Longitude	-121.302464	<-- Step 2: Input longitude (Please chose a value between -122.5 and -120.0)

PM2.5 Health Endpoint	Age Range ¹	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) ^{2,5} (Mean)	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) ² (Mean)	Percent of Background Health Incidences Across the 5-Air-District Region ³	Total Number of Health Incidences Across the 5-Air-District Region (per year) ⁴
Respiratory					
Emergency Room Visits, Asthma	0 - 99	0.64	0.53	0.0029%	18419
Hospital Admissions, Asthma	0 - 64	0.041	0.034	0.0019%	1846
Hospital Admissions, All Respiratory	65 - 99	0.20	0.16	0.00081%	19644
Cardiovascular					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.10	0.085	0.00035%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.000050	0.000041	0.0011%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.0045	0.0039	0.0013%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.011	0.0096	0.0013%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.018	0.015	0.0012%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.063	0.054	0.0011%	5052
Mortality					
Mortality, All Cause	30 - 99	1.2	0.99	0.0022%	44766

Ozone Health Endpoint	Age Range ¹	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year) ^{2,5} (Mean)	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year) ² (Mean)	Percent of Background Health Incidences Across the 5-Air-District Region ³	Total Number of Health Incidences Across the 5-Air-District Region (per year) ⁴
Respiratory					
Hospital Admissions, All Respiratory	65 - 99	0.036	0.025	0.00013%	19644
Emergency Room Visits, Asthma	0 - 17	0.19	0.13	0.0023%	5859
Emergency Room Visits, Asthma	18 - 99	0.28	0.20	0.0016%	12560
Mortality					
Mortality, Non-Accidental	0 - 99	0.020	0.015	0.000048%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or “background health incidence”) values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.

3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District*.

Sac Metro Air District Minor Project Health Effects Tool, version 2, published June 2020

APPENDIX B

TECHNICAL BIOLOGICAL REPORT



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

CATERINA ESTATES TECHNICAL BIOLOGICAL REPORT CITY OF GALT, SACRAMENTO COUNTY, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

Rick Hopkins, Ph.D., Principal/Senior Wildlife Ecologist
Katrina Krakow, M.S., Project Manager/Staff Ecologist
Pamela Peterson, Senior Project Manager/Plant and Wetland Ecologist

Prepared for

Raney Management
ATTN: Cindy Gnos
1501 Sports Drive, Suite A
Sacramento, CA 95834

April 17, 2020

PN 2461-01

Oakhurst: P.O. Box 2697 • 39930 Sierra Way, Suite B • Oakhurst, CA 93644 • Phone: (559) 642-4880 • Fax: (559) 642-4883
San Jose: 6840 Via Del Oro, Suite 220 • San Jose, CA 95119 • Phone: (408) 224-8300 • Fax: (408) 224-2411
Truckee: P.O. Box 8810 • Truckee, CA 96161 • Phone: (530) 214-8947

www.loainc.com

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	PROJECT DESCRIPTION.....	1
2	EXISTING CONDITIONS.....	4
2.1	BIOTIC HABITATS	4
2.1.1	Low-density Development	4
2.1.2	Agricultural Land Cover	6
2.2	MOVEMENT CORRIDORS	7
2.3	SPECIAL STATUS PLANTS AND ANIMALS	7
2.4	JURISDICTIONAL WATERS.....	19
3	IMPACTS AND MITIGATIONS.....	20
3.1	SIGNIFICANCE CRITERIA	20
3.2	RELEVANT GOALS, POLICIES, AND LAWS	21
3.2.1	Threatened and Endangered Species	21
3.2.2	Migratory Birds	21
3.2.3	Birds of Prey.....	21
3.2.4	Bats.....	22
3.2.5	Wetlands and Other “Jurisdictional Waters”	22
3.2.6	Tree Regulations of the City of Galt	24
3.2.7	Conservation Habitat Plans	25
3.3	IMPACTS SPECIFIC TO THE PROJECT	26
3.3.1	Project Impacts to Special Status Plants.....	27
3.3.2	Loss of Habitat for Special Status Animals.....	27
3.3.3	Loss of Habitat for Native Wildlife.....	28
3.3.4	Interference with the Movement of Native Wildlife	28
3.3.5	Impacts to Swainson’s Hawks.....	29
3.3.6	Impacts to Covered Raptor Species.....	30
3.3.7	Impacts to Greater Sandhill Cranes.....	33
3.3.8	Impacts to Tricolored Blackbirds	35
3.3.9	Impacts to Other Nesting Migratory Birds and Raptors and other Protected Birds	37
3.3.10	Impacts to Western Red Bat and other Bats	38
3.3.11	Impacts to American Badgers	39
3.3.12	Potential Impacts to Riparian Habitat and Other Sensitive Natural Communities, Including Federally Protected Wetlands.....	40
3.3.13	Degradation of Water Quality of Downstream Waters	41
3.3.14	Conflict with Local Policies or Ordinances.....	41
3.3.15	Conflict with an Adopted Habitat Conservation Plan	42
4	LITERATURE CITED.....	44
APPENDIX A. SOUTH SACRAMENTO COUNTY HABITAT PLAN CONDITIONS AND MEASURES.		46

1 INTRODUCTION

This report, prepared by Live Oak Associates, Inc. (LOA) in compliance with the California Environmental Quality Act (CEQA), describes the biological resources of an approximately 25.5-acre site (hereafter referred to as the “study area” or “project site”), and evaluates possible impacts to these resources resulting from proposed development of the a residential subdivision. The site is located west of Joy Drive, south of H Street, and east of the railroad tracks in the City of Galt, Sacramento County, California (APNs 150-0101-004 and 150-0101-040; Figure 1). It can be found on the Lodi North U.S.G.S. 7.5’ quadrangle in Section 34 of Township 5 North, Range 6 East. The project site is within the South Sacramento Habitat Conservation Plan (SSHCP) area, which provides take authorization for 20 animal species and eight plant species.

In general, the development of parcels can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, site development may be regulated by state or federal agencies, subject to provisions of the CEQA, and/or covered by local policies and ordinances. Therefore, this report addresses 1) sensitive biotic resources occurring in the study area; 2) the federal, state, and local laws regulating such resources; 3) whether the project will result in any significant impacts to these resources; and if so, 4) includes mitigation measures to reduce these impacts to less-than-significant (as defined by CEQA).

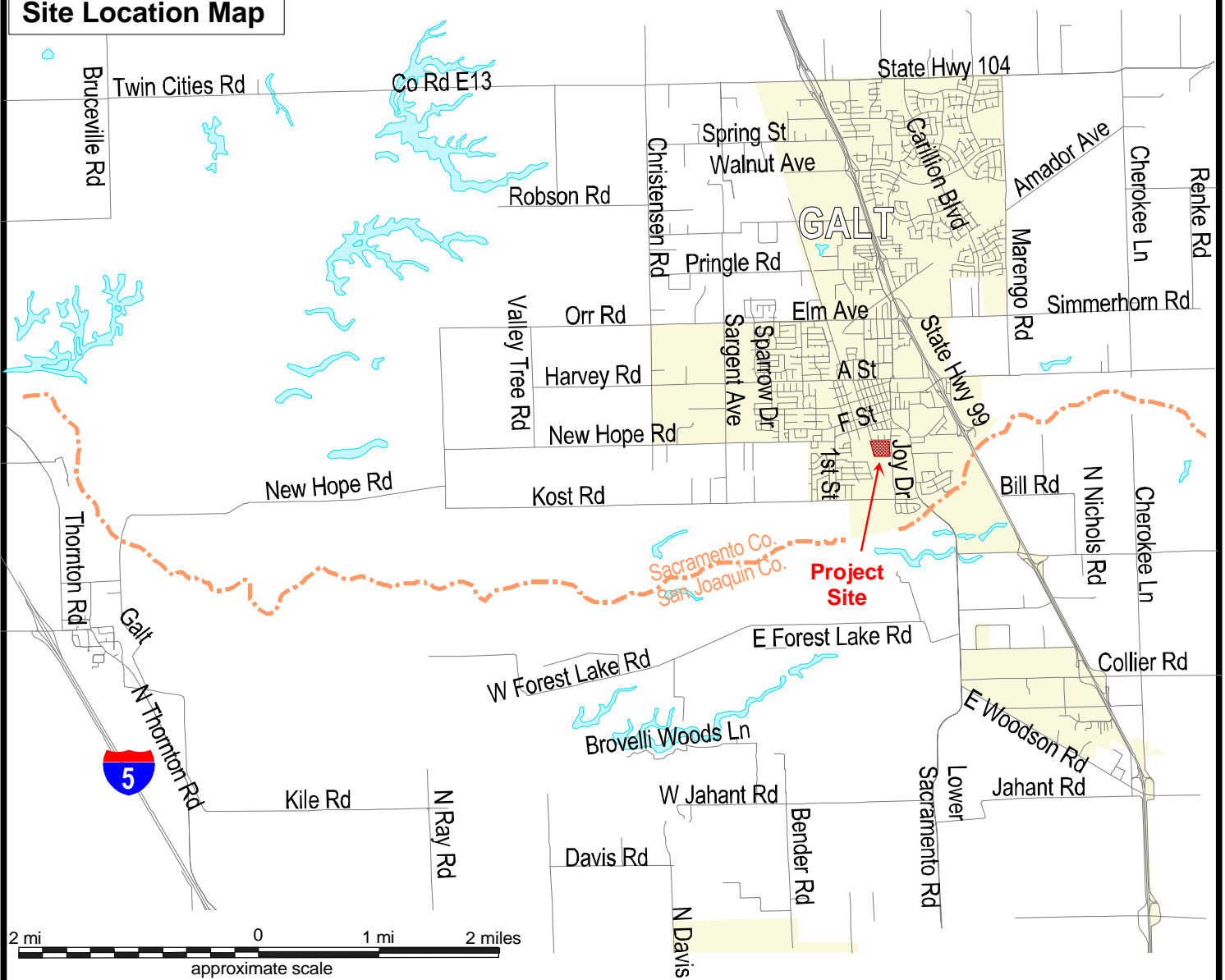
The analysis of impacts, as discussed in Section 3.0 of this report, was based on the known and potential biotic resources of the study area discussed in Section 2.0. Sources of information used in the preparation of this analysis included: 1) the *California Natural Diversity Data Base* (RareFind5; CDFW 2020); 2) the *California Rare Plant Rank* (CNPS 2020); 3) manuals and references related to plants and animals of the region; and 4) the City of Galt policies and ordinances.

A field survey of the study area was conducted on April 9, 2020 by LOA ecologist Katrina Krakow.

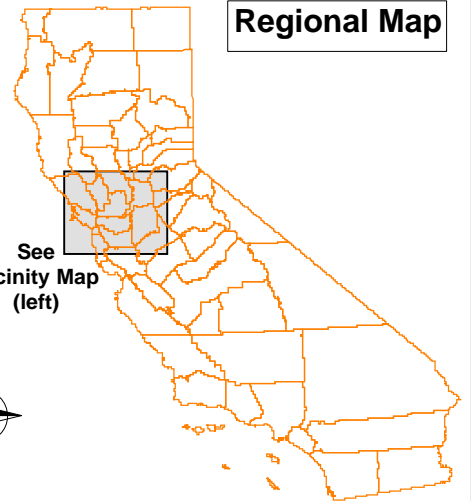
1.1 PROJECT DESCRIPTION

The project is the proposed development of 68 residential lots, associated infrastructure, and a 1.42-acre detention basin (Figure 2).

Site Location Map



Regional Map



Live Oak Associates, Inc.

Caterina Estates
Site / Vicinity Map

Date	Project #	Figure #
3/27/2020	2461-01	1

2 EXISTING CONDITIONS

The site is bordered by H Street and residential development to the north; Joy Drive, a church and residential development to the east; agricultural fields to the south; and Southern Pacific Transportation land, residential development, and agricultural land to the west. The site currently comprises a residence and an agricultural field.

The site is relatively flat with a minimum elevation of approximately 48 feet (14 meters) in the northwestern corner and the remainder of the property approximately 50 feet (16 meters) National Geodetic Vertical Datum (NGVD).

There is one soil type present on the site, identified as Kimball silt loam, 0 to 2 percent slopes (NRCS 2020). This soil type is well drained with low to medium runoff and is not considered to be a hydric soil. This soil type is not alkaline; therefore, plant species endemic to alkaline soils are considered unlikely to occur on the site.

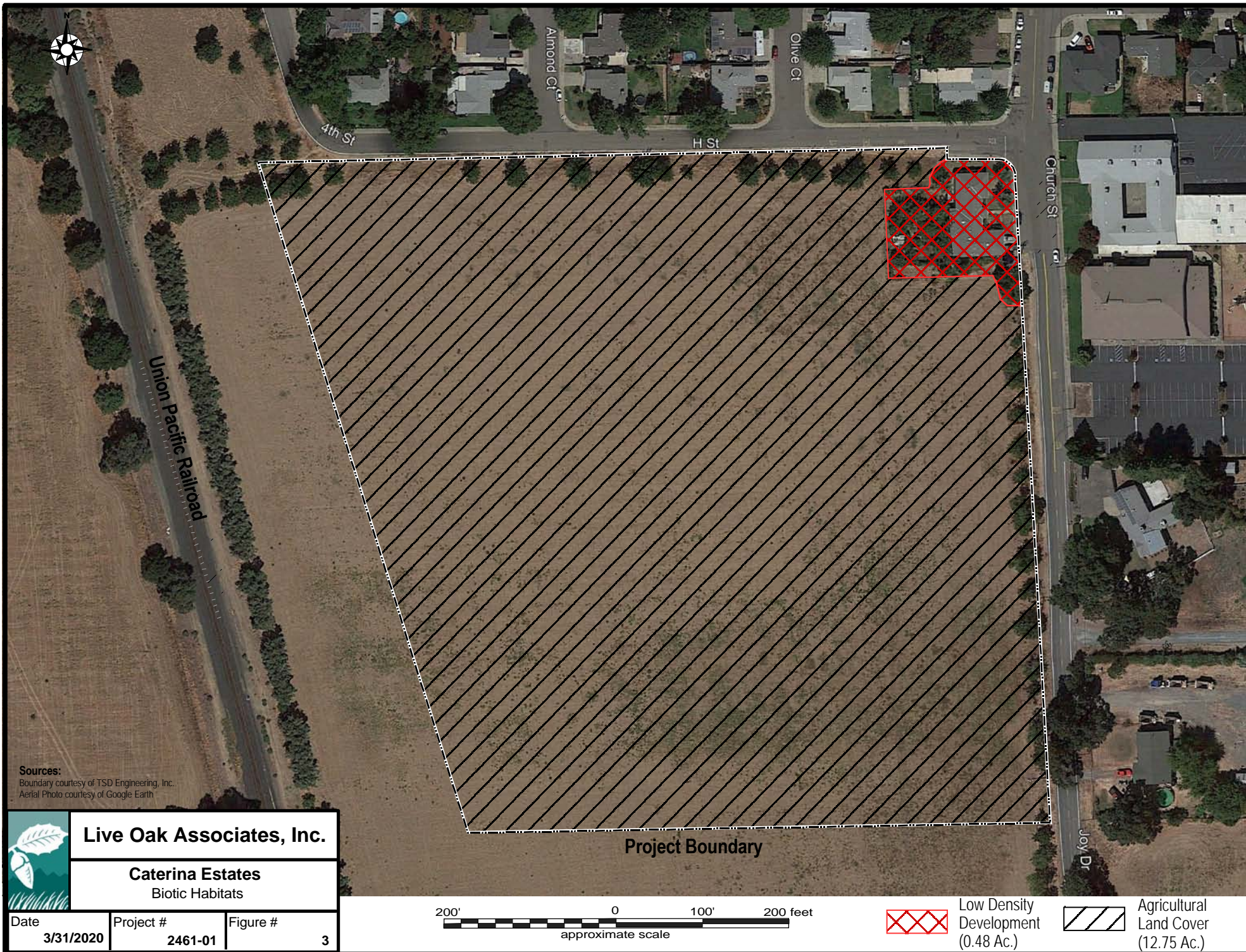
Annual precipitation in the general vicinity of the study area is about 18 inches. Virtually all precipitation falls in the form of rain.

2.1 BIOTIC HABITATS

Land uses and biotic habitats of the site, named according to land cover types found in the SSHCP, include Low-density Development and Agricultural Land Cover. Land cover types of the project site are described in greater detail below and depicted in Figure 3.

2.1.1 Low-density Development

Development existing on the site includes a single-family residence and associated small sheds in the northeastern corner of the site. This land cover would be considered Low-density Development under the SSHCP. The front yard of this residence is made up of lawn with some dandelion (*Taraxacum* sp.), bushes, including camelia (*Camellia japonica*), pittosporum (*Pittosporum* sp.), rose (*Rosa* sp.) bushes, and rosemary (*Salvia rosmarinus*), and some trees, including bay tree (*Laurus* sp.), olive (*Olea europaea*), and fan palm (*Washingtonia* sp.). The backyard of this



residence is mostly made up of fruit trees, including, but not limited to, American chestnut (*Castanea dentata*), citrus (*Citrus* sp.), lemon (*Citrus × limon*), fig (*Ficus carica*), prunus (*Prunus* sp.), apricot (*Prunus armeniaca*), peach/nectarine (*Prunus persica*), and grape (*Vitis vinifera*). The backyard also contains areas of lawn.

Animals observed in this habitat during the April 2020 site visit included wild turkey (*Meleagris gallopavo*), bushtit (*Psaltiriparus minimus*), yellow-rumped warbler (*Setophaga coronata*), white-crowned sparrow (*Zonotrichia leucophrys*), European starling (*Sturnus vulgaris*), and domestic cat (*Felis catus*).

2.1.2 Agricultural Land Cover

An agricultural field makes up the majority of the site. During the time of the April 2020 site visit, the field was planted with wheat (*Triticum* sp.) and oats (*Avena* sp.) ranging in height from approximately two to four feet. Other plant species observed within the agricultural field included, but were not limited to, scarlet pimpernel (*Anagallis arvensis*), mustard (*Brassica* sp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), yellow star-thistle (*Centaurea solstitialis*), Miner's lettuce (*Claytonia perfoliata*), bindweed (*Convolvulus arvensis*), artichoke (*Cynara scolymus*), filaree (*Erodium* sp.), bedstraw (*Galium* sp.), dissected geranium (*Geranium dissectum*), prickly lettuce (*Lactuca serriola*), mallow (*Malva* sp.), burclover (*Medicago polymorpha*), sourgrass (*Oxalis stricta*), English plantain (*Plantago lanceolata*), annual bluegrass (*Poa annua*), wild radish (*Raphanus raphanistrum*), curly dock (*Rumex crispus*), sowthistle (*Sonchus* sp.), and purple salsify (*Tragopogon porrifolius*). The agricultural field is bordered on the north and east by planted walnut (*Juglans* sp.) trees; a few saplings of coast live oak (*Quercus agrifolia*) and valley oak (*Q. lobata*) are also within these borders. A line of olive trees occurs between the site and the railroad tracks to the west.

Animal species observed in the agricultural field during the April 2020 survey includes the white-crowned sparrow, common raven (*Corvus corax*), California scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*), and Botta's pocket gopher (*Thomomys bottae*).

2.2 MOVEMENT CORRIDORS

Habitat corridors are vital to terrestrial animals for connectivity between core habitat areas (i.e., larger intact habitat areas where species make their living). Connections between two or more core habitat areas help ensure that genetic diversity is maintained, thereby diminishing the probability of inbreeding depression and geographic extinctions.

Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, for animals to be able to access locations containing different biotic resources that are essential to maintaining their life cycles.

The project site exists in the southern portion of the City of Galt and currently consists of agricultural and residential land. Agricultural land is adjacent to the project site to the southwest and lands to the north and east of the site support high-density residential development typical of cities. Therefore, while wildlife likely uses the agricultural fields of the site and to the southwest of the site for regular daily movements, the project site is not likely to be used for regional movement between the agricultural lands to the southwest and the developed lands to the north and east of the site. Additionally, the project site is not within a defined movement corridor.

2.3 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation, others have been designated as “candidates” for such listing, and others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has

developed its own lists of native plants considered rare, threatened, or endangered (CNPS 2020). Collectively, all these plants and animals are referred to as “special status species.”

A number of special status plants and animals are known to occur, or to once have occurred, in the vicinity of the study area. These species and their potential to occur in the study area are listed in Table 1. Sources of information for this table included the *California Natural Diversity Data Base* (CNDDDB) (CDFW 2020), *Listed Plants* and *Listed Animals* (USFWS 2020), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2020), *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2020), *Flora of North America* (accessed on-line at www.efloras.org on 3/30/2020), *California Bird Species of Special Concern* (Shuford and Gardall 2008), and *California Amphibian and Reptile Species of Special Concern* (Thompson et al. 2016).

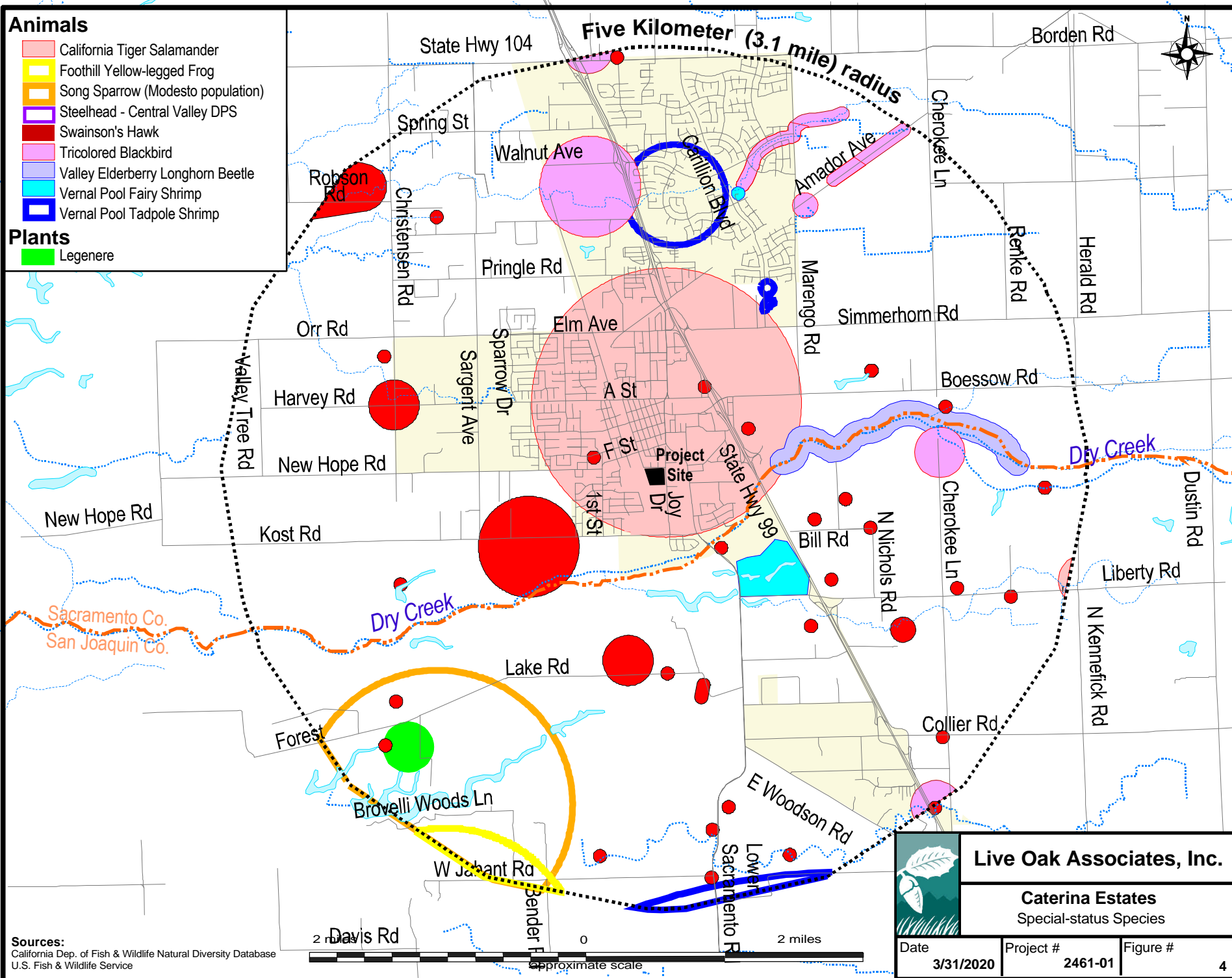
A search of published accounts for all of the relevant special status plant and animal species was conducted for the Lodi North USGS 7.5 minute quadrangle in which the project site occurs, and for the eight surrounding quadrangles (Bruceville, Galt, Clay, Thornton, Lockeford, Terminous, Lodi South, and Waterloo) using the California Natural Diversity Data Base Rarefind 5 (CDFW 2020). All plant species listed as occurring in these quadrangles on CNPS Lists 1A, 1B, 2, or 4 were also reviewed. Figure 4 depicts CNDDDB occurrences of special status species within a 5 km (approximately 3-mile) radius of the project site; Figure 5 depicts CNDDDB occurrences of Swainson’s hawks within a 10-mile radius of the site.

Animals

- California Tiger Salamander
- Foothill Yellow-legged Frog
- Song Sparrow (Modesto population)
- Steelhead - Central Valley DPS
- Swainson's Hawk
- Tricolored Blackbird
- Valley Elderberry Longhorn Beetle
- Vernal Pool Fairy Shrimp
- Vernal Pool Tadpole Shrimp

Plants

- Legenere



Sources:
 California Dep. of Fish & Wildlife Natural Diversity Database
 U.S. Fish & Wildlife Service

Live Oak Associates, Inc.

Caterina Estates
 Special-status Species

Date

3/31/2020

Project #

2461-01

Figure #

4

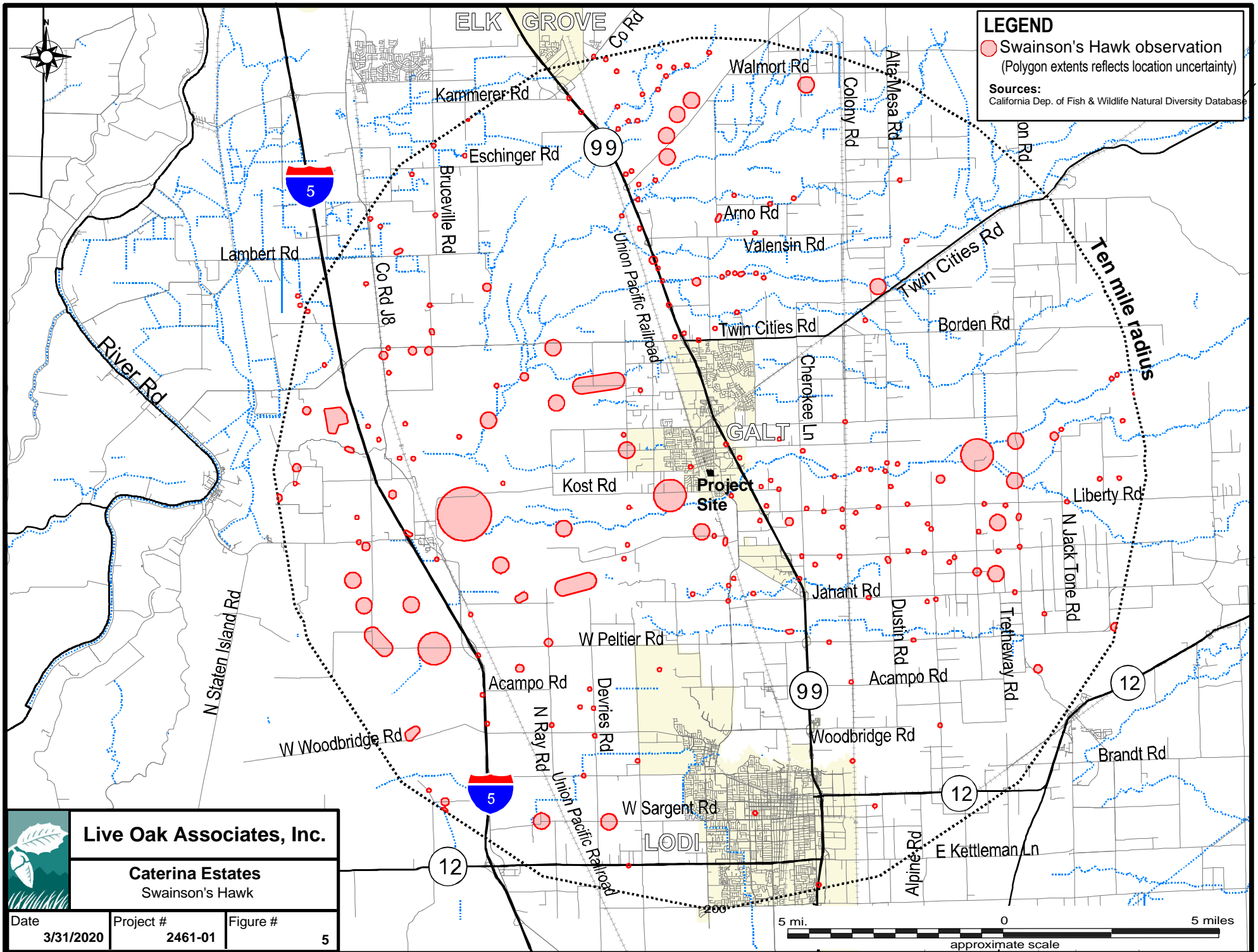


TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2020 and CNPS 2020)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence in the Study Area
Succulent owl's clover (<i>Castilleja campestris</i> var. <i>succulenta</i>)	FT, CE, CRPR 1B	Habitat: Occurs in vernal pools. Elevation: 50-750 meters. Blooms: (March) April-May	Absent. Vernal pools are absent from the site.
Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	CE, CRPR 1B, SSHCP Covered Species	Habitat: Occurs in marshes and swamps (lake margins), vernal pools often in clay. Per the SSHCP, this species may occur in vernal pools and seasonal wetlands within the region. Elevation: 10-2375 meters. Blooms: April-August.	Absent. Suitable habitat for this species does not occur onsite.
Slender orcutt grass (<i>Orcuttia tenuis</i>)	FT, CE, CRPR 1B SSHCP Covered Species	Habitat: Occurs in vernal pools often gravelly Elevation: 35-1760 meters. Blooms: May-September (October)	Absent. Vernal pools are absent from the site.
Sacramento orcutt grass (<i>Orcuttia viscida</i>)	FE, CE, CRPR 1B SSHCP Covered Species	Habitat: Occurs in vernal pools. The SSHCP considers this species to be a strict vernal pool endemic. Elevation: 30-100 meters. Blooms: April- July (September).	Absent. Vernal pools are absent from the site.

PLANTS (adapted from CDFW 2020 and CNPS 2020)

Other special status plants listed by CNPS

Species	Status	Habitat	Occurrence in the Study Area
Watershield (<i>Brasenia schreberi</i>)	CRPR 2B	Habitat: Occurs in marshes and swamps (freshwater). Elevation: 33-2200 meters. Blooms: June-September	Absent. No suitable habitat occurs on the site.
Bristly sedge (<i>Carex comosa</i>)	CRPR 2B	Habitat: Occurs in coastal prairie, marshes and swamps (lake margins), valley and foothill grassland. Elevation: 0-625 meters. Blooms: May- September	Absent. No suitable habitat occurs on the site.
Bolander's water hemlock (<i>Cicuta maculata</i> var. <i>bolanderi</i>)	CRPR 2B	<u>Habitats:</u> Found in coastal marshes and swamps with fresh or brackish water. <u>Elevation:</u> 0-200 meters. Blooms: July-September.	Absent. No suitable habitat occurs on the site.
Dwarf downingia (<i>Downingia pusilla</i>)	CRPR 2B, SSHCP Covered Species	Habitat: Occurs in vernal pools and swales. Elevation: 1-445 meters. Blooms: March-May	Absent. Vernal pools are absent from the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2020 and CNPS 2020)

Other special status plants listed by CNPS (cont.)

Species	Status	Habitat	Occurrence in the Study Area
Woolly rose (<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>)	CRPR 1B	Habitat: Occurs in freshwater marshes and swamps, often found in riprap on sides of levees. Elevation: 45-175 meters. Blooms: Perennial rhizomatous herb (emergent) June-September	Absent. No suitable habitat occurs on the site.
Ahart's dwarf rush (<i>Juncus leiospermus</i> var. <i>ahartii</i>)	CRPR 1B SSHCP Covered Species	Habitat: Vernal pools and vernal pool edges and their related swales per the SSHCP. Elevation: 30-229 meters Blooms: March-May	Absent. Vernal pools are absent from the project site.
Delta tule pea (<i>Lathyrus jepsonii</i>)	CRPR 1B	Habitat: Occurs in freshwater and brackish marshes and swamps. Elevation: 0-5 meters Blooms: May-July (August-September)	Absent. No suitable habitat occurs on the site.
Legenere (<i>Legenere limosa</i>)	CRPR 1B, SSHCP Covered Species	Habitat: Occurs in vernal pools. The SSHCP considers vernal pool and seasonal wetland land cover types to provide potential habitat for this species. Elevation: 1-880 meters. Blooms: April-June.	Absent. Vernal pools are absent from the site.
Heckard's pepper-grass (<i>Lepidium latipes</i> var. <i>heckardii</i>)	CRPR 1B	Habitat: Occurs in valley and foothill grasslands (alkaline flats). Elevation: 2-200 meters. Blooms: March-May.	Absent. No suitable habitat occurs on the site.
Mason's lilaeopsis (<i>Lilaeopsis masonii</i>)	CRPR 1B	Habitat: Occurs in brackish or freshwater marshes and swamps and riparian scrub. Elevation: 0-10 meters. Blooms: April-November	Absent. No suitable habitat occurs on the site.
Delta mudwort (<i>Limosella australis</i>)	CRPR 2B	Habitat: Occurs in freshwater or brackish marshes and swamps and riparian scrub. Elevation: 0-3 meters. Bloom: May-August.	Absent. No suitable habitat occurs on the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2020 and CNPS 2020)

Other special status plants listed by CNPS (cont.)

Species	Status	Habitat	Occurrence in the Study Area
Pincushion navarretia (<i>Navarretia myersii</i>)	CRPR 1B SSHCP Covered Species	Habitat: Occurs in vernal pools, often acidic. The SSHCP considers this species to be a strict vernal pool species and land cover types supporting this species are considered to be vernal pools and their related swales per the SSHCP. Elevation: 20-30 meters. Bloom: April-May.	Absent. Vernal pools and their related swales are absent from the site.
Sanford's arrowhead (<i>Sagittaria sandfordii</i>)	CRPR 1B, SSHCP Covered Species	Habitat: Occurs in marshes and swamps (assorted shallow freshwater) Elevation: 0-650 meters Blooms: May-October (November)	Absent. No suitable habitat occurs on the site.
Marsh skullcap (<i>Scutellaria galericulata</i>)	CRPR 2B	Habitat: Occurs in lower montane coniferous forest, meadows and seeps (mesic), marshes and swamps. Elevation: 0-2100 meters. Blooms: June-September	Absent. No suitable habitat occurs on the site.
Side-flowering skullcap (<i>Scutellaria lateriflora</i>)	CRPR 2B	Habitat: Meadows and seeps (mesic), marshes and swamps. Elevation: 0-500 meters. Blooms: July- September	Absent. No suitable habitat occurs on the site.
Suisun Marsh aster (<i>Symphyotrichum lentum</i>)	CRPR 1B	Habitat: Occurs in brackish and freshwater marshes and swamps. Elevation: 0-3 meters. Blooms: (April) May-November.	Absent. No suitable habitat occurs on the site.
Saline clover (<i>Trifolium hydrophilum</i>)	CRPR 1B	<u>Habitat:</u> Marshes and swamps, mesic and alkaline areas of valley and foothill grasslands, and vernal pools. <u>Elevation:</u> 0-300 meters. <u>Blooms:</u> Annual herb; April-June.	Absent. No suitable habitat occurs on the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**ANIMALS (adapted from CDFW 2020 and USFWS 2020)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act**

Species	Status	Habitat	Occurrence in the Study Area
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT, SSHCP Covered Species	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	Absent. Although the SSHCP maps show the site as being adjacent to Valley elderberry longhorn beetle modeled habitat, suitable habitat in the form of elderberry shrubs is absent from the site.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT, SSHCP Covered Species	Occurs in vernal pools of California.	Absent. The majority of the site has been used agriculturally and has had soils disturbed for many decades. The nearest recorded observation of this species is approximately 0.75 miles southeast of the site (CDFW 2020).
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE, SSHCP Covered Species	Occurs in vernal pools of California. Vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	Absent. The SSHCP identified the site as being adjacent to modeled vernal pool tadpole shrimp habitat; however, the majority of the site has been used agriculturally and has had soils disturbed for many decades. The nearest recorded observation of this species is just more than a mile to the northeast of the site (CDFW 2020).
Midvalley fairy shrimp (<i>Branchinecta mesovallensis</i>)	SSHCP Covered Species	Occurs in vernal pools, vernal swales, and other ephemeral freshwater similar in habitat to other fairy shrimp species.	Absent. The majority of the site has been used agriculturally and has had soils disturbed for many decades. The nearest recorded observation of this species is approximately a half-mile to the north of the site (SSHCP 2018).
California tiger salamander (<i>Ambystoma californiense</i>)	FT, CT, SSHCP Covered Species	Breeds in vernal pools and stock ponds of central California; adults aestivate in grassland habitats adjacent to the breeding sites.	Absent. Suitable breeding habitat for this species is absent from the site. The SSHCP identified the site as being adjacent to upland modeled habitat, however, the SSHC does not model any potentially suitable habitat on the project site. Additionally, although the site is within a CNDDDB occurrence polygon for CTS, which is centered approximately a half-mile to the north of the site, this record is from 1914, and is considered to be extirpated (CDFW 2020).
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSC, CCT	Occurs in swiftly flowing streams and rivers with rocky substrate with open, sunny banks in forest, chaparral, and woodland habitats, and can sometimes be found in isolated pools.	Absent. Habitats required by this species are absent from the site. Additionally, the closest recorded observation of this species is more than three miles from the site (CDFW 2020).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY**ANIMALS (adapted from CDFW 2020 and USFWS 2020)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act (cont.)**

Species	Status	Habitat	Occurrence in the Study Area
Giant gartersnake (<i>Thamnophis gigas</i>)	FT, CT, SSHCP Covered Species	Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.	Absent. Habitats required by this species are absent from the site. Additionally, the SSHCP does not identify the site as supporting modeled habitat for this species and the closest recorded observation of this species is more than three miles from the site (CDFW 2020).
Tricolored blackbird (<i>Agelaius tricolor</i>)	CSC, CCE, SSHCP Covered Species	Breeds near fresh water in dense emergent vegetation.	Possible. The site is within SSHCP-modeled foraging and nesting-foraging habitat for the tricolored blackbird, additionally, the agricultural fields may provide suitable nesting habitat depending on the type of crop planted (wheat was planted in 2020, which is suitable nesting habitat for tricolored blackbirds). The nearest recorded observation of this species is approximately one mile from the site (SSHCP 2018).
Swainson's hawk (<i>Buteo swainsoni</i>)	CT, SSHCP Covered Species	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Possible. A few trees occur onsite and several larger trees occur adjacent to the site. Adjacent trees are more suitable for nesting Swainson's hawks. The site is within SSHCP-modeled high-value nesting habitat and is adjacent to a Swainson's hawk nesting occurrence (SSHCP 2018).
Greater sandhill crane (<i>Grus canadensis tabida</i>)	CT, CP, SSHCP Covered Species	Breeding habitat includes open grasslands, marshes, and edges of lakes, ponds, and river banks. Wintering habitat includes a communal roost in shallow water.	Possible. Agricultural fields of the site provide suitable foraging habitat. The site is within SSHCP-modeled foraging (Non-VHV) habitat for the greater sandhill crane. The nearest recorded observation is approximately a half-mile from the site (SSHCP 2018).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2020 and USFWS 2020)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act (cont.)

Species	Status	Habitat	Occurrence in the Study Area
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC, CE	Breed in large blocks of riparian habitats, particularly cottonwoods and willows.	Absent. Dense riparian habitat required by the western yellow-billed cuckoo is absent from the site. Additionally, the nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
Riparian brush rabbit (<i>Sylvilagus bachmani riparius</i>)	FE, CE	Occurs close to the San Joaquin River in riparian forest with dense shrub cover. The only known extant population is in Caswell Memorial State Park on the Stanislaus River in southern San Joaquin County, CA.	Absent. The site is outside the range of the riparian brush rabbit.
Ricksecker's water scavenger beetle (<i>Hydrochara rickseckeri</i>)	SSHCP Covered Species	Occurs in vernal pool wetlands with water in winter and early spring and the absence of water in summer.	Absent. Suitable habitat for this species is absent from the site. Additionally, the SSHCP did not identify modeled habitat for Ricksecker's water scavenger beetle onsite and the majority of the site has been used agriculturally and has had soils disturbed for many decades. The nearest recorded observation of this species is more than three miles from the site (SSHCP 2018).
Western pond turtle (<i>Actinemys marmorata</i>)	CSC, SSHCP Covered Species	Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes. Open slow-moving water of rivers and creeks of central California with rocks and logs for basking.	Absent. Suitable habitat for this species is absent from the site. Additionally, the site is not within SSHCP-modeled aquatic habitat for the western pond turtle. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
Western spadefoot (<i>Spea hammondi</i>)	CSC, SSHCP Covered Species	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	Absent. Suitable habitat for this species is absent from the site. The SSHCP identified the site as being adjacent to modeled upland habitat for the western spadefoot; however, the majority of the site has been used agriculturally and has had soils disturbed for many decades. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2020 and USFWS 2020)

State Species of Special Concern and Protected Species

Species	Status	Habitat	Occurrence in the Study Area
Song sparrow ("Modesto" population) (<i>Melospiza melodia</i>)	CSC	Nests in riparian and dense vegetation fairly near water and along sparsely vegetated irrigation canals.	Unlikely. The site does not support suitable habitat for this species; however, it could fly over the site from time to time during migration. The nearest recorded observation of this species is nearly two miles to the south of the site (CDFW 2020).
White-tailed kite (<i>Elanus leucurus</i>)	CP, SSHCP Covered Species	Open grasslands and agricultural areas throughout central California.	Possible. Suitable breeding and foraging habitat are present onsite and adjacent to the site. Additionally, the SSHCP identified the site as supporting modeled foraging habitat and adjacent to nesting habitat. The nearest recorded observation of this species is approximately one mile to the west of the site (SSHCP 2018).
Ferruginous hawk (<i>Buteo regalis</i>)	SSHCP Covered Species	Occurs in grassland, shrub-steppe, and edge habitats. Breeds mostly outside of California.	Possible. Although this species is not known to breed in the SSHCP plan area, it does overwinter within the plan area. The site is within SSHCP-modeled foraging habitat and the site provides suitable overwintering habitat. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
Northern harrier (<i>Circus cyaneus</i>)	CSC, SSHCP Covered Species	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	Possible. Suitable breeding and foraging habitat exists onsite and adjacent to the site for this species. The site is within SSHCP-modeled nesting-foraging habitat, with the nearest recorded occurrence within a half-mile to the north of the site (SSHCP 2018).
Cooper's hawk (<i>Accipiter cooperii</i>)	SSHCP Covered Species	Breeds in oak woodlands, riparian forests and mixed conifer forests of the Sierra Nevada, but winters in a variety of lowland habitats.	Possible. Suitable foraging habitat exists onsite and suitable breeding and foraging habitat exists onsite and adjacent to the site for this species. The site is adjacent to SSHCP-modeled foraging-nesting habitat. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSC, SSHCP Covered Species	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Nests in tall shrubs and dense trees. Forages in grasslands, marshes, and ruderal habitats. Can often be found in cropland.	Possible. Suitable breeding and foraging habitat exists onsite and adjacent to the site for this species. The site is within SSHCP-modeled foraging habitat. The nearest recorded observation of this species is within a half-mile to the north of the site (SSHCP 2018).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (adapted from CDFW 2020 and USFWS 2020)

State Species of Special Concern and Protected Species (cont.)

Species	Status	Habitat	Occurrence in the Study Area
Burrowing owl (<i>Athene cunicularia</i>)	CSC, SSHCP Covered Species	Found in open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. This species is often associated with California ground squirrels.	Unlikely. Suitable habitat in the form of ground squirrel burrows are currently absent from the site. Additionally, no evidence of this species was detected during the April 2020 site survey. The site is not within any SSHCP-modeled habitat for the burrowing owl. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
California yellow warbler (<i>Dendroica petechia brewsteri</i>)	CSC	Migrants move through many habitats of Sierra and its foothills. This species breeds in riparian thickets of alder, willow and cottonwoods.	Unlikely. The site currently supports agricultural land and does not support the dense vegetation the yellow warbler prefers for nesting. This species may move onto the site from time to time during migration. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
Western red bat (<i>Lasiurus blossevillii</i>)	CSC, SSHCP Covered Species	Roosts in tree or shrub foliage, although will occasionally use caves.	Possible. Although suitable roosting habitat for this species is marginal onsite, suitable roosting habitat occurs adjacent to the site. Suitable foraging habitat occurs onsite. The site is adjacent to SSHCP-modeled foraging and roosting-foraging habitat. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).
American badger (<i>Taxidea taxus</i>)	CSC, SSHCP Covered Species	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils, specifically grassland environments. Natal dens occur on slopes.	Possible. The site supports suitable habitat for this species. Additionally, the site supports SSHCP-modeled habitat onsite. The nearest recorded observation of this species is more than three miles from the site (CDFW 2020).

***Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the site at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the site, but it could occur there from time to time.

Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered

FT Federally Threatened

FPE Federally Endangered (Proposed)

FC Federal Candidate

CSC California Species of Special Concern

CCE California Candidate Endangered

CE California Endangered

CT California Threatened

CR California Rare

CP California Protected

CRPR California Rare Plant Rank

1A	Plants Presumed Extinct in California	3	Plants about which we need more
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		information – a review list
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere	4	Plants of limited distribution – a watch list

2.4 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB). See Section 3.2.5 of this report for additional information.

Hydrological features that may be considered waters of the U.S. or state are absent from the project site.

3 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of the California Environmental Quality Act. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant. According to *2019 CEQA Status and Guidelines* (2019), “Significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered “significant” if they will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- 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;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

State and federal “endangered species” legislation has provided the CDFW and USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal Endangered Species Acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as “species of special status.” Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the take of a listed species. To “take” a listed species, as defined by the state of California, is “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” said species (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” of a listed species (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.2 Migratory Birds

State and federal laws also protect most bird species. The State of California signed Assembly Bill 454 into law in 2019, which clarifies native bird protection and increases protections where California law previously deferred to Federal law. The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.3 Birds of Prey

Birds of prey are protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

Additionally, the Bald and Golden Eagle Protection Act (16 U.S.C., sec. 668-668c) prohibits anyone from taking bald or golden eagles, including their parts, nests, or eggs, unless authorized under a federal permit. The act prohibits any disturbance that directly affects an eagle or an active eagle nest as well as any disturbance caused by humans around a previously used nest site during a time when eagles are not present such that it agitates or bothers an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

3.2.4 Bats

Section 2000 and 4150 of the California Fish and Game Code states that it is unlawful to take or possess a number of species, including bats, without a license or permit, as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as “an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering.” For these reasons, bat colonies in particular are considered to be sensitive and therefore, disturbances that cause harm to bat colonies are unlawful.

3.2.5 Wetlands and Other “Jurisdictional Waters”

The USACE regulates the filling or grading of waters of the U.S. under the authority of Section 404 of the Clean Water Act (CWA). Natural drainage channels and adjacent wetlands may be considered “waters of the United States” or “jurisdictional waters” subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations and clarified in federal courts.

The definition of waters of the U.S. was updated in 2019 with the repeal of the 2015 Clean Water Rule, which re-codified the prior definition of federal waters. What constitutes federal waters will be redefined yet again with the Navigable Waters Protection Rule, which was finalized in January 2020 and has been submitted for publication in the Federal Register. Until such time that the Navigable Waters Protection Rule goes into effect, which is anticipated to happen this year, waters of the U.S. are defined in 33 CFR §328.3(a) as:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of water otherwise defined as waters of the United States under the definition;
5. Tributaries to waters identified in paragraphs (a)(1) through (4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters which are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.

All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The RWQCB also administers the Construction Stormwater Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Stormwater Program. A prerequisite for this permit is the development of a Stormwater Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, stormwater, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.2.6 Tree Regulations of the City of Galt

The City of Galt has a Heritage Oak and Public Trees ordinance that requires a permit for the cutting and removal of heritage oak and public trees, or for activities that encroach on heritage trees and public trees (Section 18.52.060 of the Municipal Code). The ordinance requires a permit for any activity that will impact through cutting, removal or encroachment upon a Heritage Tree. The City of Galt defines a heritage oak tree, public tree and encroachment as:

The definition of a Heritage Oak Tree “includes, but is not limited to, any of the following: valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*) or oracle oak (*Quercus morehus*) having at least one (1) trunk of six (6) inch diameter measured four (4) feet above the ground, or multi-trunks with an aggregate diameter of eight (8) inches or more, measured four (4) feet above ground.”

The definition of public tree means “any tree with one-half or more of its trunk or branches on or above public land.”

The definition of encroachment means “any intrusion or human activity into the dripline of an oak tree including, but not limited to, pruning, grading, excavating, trenching, parking of vehicles, storage of materials or equipment, or the construction of structures or other improvements.”

The City does not provide a set policy for replacement of heritage and public trees for permitted removals and it appears this is handled on a case by case basis. The City does have a program for payment of in-lieu fees for the removal of heritage and public trees. The same ordinance sets forth a number of requirements for protection of heritage and public trees being preserved on a development site.

3.2.7 Conservation Habitat Plans

The South Sacramento Habitat Conservation Plan (SSHCP) was adopted in 2018. The SSHCP has five biological goals:

- 1) Preserve and link intact landscapes that include the highest quality habitat for Covered Species within the Plan Area;
- 2) Maintain or improve physical, chemical, and biological functions of aquatic resources within the Plan Area;
- 3) Preserve, re-establish, and establish natural land covers (including cropland and irrigated pasture-grassland) that provide habitat for Covered Species;
- 4) Maintain or improve habitat value of natural land covers (including cropland and irrigated pasture-grassland) that are preserved within the Plan Area; and
- 5) Maintain or expand the existing distribution of each Covered Species within the Plan Area.

The SSHCP provides take authorization for 20 animal species and eight plant species.

Animal species for which the SSHCP provides take authorization includes the vernal pool tadpole shrimp (*Lepidurus packardii*), vernal pool fairy shrimp (*Branchinecta lynchi*), Midvalley fairy shrimp (*Branchinecta mesovallensis*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*), California tiger salamander, (Central Valley population; *Ambystoma californiense*), western spadefoot (*Spea hammondi*), western pond turtle (*Actinemys marmorata*), giant gartersnake (*Thamnophis gigas*), Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), western burrowing owl (*Athene cunicularia hypugaea*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), greater sandhill crane (*Grus canadensis tabida*), loggerhead shrike (*Lanius ludovicianus*), western red bat (*Lasiurus blossevillei*), and American badger (*Taxidea taxus*).

Plant species for which the SSHCP provides take authorization includes dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii*), slender Orcutt grass (*Orcuttia tenuis*), Sacramento orcutt grass (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*).

Impacts under the SSHCP can be mitigated for via land dedication and/or a development fee, which is based on land cover types; the SSHCP identifies 12 land covers, including Agriculture, Valley Grassland, Vernal Pool, Blue Oak Savanna and Woodland, Riparian, Mine Tailing Riparian Woodland, Seasonal Wetland, Freshwater Marsh, Swale, Stream/Creek (VPIH), Open Water, and Stream/Creek. The fee schedule is updated annually.

In association with the SSHCP, the Plan Permittees and key stakeholders have coordinated with state and federal resource agencies (USACE, RWQCB and CDFW) to implement an SSHCP Aquatic Resources Program (ARP) (County of Sacramento et al. 2018). The basic purpose of the ARP is to institute a locally based aquatic permitting program that is also anticipated to assist the Plan Permittees in complying with the requirements of federal, state, and local laws that protect aquatic resources. The ARP is intended to be consistent with and either meet or exceed the requirements of Sections 404 and 401 of the federal CWA and the Porter-Cologne Act. The ARP is also written to be consistent with California Fish and Game Code Sections 1600–1616 (Lake or Streambed Alteration Agreement). Together, the ARP and SSHCP result in a comprehensive Conservation Strategy for the conservation of aquatic resources, natural communities, native species, and the 28 species covered by the SSHCP.

As of the time of preparation of this report, the ARP does not appear to have taken effect yet. As such, impacts to waters of the U.S. or state would require that permits be obtained from the USACE, RWQCB and CDFW, or some combination of these three agencies.

3.3 IMPACTS SPECIFIC TO THE PROJECT

The proposed project consists of the development of the site with approximately 68 residential lots and associated infrastructure with a detention basin along the southern portion of the site.

The development of the property could cause impacts including nest failure of breeding migratory birds and raptors, loss of habitat for several species covered under the SSHCP, and loss of

ordinance-sized trees. As discussed above, activities resulting in impacts to biotic resources may be regulated by local, state, and federal laws. The natural resource issues specific to this project are discussed in detail below.

3.3.1 Project Impacts to Special Status Plants

Potential Impact. Of the special status plant species that occur or once occurred regionally, all species are considered absent from the site due to a lack of suitable habitat (Table 1). Therefore, the project is not expected to result in a significant impact to special status plant species.

Consistency with SSHCP- No plant species covered under the SSHCP are expected to occur on the site; therefore, SSHCP measures for covered plant species will not be required.

Mitigation. No mitigation is warranted.

3.3.2 Loss of Habitat for Special Status Animals

Potential Impact. Twenty-nine (25) special status animal species occur, or once occurred, regionally. Of these, 14 species would be absent or unlikely to occur on the project site due to a lack of suitable habitat and/or the site's being located outside of the species' range. The species that would be absent or unlikely to occur include the Valley elderberry longhorn beetle, Ricksecker's water scavenger beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, Midvalley fairy shrimp, California tiger salamander, western spadefoot, Foothill yellow-legged frog, giant gartersnake, western pond turtle, burrowing owl, California yellow warbler, western yellow-billed cuckoo, and riparian brush rabbit. The project will not result in loss of habitat for these 18 species because the site's habitats are unsuitable for these species under existing conditions.

The remaining 11 special status animal species from Table 1 potentially occur more frequently as potential foragers, transients, may be resident to the site, or they may occur within areas adjacent to the site. These include white-tailed kite, ferruginous hawk, Cooper's hawk, northern harrier, Swainson's hawk, greater sandhill crane, loggerhead shrike, Modesto song sparrow, tricolored blackbird, western red bat, and American badger.

The white-tailed kite, Cooper's hawk, northern harrier, Swainson's hawk, loggerhead shrike, Modesto song sparrow, and tricolored blackbird may nest on or adjacent to the site, and the

ferruginous hawk and greater sandhill crane may forage, roost, or overwinter onsite during migration and winter months.

This project will not result in a significant loss of habitat for any of these species due to an abundance of suitable habitat in the region. Potential impacts to individuals of these species are discussed further below.

Consistency with SSHCP- Several species covered under the SSHCP (white-tailed kite, ferruginous hawk, Cooper's hawk, northern harrier, Swainson's hawk, greater sandhill crane, loggerhead shrike, tricolored blackbird, western red bat, and American badger) have the potential to occur onsite. General Conditions and species-specific measures of the SSHCP will be followed.

Mitigation. No mitigation warranted.

3.3.3 Loss of Habitat for Native Wildlife

Potential Impact. The habitats of the site constitute only a small portion of the regionally available habitat for plant and animal species that are expected to use the habitat. The proposed project would result in the loss of approximately 25 acres of agricultural habitat. This is not expected to result in a significant effect on local wildlife.

Consistency with SSHCP- The project will pay all project fees, which will preserve contiguous lands for SSHCP-covered species, with associated benefits expected for a suite of other co-occurring species.

Mitigation. No mitigation would be warranted for the loss of habitat for native wildlife.

3.3.4 Interference with the Movement of Native Wildlife

Potential Impact. The intensively-maintained project site does not contain established wildlife movement corridors. Buildout of the site would not constrain native wildlife movement, as species currently using the site for movement would continue to be able to move through local vicinity. In addition, the site is not within or adjacent to any linkage identified by the SSHCP to be preserved.

Consistency with SSHCP- The site is not within any linkage defined by the SSHCP.

Mitigation. No mitigation would be warranted for interference with the movement of native wildlife.

3.3.5 Impacts to Swainson's Hawks

Potential Impacts. Some trees, which provide moderately suitable nesting habitat for Swainson's hawks, occur along the eastern and northern margins of the site and within the developed portion of the site. Trees adjacent to the site provide more suitable nesting habitat for the Swainson's hawk. Additionally, the agricultural field supports foraging habitat for this species. The site is within SSHCP-modeled high-value foraging habitat with a nesting occurrence adjacent and to the south of the site. Adequate foraging habitat exists in the vicinity of the site, however, should site grading, vegetation, or tree removal occur while a Swainson's hawk is nesting on or adjacent to the site, they may be injured or killed. Any actions related to site development that result in the injury or mortality of Swainson's hawks would constitute a significant adverse environmental impact.

Consistency with SSHCP- The project will follow measures SWHA 1-4 from Chapter 5, Section 4 of the SSHCP (2018).

Mitigation. The following measures are summarized from the SSHCP (2018) and will ensure that active Swainson's hawk nests will not be disturbed and individual birds will not be harmed by construction activities, especially including tree removal. Completion of the following measures will reduce the potential impacts to Swainson's hawks to a less-than-significant level under CEQA and ensure compliance with the SSHCP.

- **Mitigation Measure 3.3.5a. SWHA-1 (Swainson's Hawk Surveys):** As a biologist has already confirmed that existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint, all existing and potential nesting sites will be mapped and provided to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 of the SSHCP for the process to conduct and submit survey information. (SSHCP 2018)
- **Mitigation Measure 3.3.5b. SWHA-2 (Swainson's Hawk Pre-Construction Surveys):** Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine

presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. (SSHCP 2018)

- **Mitigation Measure 3.3.5c. SWHA-3 (Swainson's Hawk Nest Buffer):** If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, a 0.25 mile disturbance buffer will be established around the active nest until the young have fledged, with concurrence from the Wildlife Agencies. (SSHCP 2018)
- **Mitigation Measure 3.3.5d. SWHA-4 (Swainson's Hawk Nest Buffer Monitoring):** If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist will monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone). (SSHCP 2018)

3.3.6 Impacts to Covered Raptor Species

Potential Impacts. Breeding habitat for four species identified in the SSHCP as Covered Raptors, the Cooper's hawk, loggerhead shrike, northern harrier, and white-tailed kite, occurs along the margins of the site and within the developed area of the site. The site is within SSHCP-modeled foraging habitat for the loggerhead shrike, within SSHCP-modeled foraging habitat for the white-tailed kite and adjacent to nesting habitat for this species, within SSHCP-modeled nesting-foraging and foraging habitat for the northern harrier, and adjacent to SSHCP-modeled Cooper's hawk

foraging-nesting habitat. Should site grading or vegetation or tree removal occur while a covered raptor species is nesting on or adjacent to the site, they may be injured or killed. Any actions related to site development that result in the mortality of covered raptors would constitute a significant adverse environmental impact.

One other raptor species afforded coverage in the SSHCP, the ferruginous hawk, does not nest in the project vicinity, but may forage on the site during the non-breeding season. The ferruginous hawk is highly mobile while foraging and would not be vulnerable to construction-related injury or mortality during this activity. Potential project impacts to this species are considered less than significant under CEQA.

Consistency with SSHCP- The project will follow measures RAPTOR 1-4 from Chapter 5, Section 4 of the SSHCP (2018) to ensure the protection of the Cooper's hawk, loggerhead shrike, northern harrier, and white-tailed kite. The SSHCP does not contain measures for the ferruginous hawk "as they do not nest in the Plan Area" (SSHCP 2018).

Mitigation. The following measures are summarized from the SSHCP (2018) and will ensure that Cooper's hawk, loggerhead shrike, northern harrier, and white-tailed kite nests will not be disturbed and individuals of these species will not be harmed by construction activities. Completion of the following measures will reduce the potential impacts to these covered raptors to a less-than-significant level under CEQA and ensure compliance with the SSHCP.

- **Mitigation Measure 3.3.6a. RAPTOR-1 (Raptor Surveys):** As modeled habitat for Cooper's hawk, loggerhead shrike, northern harrier, and white-tailed kite is present within the project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint, all existing and potential nesting sites will be mapped and provided to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 of the SSHCP for the process to conduct and submit survey information. (SSHCP 2018)
- **Mitigation Measure 3.3.6b. RAPTOR-2 (Raptor Pre-Construction Surveys):** Pre-construction surveys will be required to determine if active nests are present with a project

footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Preconstruction surveys will be conducted during the raptor breeding season. If a nest is present, then RAPTOR-3 and RAPTOR-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. (SSHCP 2018). If nesting raptors are not found during the preconstruction surveys, the remainder of the mitigation measures for raptors below are not necessary.

- **Mitigation Measure 3.3.6c. RAPTOR-3 (Raptor Nest/Roost Buffer):** If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, a 0.25 mile temporary nest disturbance buffer will be established around the active nest until the young have fledged. (SSHCP 2018)
- **Mitigation Measure 3.3.6d. RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring):** If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist will monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone). (SSHCP 2018)

3.3.7 Impacts to Greater Sandhill Cranes

Potential Impacts. Although nesting habitat for the greater sandhill crane is absent from the site, they may forage in the agricultural field during the winter months and during migration times. The site is within SSHCP-modeled foraging (Non-VHV) habitat for the greater sandhill crane. Individuals and evidence of this species' presence were not detected during the 2020 survey. Should site grading or vegetation removal occur while a greater sandhill crane is onsite, they may be injured or killed. Any actions related to site development that result in the mortality of greater sandhill cranes would constitute a significant adverse environmental impact.

Consistency with SSHCP- The project will follow measures GSC 1-5 from Chapter 5, Section 4 of the SSHCP (2018).

Mitigation. The following measures from the SSHCP will ensure that greater sandhill cranes will not be disturbed or harmed by construction activities. Completion of the following measures will reduce the potential impacts to greater sandhill cranes to a less-than-significant level under CEQA and ensure compliance with the SSHCP.

- **Mitigation Measure 3.3.7a. GSC-1 (Greater Sandhill Crane Surveys):** As modeled foraging (Non-VHV) habitat for greater sandhill crane is present within the project footprint or within 0.5 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential roosting sites are present within the project footprint and adjacent areas within 0.5 mile of the project footprint. Roosting sites within the Plan Area are often associated with flooded fields, seasonal wetlands, and freshwater marsh. The biologist will map all existing or potential roosting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Roosting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 of the SSHCP for the process to conduct and submit survey information. (SSHCP 2018)
- **Mitigation Measure 3.3.7b. GSC-2 (Greater Sandhill Crane Pre-Construction Surveys):** Pre-construction surveys will be required to determine if active roosting sites are present within a project footprint or within 0.5 mile of a project footprint if existing or potential roosting sites were found during initial surveys and construction activities will occur when wintering flocks are present within the Plan Area (September 1 through March 15). An approved biologist will conduct pre-construction surveys within 15 days of ground-

disturbing activities, and within 0.5 mile of a project footprint, to determine presence of roosting greater sandhill cranes. Pre-construction surveys will be conducted September 1 through March 15, when wintering flocks are present within the Plan Area. If birds are present, then GSC-3, GSC-4, and GSC-5 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. (SSHCP 2018) If greater sandhill crane roosting sites are not found during the preconstruction surveys, the remainder of the mitigation measures for the greater sandhill crane below are not necessary.

- **Mitigation Measure 3.3.7c. GSC-3 (Greater Sandhill Crane Roosting Buffer):** If active roosting sites are found within the project footprint or within 0.5 mile of any project-related Covered Activity, a 0.5 mile temporary roosting disturbance buffer will be established around the roosting site until the cranes have left. (SSHCP 2018)
- **Mitigation Measure 3.3.7d. GSC-4 (Greater Sandhill Crane Visual Barrier):** If project-related activities occur within 0.5 mile of a known roosting site as identified by surveys conducted during implementation of GSC-1 or GSC-2, a visual barrier will be constructed. (SSHCP 2018)
- **Mitigation Measure 3.3.7e. GSC-5 (Greater Sandhill Crane Roosting Buffer Monitoring):** If roosting sites are found within the project footprint or within 0.50 mile of any project-related Covered Activity, an approved biologist will monitor the roosting site throughout the roosting season and to determine when the birds have left. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary disturbance buffer can only occur with the written permission of the Implementing Entity and Wildlife Agencies. If greater sandhill cranes are abandoning their roosting and/or forage sites, the approved biologist will have the authority to shut down construction activities. If roost abandonment occurs, the approved biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid harm and harassment of individuals. The approved biologist will also train construction personnel on the avoidance procedures, buffer zones, and protocols in the event that greater sandhill cranes move into an active construction zone (i.e., outside the buffer zone). (SSHCP 2018)

3.3.8 Impacts to Tricolored Blackbirds

Potential Impacts. The site is within SSHCP-modeled nesting-foraging habitat for the tricolored blackbird, and the agricultural fields may support suitable nesting habitat depending on the type of crop planted; wheat, a suitable nesting substrate for the tricolored blackbird, was planted at the time of the April 2020 site visit. Individuals and evidence of this species' presence were not detected during the 2020 survey. Should site grading or vegetation removal occur while tricolored blackbirds are nesting onsite, they may be injured or killed. Any actions related to site development that result in the mortality of tricolored blackbirds would constitute a significant adverse environmental impact.

Consistency with SSHCP- The project will follow measures TCB 1-5 from Chapter 5, Section 4 of the SSHCP (2018). Additionally, should the project cause the loss of any nesting tricolored blackbird colony site, the project shall follow Objectives TB5 and TB8 of Table 7-87 of the SSHCP (2018).

Mitigation. The following measures are summarized from the SSHCP and will ensure that tricolored blackbird nests will not be disturbed and individuals will not be harmed by construction activities. Completion of the following measures will reduce the potential impacts to tricolored blackbirds to a less-than-significant level under CEQA and ensure compliance with the SSHCP.

- **Mitigation Measure 3.3.8a. TCB-1 (Tricolored Blackbird Surveys):** As a biologist has already confirmed that existing or potential nesting or foraging sites are present within the project footprint and adjacent areas within 500 feet of the project footprint, the biologist will map all existing or potential nesting or foraging sites and provide them to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information. (SSHCP 2018)
- **Mitigation Measure 3.3.8b. TCB-2 (Tricolored Blackbird Pre-Construction Surveys):** Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of ground-disturbing activities, and

within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, then TCB-3 and TCB-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. (SSHCP 2018) If nesting tricolored blackbirds are not found during the preconstruction surveys, the remainder of the mitigation measures for tricolored blackbirds below are not necessary.

- **Mitigation Measure 3.3.8c. TCB-3 (Tricolored Blackbird Nest Buffer):** If active nests are found within the project footprint or within 500 feet of any project-related Covered Activity, a 500-foot temporary buffer will be established around the active nest until the young have fledged. (SSHCP 2018)
- **Mitigation Measure 3.3.8d. TCB-4 (Tricolored Blackbird Nest Buffer Monitoring):** If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related Covered Activity, then an approved biologist will monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone). (SSHCP 2018)
- **Mitigation Measure 3.3.8f. Objective TB5.** Should loss of any tricolored blackbird nesting colony site that is occupied at the time of Covered Activity implementation or was recorded as an occupied nesting colony at any time since 2008 occur, at least one extant unpreserved

occurrence of a nesting colony will be preserved prior to take of one nesting colony of tricolored blackbirds per Objective TB5 of the SSHCP (2018).

- **Mitigation Measure 3.3.8g. Objective TB8.** Should a tricolored blackbird nesting colony that is removed by the project, three new colonies within SSHCP Preserves must be re-established and/or established per Objective TB8 of the SSHCP (2018).

3.3.9 Impacts to Other Nesting Migratory Birds and Raptors and other Protected Birds

Potential Impacts. Trees, shrubs, and agricultural fields of the site as well edge habitat along the boundaries of the site are likely to support a variety of other nesting birds and raptors protected by state and federal law. Buildout of the project during the nesting period for migratory birds (i.e., typically between February 1 and August 31), including initial site grading, soil excavation, and/or tree and vegetation removal, poses a risk of nest abandonment and death of any live eggs or young that may be present within the nest within or near the site. Such an effect would be considered a significant impact. To ensure that any active nests will not be disturbed, and individual birds will not be harmed by construction activities, the following measures should be followed.

Consistency with SSHCP- Measures for migratory bird and raptor species covered by the SSCHP were presented in Sections 3.3.5-3.3.8.

Mitigation. The following measures will ensure that active migratory bird and raptor nests will not be disturbed, and individual birds will not be harmed by construction activities, especially including tree removal. As the SSHCP notes, the site is within suitable habitat for several bird migratory bird and raptor species covered under the SSCHP; mitigation measures for these species were presented in the Sections 3.3.5-3.3.8 and supersede the measures below for species covered under the SSHCP. Completion of the following measures will reduce the potential impacts to other nesting migratory birds and raptors to a less-than-significant level.

Mitigation Measure 3.3.9a. If initial site disturbance activities, including ground disturbance or tree, shrub, or vegetation removal, are to occur during the breeding season (typically February 1 to August 31), a qualified biologist would conduct pre-construction surveys for nesting migratory birds onsite and within 250 feet (for raptors) of the site, where accessible. The survey should occur within 7 days prior to the onset of ground disturbance or vegetation removal. If a nesting migratory bird were to be detected, an appropriate construction-free buffer would be established. Actual size

of buffer, which would be determined by the project biologist, would depend on species, topography, and type of activity that would occur in the vicinity of the nest. The project buffer would be monitored periodically by the project biologist to ensure compliance. After the nesting is completed, as determined by the biologist, the buffer would no longer be required.

3.3.10 Impacts to Western Red Bat and other Bats

Potential Impacts. The site is adjacent to SSHCP-modeled foraging habitat and roosting-foraging habitat for western red bats. The palm tree within the developed portion of the site may support suitable roosting habitat for western red bats. Other bat species may also roost in the palm tree or within cavities of the several walnut trees which line the site's eastern and northern borders. Individuals and evidence of western red bats or other bat species' presence were not detected during the 2020 site visit. Should site grading occur while bats are roosting in onsite trees, especially when overwintering or during maternity season, they may be injured or killed. Any actions related to site development that result in the mortality of bats would constitute a significant adverse environmental impact.

Consistency with SSHCP- The project will follow measures BAT 1-4 from Chapter 5, Section 4 of the SSHCP (2018).

Mitigation. The following measures summarized from the SSHCP will ensure that bat roosts will not be disturbed and individuals will not be harmed by construction activities. Completion of the following measures will reduce the potential impacts to western red bats and other bat species to a less-than-significant level under CEQA and ensure compliance with the SSHCP.

Mitigation Measure 3.3.10a. BAT-1 (Winter Hibernaculum Surveys): As modeled habitat for western red bat is present within 300 feet of the project footprint, an approved biologist will identify and map potential hibernaculum sites within 300 feet of the project footprint. If potential hibernaculum sites are found, the Third-Party Project Proponent will note their locations on project designs and will design the project to avoid all areas within a 300-foot buffer around the potential hibernaculum sites. See Chapter 10 of the SSHCP for the process to conduct and submit survey information. (SSHCP 2018)

Mitigation Measure 3.3.10b. BAT-2 (Winter Hibernaculum Pre-Construction Surveys): If potential winter hibernaculum sites within the project footprint plus a 300-foot buffer cannot be

avoided, additional surveys are required. Prior to any ground disturbance related to Covered Activities, an approved biologist will conduct a pre-construction survey within 3 days of ground-disturbing activities within the project footprint and 300 feet of the project footprint to determine the presence of winter hibernaculum sites. Pre-construction surveys will be conducted during the winter hibernaculum season (November 1 through March 31). If a winter hibernaculum is present, then BAT-3 and BAT-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies. (SSHCP 2018)

Mitigation Measure 3.3.10c. An approved biologist will conduct a survey of trees onsite for other bat species. Should bat species be observed, Mitigation Measures 3.3.15d and 3.3.1e will be implemented.

Mitigation Measure 3.3.10d. BAT-3 (Winter Hibernaculum Buffer): If active winter hibernaculum sites are found within the project footprint or within 300 feet of the project footprint, a 300-foot temporary disturbance buffer will be established around the active winter hibernaculum site until bats have vacated the hibernaculum and the Implementing Entity and Wildlife Agencies concur. (SSHCP 2018)

Mitigation Measure 3.3.10e. BAT-4 (Bat Eviction Methods): An approved biologist will determine if non-maternity and non-hibernaculum day and night roosts are present on the project site. If necessary, an approved biologist will use safe eviction methods to remove bats if direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided. If a winter hibernaculum site is present, Covered Activities will not occur until the hibernaculum is vacated, or, if necessary, safely evicted using methods acceptable to the Wildlife Agencies. (SSHCP 2018)

3.3.11 Impacts to American Badgers

Potential Impacts. The site mainly consists of agricultural lands suitable for badgers. Additionally, the site is within SSHCP-modeled habitat for American badgers. Individuals and evidence of this species' presence were not detected during the 2020 survey. Should site grading occur while a badger is denning on site, it may be buried in its den. Any actions related to site development that result in the mortality of badgers would constitute a significant adverse environmental impact.

Consistency with SSHCP- Although this species is a Covered Species under the SSHCP (2018), the SSHCP does not provide species-specific measures for badgers.

Mitigation. The following measures will ensure that American badgers will not be disturbed, and individuals will not be harmed by construction activities. Completion of the following measures will reduce the potential impacts to American badgers to a less-than-significant level under CEQA.

Mitigation Measure 3.3.11a. Pre-construction surveys conducted for other species should also be used to determine the presence or absence of badgers in the development footprint. If an active badger den is not found during the preconstruction surveys, the remainder of the mitigation measures for badgers below are not necessary.

Mitigation Measure 3.3.11b. If an active badger den is identified during pre-construction surveys within or immediately adjacent to the construction envelope, a construction-free buffer of up to 300 feet (or distance specified by the resource agencies, i.e., CDFW) should be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor should be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers.

Mitigation Measure 3.3.11c. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.

3.3.12 Potential Impacts to Riparian Habitat and Other Sensitive Natural Communities, Including Federally Protected Wetlands

Potential Impacts. Potentially jurisdictional habitats, riparian habitat, and other sensitive natural communities are absent from the site.

Consistency with SSHCP-The project will not result in any impacts to Stream/Creek or Seasonal Wetland land cover types.

Mitigation. The project will not result in any impacts to Stream/Creek or Seasonal Wetland land cover types.

3.3.13 Degradation of Water Quality of Downstream Waters

Potential Impact. Eventual site development and construction may require grading that leaves the soil of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Furthermore, urban runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species. The deposition of pollutants and sediments in sensitive riparian and wetland habitats would be considered a potentially significant adverse environmental impact. The project would comply with the City's grading requirements and requirements of the SSHCP. Therefore, the project buildout would result in a less-than-significant impact to water quality.

Consistency with SSHCP- The project will comply with water quality measures and best management practices of the SSHCP.

Mitigation. No mitigation is warranted.

3.3.14 Conflict with Local Policies or Ordinances

Impact. The project will need to abide by *The Cutting and Removal of Heritage Oak and Public Trees* ordinance (Section 18.52.060 of the Municipal Code) of the City of Galt. Appropriate permits and additional conditions are required for removal of any heritage oak tree or public tree or encroachment on any heritage oak tree. The applicant will be responsible for conforming to these requirements and applying for necessary permits and replacements if a protected tree is to be affected or removed.

Our site visit did not identify any trees of the size required to be a heritage oak tree, however, a tree inventory was not conducted as a part of this evaluation; therefore, a tree inventory conducted by a certified ISA Arborist would confirm presence or absence of protected trees on the site.

Consistency with SSHCP- The SSHCP does not cover take of individual trees.

Mitigation. Should the project affect, encroach on, or remove a protected or heritage oak tree, the appropriate permits would need to be obtained and any additional conditions of the permit be adhered to.

3.3.15 Conflict with an Adopted Habitat Conservation Plan

The site is within the Preserve Planning Unit 8 (PPU 8). According to the SSHCP, “PPU 8 contains documented occurrences of several Covered Species, including five occurrences of greater sandhill crane, 19 of Swainson’s hawk, and a single occurrence of western red bat; otherwise, PPU 8 does not support occurrence concentrations of any particular species (Figures 3-3 through 3-30). ...The Preserve System in PPU 8 is limited to Cropland Preserve located in the northwest of the PPU and in the south of the PPU along Dry Creek. Preservation in PPU 8 focuses on high-value Swainson’s hawk foraging habitat. This PPU also includes a greater sandhill crane roosting pond (Figure 3-22)” (SSHCP 2018).

Species with SSHCP-modeled habitat occurring onsite include greater sandhill crane (foraging Non-VHV)), loggerhead shrike (foraging), northern harrier (nesting-foraging), Swainson’s hawk (high value foraging habitat and adjacent to high value nesting habitat with a nesting occurrence adjacent to the site), tricolored blackbird (nesting-foraging), white tailed kite (foraging and adjacent to nesting), and American badger. Species with SSHCP-modeled habitat occurring adjacent to the site include Valley elderberry longhorn beetle, vernal pool tadpole shrimp, California tiger salamander (upland), western spadefoot (upland), Cooper’s hawk (foraging-nesting), ferruginous hawk (foraging), and western red bat (foraging).

3.3.15.1 Fees

Development fees for the SSHCP are updated annually and are paid based on the actual impacts to each land cover type onsite. Fee calculations are described in Chapter 10 of the SSHCP. The current per-acre fees for land cover types/habitats occurring on the site are taken from the 2019 fee schedule, as a 2020 fee schedule is not yet available; fees for this site include:

- Agriculture: \$17,759
- Low-density Development: No Fee

Alternatively, a project may dedicate land in lieu of paying development fees.

3.3.15.2 Conditions and Measures

The project will implement avoidance and minimization measures (AMMs) from the SSHCP as described in the preceding sections and summarized below in Table 3. All SSHCP conditions and AMMs are provided in Appendix A.

Table 3. Application of General Species Take Avoidance and Minimization Measures to the Proposed Project from Section 5.4.2 of the SSHCP.

Measure	Applies?	Description
SPECIES-1 through -4.	Yes	Applies to all Covered Activities.
PLANT-1 through -2.	No	The project site is not within modeled habitat for Sanford's arrowroot or Bogg's Lake hedge hyssop.
ORCUTT-1 through -2.	No	The project site is not within modeled habitat for Orcutt grass.
STREAM-1 through -2	No	The project will not impact any streams listed in Table 5-1 of the SSHCP.
STREAM-3 through -5	No	The project will not impact any streams.
CTS-1 through -7.	No	Although the SSHCP identified the site as being adjacent to modeled upland habitat, the SSHCP does not identify the site as supporting modeled habitat for this species.
WS-1 through -7.	No	Although the site is adjacent to modeled upland habitat for the western spadefoot, the SSHCP does not identify the site as supporting modeled habitat for this species.
GGs-1 through -8.	No	The SSHCP does not identify the site as supporting modeled habitat for this species.
WPT-1 through -9.	No	The SSHCP does not identify the site as supporting modeled habitat for this species.
TCB-1 through -5.	Yes	The site is within SSHCP-modeled nesting-foraging habitat for the tricolored blackbird; the agricultural fields may provide suitable nesting habitat depending on the type of crop planted. Wheat, a suitable nesting substrate, was onsite during the April 2020 site visit.
SWHA-1 through -4.	Yes	A few trees occur onsite and several larger trees occur adjacent to the site. The site is within SSHCP-modeled high-value foraging habitat and has a nesting occurrence adjacent to the south of the site.
GSC-1 through -5.	Yes	Although nesting habitat for the greater sandhill crane is absent from the site, agricultural fields of the site provide suitable foraging habitat. The site is within SSHCP-modeled foraging (Non-VHV) habitat for the greater sandhill crane.
WBO-1 through -7.	No	Burrowing owl nesting habitat is absent from the site, and the site is not within modeled wintering habitat for the burrowing owl.
RAPTOR-1 through -4.	Yes	The SSHCP mitigation measures for Covered Raptor Species applies to Cooper's hawk (<i>Accipiter cooperii</i>), loggerhead shrike (<i>Lanius ludovicianus</i>), northern harrier (<i>Circus cyaneus</i>), and white-tailed kite (<i>Elanus leucurus</i>). Breeding habitat for these species occurs onsite and adjacent to the site. The site is within modeled foraging habitat for the loggerhead shrike, modeled foraging habitat and adjacent to modeled nesting habitat for the white-tailed kite, modeled nesting-foraging habitat for the northern harrier, and adjacent to modeled foraging-nesting habitat for the Cooper's hawk.
BAT-1 through -4.	Yes	The SSHCP does not identify the site as supporting modeled habitat for this species, however, it does identify SSHCP-modeled roosting-foraging and foraging habitat for western red bats adjacent to the site. However, roosting habitat for the western red bat and other bat species is available onsite within the palm tree and other bat species may roost in cavities within the walnut trees along the eastern and northern border of the site.

Mitigation. Payment of all applicable SSHCP fees and compliance with all SSHCP conditions and AMMs will ensure the project is consistent with the SSHCP.

4 LITERATURE CITED

- California Department of Fish and Wildlife. 2020. Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants. The Resources Agency, Sacramento, CA.
- California Department of Fish and Game. 2020. California Fish and Game code. Gould Publications. Binghamton, N.Y.
- California Department of Fish and Wildlife. 2020. California Natural Diversity Database, Rarefind5. The Resources Agency, Sacramento, CA.
- California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants (online edition, v6-05c). California Native Plant Society. Sacramento, CA.
- City of Galt Municipal Code. 2020.
- County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority. 2018. Final South Sacramento Habitat Conservation Plan. January 2018. Sacramento, CA.
- County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority. 2018. SSHCP Aquatic Resources Program.
- Harris, L.D., Gallagher, P.B., 1989. New initiatives for wildlife conservation: the need for movement corridors. In: Mackintosh, G. (Ed.), Preserving Communities and Corridors. Defenders of Wildlife, Washington DC, pp. 11–34.
- Natural Resource Conservation Service. 2020. Web Soil Survey. USDA.
- Santos, N.R., J.V.E. Katz, P.B. Moyle, and J.H. Viers. 2014. A programmable information system for management and analysis of aquatic species range data in California. Environmental Modelling & Software. Volume 53 pp. 13-26. <https://pisces.ucdavis.edu> and http://calfish.ucdavis.edu/PISCES_Distribution_Maps/
- Shuford, W. David and Thomas Gardall eds. 2008. California Bird Species of Special Concern. Western Field Ornithologists and California Department of Fish and Game.
- County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority. 2018. Final South Sacramento Habitat Conservation Plan. January 2018. Sacramento, CA. Thomson, Robert C., Amber N. Wright, and H. Bradley Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. California Department of Wildlife. University of California Press.
- USACE. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army.

U.S. Fish and Wildlife Service. 2020. Endangered and threatened wildlife and plants.

Wetland Training Institute, Inc. 1990. Federal Wetland Regulation Reference Manual. B.N. Goode and R.J. Pierce (eds.) WTI 90-1. 281pp.

APPENDIX A. SOUTH SACRAMENTO COUNTY HABITAT PLAN CONDITIONS AND MEASURES.

(Taken from Chapter 5 of the SSHCP)

implemented. The Land Use Authority Permittee can compel a Third-Party Project Proponent to stop working if a project is not in compliance with all SSHCP AMMs.¹⁶ Upon construction completion, the Land Use Authority Permittee will monitor and confirm that post-construction conditions are acceptable and consistent with the requirements of the SSHCP permits (e.g., revegetation, soil treatments).¹⁷ Once the constructed project has received final clearance from the Land Use Authority, it is the responsibility of the Land Use Authority to monitor continued operation of installed AMMs (e.g., swales, retention basins) and to monitor compliance with AMMs required for future operations and maintenance of the Covered Activity. The Implementing Entity may also assist with and in some instances may assume responsibility for monitoring continued operation of installed AMMs when those AMMs are part of the Preserve System, Preserve Setbacks, or Stream Setbacks.

On occasion, a local Land Use Authority Permittee may not have authority over a Covered Activity proposed by a Third-Party Project Proponent. In that event, the SSHCP Implementing Entity may develop a Participating Special Entity agreement with the Third-Party Project Proponent (see Chapter 9). As a Participating Special Entity, the Third-Party Project Proponent will incorporate and implement all applicable design and construction AMMs. The Implementing Entity will ensure that AMMs specific to that SSHCP Covered Activity are included in the project's Participating Special Entity agreement and ensure that AMMs are being implemented during construction.

As the SSHCP will be implemented over a 50-year Permit Term, the results of construction monitoring may indicate that certain AMMs are ineffective. Should the Plan Permittees wish to modify or replace an SSHCP AMM, they will follow the modification process outlined in the Adaptive Management Program (see Chapter 8).

5.4.1 General Avoidance and Minimization Measures

General AMMs are designed to avoid or minimize effects of Covered Activities on SSHCP land cover types and Covered Species.

Condition 1. Avoid and Minimize Urban Development Impacts to Watershed Hydrology and Water Quality

National Pollution Discharge Elimination System permits are issued by the Regional Water Quality Control Board to jurisdictions in the region, including the jurisdictions that are also SSHCP Land Use Authority Permittees (i.e., County of Sacramento, and Cities of Rancho

¹⁶ In a situation like this, the Local Land Use Authority Permittee will suspend one or more local permits (e.g., grading permit, building permit) until compliance with terms of all SSHCP requirements is demonstrated.

¹⁷ Post-construction monitoring by the Land Use Authority Permittee could continue for several years.

Final South Sacramento Habitat Conservation Plan

Cordova and Galt). The National Pollution Discharge Elimination System permit is issued to each of the Land Use Authority Permittees every 5 years, and is referred to as the Municipal Separate Storm Sewer System (MS4) permit. MS4 permits contain specific design measures required for all projects constructed within the region. The Stormwater Quality Design Manual for the Sacramento and South Placer Regions (Stormwater Manual) outlines planning tools and requirements to reduce urban runoff from new development and redevelopment projects within the region (Sacramento Stormwater Quality Partnership 2007). The Stormwater Manual is used as a general guidance document to aid with the selection, siting, design, operation, and long-term maintenance of stormwater quality control measures. The Stormwater Manual contains control measures intended to meet the standard of “reducing pollutants in urban runoff to the maximum extent practicable” set forth in the local agencies’ MS4 permits issued by the Central Valley Regional Water Quality Control Board. AMM LID-1 (see below) is designed to ensure compliance with MS4 requirements by requiring Third-Party Project Proponents to minimize increases of peak discharge of stormwater and to eliminate or reduce runoff of pollutants.

Development Covered Activities may adversely alter watershed hydrology and degrade water quality, which, in turn, could diminish or eliminate the conservation benefits provided by the SSHCP Preserve System. Condition 1 is designed to conserve and/or rehabilitate on-site natural creeks and streams. This condition will require the provision of BMPs and low-impact development (LID) drainage control measures to ensure that runoff from developed lands will closely mimic the pre-development hydrograph and retain most pre-development hydrologic functions. Condition 1 will accomplish the hydrograph and hydrologic objectives through application of the listed AMMs to all UDA Covered Activities that occur at the parcel, subdivision, or master plan scale.

LID-1 (Stormwater Quality): When the size of a Covered Activity project exceeds the thresholds established by the State Water Resources Control Board (SWRCB) (see the most recent Stormwater Quality Design Manual for the Sacramento and South Placer Regions, or future SWRCB-approved design manuals applicable to the Plan Area), incorporate stormwater management into site design to satisfy the requirements outlined in the most recent Stormwater Quality Design Manual for the Sacramento and South Placer Regions. Stormwater management may include groundwater recharge (LID-2) and natural site features (LID-3).

LID-2 (Groundwater Recharge): When siting SSHCP Preserves containing Riparian, Open Water, or Freshwater Marsh SSHCP land cover types, the Implementing Entity will prioritize locations that are suitable for groundwater recharge.

LID-3 (Natural Site Features): Incorporate preservation of a site’s natural aquatic features (such as creeks and streams) into project design to retain natural hydrologic patterns and to retain habitat that might be used by Covered Species.

Final South Sacramento Habitat Conservation Plan

Condition 2. Avoid and Minimize Urban Development Direct and Indirect Impacts to Existing Preserves and SSHCP Preserves

Development Covered Activities adjacent to Preserves may adversely impact species that use the Preserve, and erode or eliminate the conservation benefits provided by the Preserve. Condition 2 seeks to avoid or minimize the following Covered Activity environmental stressors that may result in direct and indirect impacts to the SSHCP Preserve System:

- Alterations to landscape hydrology from new impervious surfaces may adversely affect natural communities in the lower watershed, the ecology of a Preserve, and/or downstream aquatic resources.
- Water runoff from development or from roadways directed into Preserves may introduce harmful substances into Preserves. Unseasonal and/or additional water entering a Preserve may eliminate vernal pools and other seasonal wetlands native to the region by converting them to low-functioning perennial wetlands.
- Development adjacent to Preserves may partially to fully remove the soil's "perched aquifer" (see Chapter 3) and reduce or eliminate the micro-watersheds that support the hydrology of vernal pools within the Preserve boundary. These changes may adversely affect the existing hydrologic regime of vernal pools by changing the timing, depth, and/or duration of vernal pool saturation and/or ponding, causing long-term changes to a suite of vernal pool functions. For example, changes to water chemistry could adversely affect species habitat. Although the vernal pools remain, the environmental conditions of the pools may no longer provide habitat for vernal pool Covered Species, or provide the benefit of other wetland functions (e.g., stormwater attenuation) compared to pre-project conditions.
- Introduction or proliferation of non-native or invasive plant and wildlife species may displace native species.
- Landscaping in the interface of a development and a Vernal Pool–Grassland Preserve often includes native or non-native trees and other plant species that are not found in California grasslands and, therefore, cannot survive on the Vernal Pool–Grassland Preserve border without intensive irrigation and cultivation. In addition to adverse effects from irrigation and landscape maintenance, adult trees may become landscape barriers that inhibit species movement and may act to isolate individual Preserves from the larger SSHCP Preserve System.
- Recreational use of Preserves near developed areas may compact soils, eliminate vegetation, impair hydrologic functions, introduce weeds or invasive plant species, and disturb plants and wildlife.

Final South Sacramento Habitat Conservation Plan

- Introduction of light, noise, or vibrations may disrupt normal nocturnal and diurnal cycles of native species.

AMMs associated with Condition 2 must be applied to all UDA Covered Activities that border an existing Preserve or planned SSHCP Preserve.

EDGE-1 (Compatible Land Uses): To the maximum extent practicable, development project Covered Activities will locate compatible land uses (e.g., designated open space such as parks and ball fields, detention basins, and other land uses with less-intensive human activity) in areas immediately adjacent to existing or planned Preserve boundaries. The compatible land use will provide additional buffering of Preserves from potential indirect effects of adjacent urban development. The soil surfaces in a compatible land use area may be re-contoured provided that the soil restrictive layer remains undamaged and most of the soil profile above the restrictive layer remains intact. The Land Use Authority will determine when it is not practicable to locate a compatible land use adjacent to existing or planned Preserve boundaries.

EDGE-2 (Single-Loaded Streets): To the maximum extent practicable, the design of Urban Development Covered Activities will locate single-loaded streets adjacent to existing or planned Preserve. The Land Use Authority will determine when single-loaded streets are not practicable.

EDGE-3 (Preserve Setbacks): Urban Development Covered Activities constructed adjacent to existing or planned Preserves must establish a minimum 50-foot-wide setback outward from the boundary of any existing Preserve or planned SSHCP Preserve. This minimum 50-foot-wide setback will function as a transition between Urban Development and the Preserve, and must be managed to maintain the natural community of vegetation present in the adjacent Preserve. As much of the setback as possible should remain in the same natural habitat as the Preserve.

However, as discussed in Section 5.2.5, Covered Activities in Preserve Setbacks in the UDA, where an existing or planned Preserve is adjacent to an existing roadway (e.g., collectors, arterials, thoroughfares), the 50-foot Preserve Setback will not be required, and any bicycle or pedestrian trail will be established in the road right-of-way. In addition, where a planned roadway crosses an existing or planned Preserve, no Preserve Setback will be required, and any bicycle or pedestrian trail will be established in the road right-of-way.

EDGE-3a (Setback Recreational Trails): Trails are best suited outside of the setback; however, certain types of recreational trails or facilities (e.g., benches, trash receptacles, shade structures, fencing) that can be constructed with minimum ground disturbance and in compliance with EDGE-7 may be allowed within a Preserve Setback, as specified in Section 5.2.5, Covered Activities in Preserve Setbacks in the UDA. Preserve Setback design must locate trails on the side nearest development, away from the Preserve boundary. Trails may be permeable or semi-permeable hiking trails or paved community trails. The maximum trail width will be 16 feet total, including 2-foot-wide shoulders. Post and cable fencing, split rail, or other open fencing will be installed adjacent to recreation trails to keep pedestrians on the trail.

EDGE-3b (Setback Firebreaks): If approved by the local authorities, the Preserve Setback trail may also be used as a firebreak. In instances where a trail cannot act as a firebreak, the firebreak will be located between the trail and the Preserve boundary (see Section 5.2.7). Firebreaks allowed inside the setbacks must be created by methods that will not disturb the soil's restrictive layer, such as mowing, minor scraping of surface vegetation, or shallow tilling, to comply with EDGE-7. Firebreak width within Preserve Setbacks is the minimum width needed to comply with applicable local codes.

EDGE-3c (Setback Shade Trees and Landscaping): To prevent potential impacts from irrigation water or from accumulation of leaf litter onto the grasslands or vernal pools of a Preserve, planting of shade trees or landscaping vegetation will be limited to the area of the Preserve Setback located between the recreation trail and the adjacent urban development (i.e., away from Preserves).

- Only drought-tolerant plant species will be planted. The planting pallet used for Preserve Setback landscaping will not include invasive plant species listed in the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory Database or listed in the Cal-IPC California Invasive Plant Watch List (see <http://www.cal-ipc.org/paf/>). Any shade trees planted along Preserve Setback trails will be native species that are found in California grasslands and that can survive in the Vernal Pool–Grassland border without long-term irrigation or fertilization (e.g., valley oak, black oak, blue oak, oracle oak). In general, no more than 30% of any 1,000-foot-long segment of a Preserve Setback trail will have canopy cover from tree plantings (to be consistent with maximum tree densities naturally found within native California grasslands and savanna).

Final South Sacramento Habitat Conservation Plan

- Drip irrigation will be allowed for a maximum of 5 years to establish shade trees or landscape vegetation between the recreation trail and adjacent urban development. The Implementing Entity has the discretion to allow irrigation to continue past 5 years if extenuating circumstances necessitate it (e.g., during a drought) and the continuance of irrigation will not affect the Preserve. Any irrigation systems located within Preserve Setbacks will be inspected quarterly to determine if such systems are affecting soils or vegetation not part of the intended plantings. Irrigation system repairs will be completed immediately if it is determined that the irrigation system is affecting vegetation or soil moisture not part of the intended tree planting.
- If, during annual monitoring of the adjacent Preserve (see Chapter 8), adverse indirect effects (e.g., leaf litter accumulation, irrigation runoff, plant encroachment) of the Preserve Setback's planted vegetation are detected, then the SSHCP Implementing Entity, the Preserve Manager, and the entity responsible for the Preserve Setback will identify appropriate adaptive management of the Preserve Setback tree or landscape plantings in accordance with the Preserve Setback Easement (see Section 5.2.5 and Chapter 9).

EDGE-4 (Locate Stormwater Control Outside Preserves): Roads, sidewalks, and other impermeable surfaces of Urban Development Covered Activities adjacent to existing or planned Preserves will slope away from Preserves and Preserve Setbacks or intercept drainage with swales or curbs and gutters to preclude drainage from entering Preserves and Preserve Setbacks. Stormwater flows must be directed away from Preserves and Preserve Setbacks and directed into stormwater control facilities inside the development (outside Preserves and Preserve Setbacks)¹⁸ (see EDGE-6 for exception to EDGE-4 in certain SSHCP Linkage Preserves).

EDGE-5 (Stormwater Control in Preserve Setbacks): If trails are established in any Preserve Setback in compliance with EDGE-3, the trail must be sloped away from the Preserve, and rainwater leaving the trail surface must flow into an adjacent low-velocity bio-retention swale or cell to keep rainwater runoff and trail contaminants from entering the Preserve. Low-velocity bio-retention swales or cells are typically small linear features placed on one or both sides of a trail. As required by EDGE-3, trails and their adjacent bio-retention swales or cells must be located on the side of the Preserve Setback nearest development.

¹⁸ Detention basins are allowed in some Linkage Preserves consistent with the requirements of EDGE-6. At the time of SSHCP preparation, seven Linkage Preserves with drainages are planned SSHCP Preserves: L1, L2, L4, L7, L8, L9, and L10 (see Section 5.2.7 and Section 7.5). Also see project-specific measures in Section 5.5.1.

Final South Sacramento Habitat Conservation Plan

EDGE-6 (Detention Basins in Linkage Preserves): Because planned SSHCP Linkage Preserves L1, L2, L4, L7, L8, L9, and L10 (see Section 7.5) surround natural creeks or streams that must receive stormwater from planned adjacent Urban Development Covered Activities, a limited number of stormwater detention basins will be allowed on those Linkage Preserves. Detention basins within Linkage Preserves (see Section 5.2.7) will be designed and constructed with fill material to build up the perimeter of the detention basin so as not to impact the soil restrictive layer (duripan or hardpan) and function of the soil perched aquifer. Detention basins within Linkage Preserves will capture stormwater flows and runoff, and will discharge water to the stream/creek or percolate collected water to the soil perched aquifer. Detention basin structures that collect stormwater entering the basin or convey stormwater leaving the basin must be designed to avoid and minimize effects to Covered Species habitat in the Linkage Preserve.

EDGE-7 (Hardpan/Duripan Protection): To protect the soil perched aquifer and the micro-watersheds supporting existing vernal pool hydrology, activities that have the potential to cut into, disrupt, or remove the soil's restrictive layer (hardpan or duripan) will not occur within Preserves or Preserve Setbacks. However, in certain circumstances, the Covered Activities defined in Section 5.2.6, Covered Activities in Stream Setbacks in the UDA, and Section 5.2.8, Covered Activities in the Laguna Creek Wildlife Corridor of the Preserve System, may result in punctures¹⁹ or other minor disruptions of the soil hardpan or duripan if approved by the Implementing Entity and the Technical Advisory Committee according to the process described in Chapter 9 of the SSHCP. If a Covered Activity on a Preserve or Preserve Setback results in a puncture or other disruption to the soil hardpan or duripan, the puncture will be sealed using bentonite clay or other material that maintains the functionality of the soil's restrictive layer and associated perched aquifer.

EDGE-8 (Outdoor Lighting): All outdoor lighting in Urban Development Covered Activity projects will be designed to minimize light pollution into existing and planned Preserves, except where a Land Use Authority Permittee determines lighting is necessary for public safety or security. Minimization measures may include light fixture placement (e.g., as low to the ground as possible), lamp designs (e.g., shielding, low glare, or no lighting), directing light away from Preserves, or other means to avoid or minimize light pollution. The Third-Party Project Proponent will use the best information available at the time of project design to minimize effects of light pollution on target SSHCP Covered Species (e.g., western spadefoot (*Spea*

¹⁹ Punctures may include small holes that penetrate the soil hardpan or duripan such as might occur when digging or drilling holes for the installation of fence posts, sign posts, or trees.

Final South Sacramento Habitat Conservation Plan

hammondii), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*)).

EDGE-9 (Livestock Access to Preserves): Urban Development Covered Activity projects that include on-site Preserves will include in their design an adequate number of access points and facilities for delivery and pick up of grazing animals (livestock), such that these activities will not significantly alter the Preserve's habitat and are consistent with the protection of livestock and protection of adjacent public property, and include adequate public safety measures.

EDGE-10 (Prevent Invasive Species Spread): Completed Covered Activities (including roads) will be maintained in a manner that avoids the spread of invasive species into Preserve and Open Space areas. Such maintenance measures will include the following:

- To prevent the transport of non-native invasive species onto Preserves, before bringing any equipment onto an SSHCP Preserve or Preserve Setback, equipment must be cleaned of mud, dirt, and plant material. Cleaning will occur in the infested area or another appropriate location as approved by a Plan Permittee.
- Mowing rotation will start in un-infested areas and move to infested areas.
- Invasive plant prevention techniques will be incorporated into maintenance plans.
- The SSHCP Implementing Entity will survey road shoulders, ditches, and rights-of-way that border SSHCP Preserves for invasive weeds or other exotic plant species. Where roadside weed infestations have reached a critical control point, the Implementing Entity or Land Use Authority Permittee will apply the appropriate manual, mechanical, or chemical treatment.

Condition 3. Implement Construction Best Management Practices

AMMs associated with Condition 3 must be applied to all UDA Covered Activities.

BMP-1 (Construction Fencing): Orange construction fencing will be installed to ensure that ground disturbance does not extend beyond the allowed construction footprint (i.e., the limit of project construction plus equipment staging areas and access roads). Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will mark the outer boundary of any Preserve Setback or Stream Setback adjacent to or within the project site with orange construction fencing prior to ground disturbance. This fencing will remain in place until project completion, as identified by the Plan Permittee.

Final South Sacramento Habitat Conservation Plan

BMP-2 (Erosion Control): Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will install temporary control measures for sediment, stormwater, and pollutant runoff as required by the Plan Permittee to protect water quality and species habitat. Silt fencing or other appropriate sediment control device(s) will be installed downslope of any Covered Activity that disturbs soils.

Fiber rolls and seed mixtures used for erosion control will be certified as free of viable noxious weed seed. As discussed in Section 5.4.2, Covered Species Take Avoidance and Minimization Measures, erosion controls installed in or adjacent to Plan Area modeled habitat for giant gartersnake (*Thamnophis gigas*), western pond turtle (*Actinemys marmorata*), California tiger salamander (*California tiger salamander*), or western spadefoot (see Chapter 3) must be of appropriate design and materials that will not entrap the species (e.g., not contain mesh netting). Regular monitoring and maintenance of the project's erosion control measures will be conducted until project completion to ensure effective operation of erosion control measures.

BMP-3 (Equipment Storage and Fueling): Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will ensure that equipment storage and staging will occur in the development footprint only (not sited in any existing on-site Preserve, planned on-site Preserve, Preserve Setback, Stream Setback, or aquatic land cover type). Fuel storage and equipment fueling will occur away from waterways, stream channels, stream banks, and other environmentally sensitive areas within the development footprint.

However, certain equipment storage and fueling activities can be allowed on Preserves within habitat re-establishment/establishment sites (refer to Section 5.2.7) if no location outside of the site is available. If a Covered Activity results in a spill of fuel, hydraulic fluid, lubricants, or other petroleum products, the spill will be absorbed and waste disposed of in a manner to prevent pollutants from entering a waterway, Preserve, Preserve Setback, or Stream Setback.

BMP-4 (Erodible Materials): Plan Permittees and Third-Party Project Proponents implementing Covered Activities must not deposit erodible materials into waterways. Vegetation clippings, brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks. Erodible material must be disposed of such that it cannot enter a waterway, Preserve, Preserve Setback, Stream Setback, or aquatic land cover type. If water and sludge must be pumped from a subdrain or other structure, the material will be conveyed to a temporary settling basin to prevent sediment from entering a waterway.

Final South Sacramento Habitat Conservation Plan

BMP-5 (Dust Control): Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will water active construction sites regularly, if warranted, to avoid or minimize impacts from construction dust on adjacent vegetation and wildlife habitats. No surface water will be used from aquatic land covers; water will be obtained from a municipal source or existing groundwater well.

BMP-6 (Construction Lighting): Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will direct all temporary construction lighting (e.g., lighting used for security or nighttime equipment maintenance) away from adjacent natural habitats, and particularly Riparian and Wetland habitats and wildlife movement areas.

BMP-7 (Biological Monitor): If a Covered Activity includes ground disturbance within Covered Species modeled habitat, an approved biologist will be on site during the period of ground disturbance, and may need to be on site during other construction activities depending on the Covered Species affected. After ground-disturbing project activities are complete, the approved biologist will train an individual to act as the on-site construction monitor for the remainder of construction, with the concurrence of the Permitting Agencies. The on-site monitor will attend the training described in BMP-8. The approved biologist and the on-site monitor will have oversight over implementation of Avoidance and Minimization Measures, and will have the authority to stop activities if any of the requirements associated with those measures are not met. If the monitor requests that work be stopped, the Wildlife Agencies will be notified within one working day by email. The approved biologist and/or on-site monitor will record all observations of listed species on California Natural Diversity Database field sheets and submit them to the California Department of Fish and Wildlife. The approved biologist or on-site monitor will be the contact source for any employee or contractor who might inadvertently kill or injure a Covered Species or who finds a dead, injured or entrapped individual. The approved biologist and on-site monitor's names and telephone numbers will be provided to the Wildlife Agencies prior to the initiation of ground-disturbing activities. Refer to species-specific measures for details on requirements for biological monitors.

BMP-8 (Training of Construction Staff): A mandatory Worker Environmental Awareness Program will be conducted by an approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The training will include how to identify Covered Species that might enter the construction site, relevant life history information and habitats, SSHCP and

Final South Sacramento Habitat Conservation Plan

statutory requirements and the consequences of non-compliance, the boundaries of the construction area and permitted disturbance zones, litter control training (SPECIES-2), and appropriate protocols if a Covered Species is encountered. Supporting materials containing training information will be prepared and distributed by the approved biologist. When necessary, training and supporting materials will also be provided in Spanish. Upon completion of training, construction personnel will sign a form stating that they attended the training and understand all of the Avoidance and Minimization Measures. Written documentation of the training must be submitted to the Implementing Entity within 30 days of completion of the training, and the Implementing Entity will provide this information to the Wildlife Agencies.

BMP-9 (Soil Compaction): After construction is complete, all temporarily disturbed areas will be restored similar to pre-project conditions, including impacts relating to soil compaction, water infiltration capacity, and soil hydrologic characteristics.

BMP-10 (Revegetation): Plan Permittees and Third-Party Project Proponents implementing ground-disturbing Covered Activities will revegetate any cut-and-fill slopes with native or existing non-invasive, non-native plants (e.g., non-native grasses) suitable for the altered soil conditions and in compliance with EDGE-2 and EDGE-8, if applicable.

BMP-11 (Speed Limit): Project-related vehicles will observe the posted speed limits on paved roads and a 10-mile-per-hour speed limit on unpaved roads and during travel in project areas. Construction crews will be given weekly tailgate instruction to travel only on designated and marked existing, cross-country, and project-only roads.

Condition 4. Avoid and Minimize Impacts that May Result from Implementation of Covered Transportation Projects

Urban Development transportation project and Rural Transportation Project Covered Activities, including bridge projects, can affect Covered Species. AMMs included for Condition 4 seek to avoid or minimize direct and indirect impacts that may result from construction of roadways or roadway improvements. Condition 4 applies to all transportation-related Covered Activities (see Sections 5.2.1 and 5.2.3).

Plan Permittees and Third-Party Project Proponents implementing Urban Development transportation or Rural Transportation Project Covered Activities must comply with the roadway siting, design, and construction AMMs described below.

Final South Sacramento Habitat Conservation Plan

ROAD-1 (Road Project Location): Road projects will be located in the least environmentally sensitive area to avoid, to the maximum extent practicable, impacts on Covered Species, Covered Species habitat, and waters of the United States. Road project alignments will follow existing roads, road easements, and rights-of-way, or be sited in disturbed areas to minimize habitat loss and additional habitat fragmentation.

ROAD-2 (Wildlife Crossing Structures): Road projects that are Urban Development Covered Activities (see Section 5.2.1) (including the Capital Southeast Connector, see Section 5.2.1.1) or are Rural Transportation Covered Activities (see Section 5.2.3) will include an adequate number of wildlife crossing structures, as depicted in Figure 5-10. An adequate number of wildlife crossing structures within the Urban Development Area (UDA) and outside the UDA will provide for continued dispersal and movement of native wildlife throughout the SSHCP Plan Area, as required by the SSHCP Biological Goals and Objectives (see Chapter 7).

The Plan defines “wildlife crossing structure” as a physical structure specifically designed or retrofitted to facilitate undercrossing for target wildlife species. The Plan further classifies wildlife crossings as hydrologic crossings and dry crossings. Hydrologic crossings are built where there is an existing stream, creek, or intermittent drainage to maintain existing hydrologic connectivity within the Plan Area. As described below, hydrologic crossings require specialized features to be built into the crossing structure, such as elevated platforms to allow wildlife to pass under a crossing structure when it is inundated with water. Dry wildlife crossings are built where there is no hydrologic feature but where a crossing is needed to provide for overland connectivity. SSHCP wildlife crossing structures may include structures such as bridges, arches, or box and pipe culverts.

Plan Permittees expect that future wildlife movement and dispersal within the UDA will occur almost entirely within the boundaries of the future interconnected SSHCP Preserve System (see Section 7.5). Therefore, wildlife crossings are needed wherever a roadway crosses (bisects) the conceptual SSHCP Preserve System (see Figure 5-10). Wildlife crossing structures inside the UDA will be sized to accommodate movement of a highly mobile native indicator species (i.e., coyote (*Canis latrans*)). By designing UDA wildlife crossing structures to meet the movement and dispersal requirements of coyote, the Plan Permittees anticipate that the crossing structure will also accommodate most native wildlife species that currently occupy the UDA (see Chapter 3).

The Plan Permittees expect that most of the Plan Area outside of the UDA will remain as Open Space over the 50-year Permit Term (see Chapter 4). Therefore,

Final South Sacramento Habitat Conservation Plan

the Plan Permittees expect that the Rural Transportation Project Covered Activities proposed outside the UDA will have a relatively small effect on the movement and dispersal of larger or more mobile native wildlife species, including coyote. Consequently, the Plan Permittees anticipate that the design of Rural Transportation Project Covered Activities outside the UDA will need to include wildlife crossing structures primarily where the Rural Transportation Project Covered Activities occur within California tiger salamander modeled habitat (see CTS-3 and also Chapter 3, Figure 3-16).

The design and location of wildlife crossing structures both inside the UDA and outside the UDA will be determined by collaboration between the Third-Party Project Proponent, the Land Use Authority, and the Implementing Entity. Crossing design will use the best available scientific and commercial information for the target species. The design of crossing structures will be based on demonstrated effectiveness of design for the target species when such information is available, or will be designed with a high level of certainty of success based on studies of similar taxa in similar environmental settings. The proposed wildlife crossing structures designs will be reviewed and approved by the Implementing Entity prior to final design.

The Implementing Entity will develop a Wildlife Crossing Maintenance Manual to be provided to the entity responsible for maintaining the wildlife crossing. The Wildlife Crossing Maintenance Manual will identify vegetation management, clearing of obstructions, and other techniques to maintain the desired movement and hydrologic connectivity, and to avoid effects to adjacent Preserves.

All SSHCP wildlife crossing structures in the UDA will include the following design elements:

- Open-bottom bridges or arches where the roadway crosses a river or stream. Where an open-bottom bridge or arch is used, the span of the crossing will be at least 1.2 times the bankfull width of the stream and span the banks to allow for dry wildlife passage along each side of the stream and to avoid or minimize piers or footings within the stream. (Bankfull width refers to the width of a stream channel at the point where over-bank flow begins during a flood event.)
- Any wildlife crossing structure that also maintains hydrologic connectivity will be designed to maintain pre-construction water capacity, depth, and velocity. The crossing structure will not restrict or impede normal flows or flood flows, unless a primary purpose of the structure is to manage such

Final South Sacramento Habitat Conservation Plan

flow(s). Wildlife crossing structures must be designed to provide a dry passage (e.g., a platform ledge) higher than flows for a 10-year storm event to allow wildlife to pass through an inundated crossing structure.

- Wildlife crossing structures in the UDA will be designed and sized to accommodate movement of at least medium-sized mammals (e.g., coyote). The opening must be at least 3 feet high and the crossing structure must have a minimum openness ratio of at least 0.4.
- Vegetation leading up to the entrance of a crossing structure and the substrate leading into and within the crossing structure will be natural and appropriate to provide for continuity of habitat, attract the target animal species for which the crossing is designed, and facilitate use of the crossing structure.
- A wildlife crossing under six-lane roads or larger will be designed to provide ambient light and temperature in the longer crossing structures (e.g., either by providing a larger opening or a grate at the top of the structure to improve the attractiveness of the crossing to certain Covered Species and wildlife that may hesitate to cross through dark, confined structures or one with a temperature gradient (Jackson and Griffin 2000)). If a road is less than six lanes in width, these designs will be optional.
- Lighting will not be placed at or near the entrance of a wildlife crossing structure to maintain natural ambient light conditions at night and to increase chances of wildlife use. However, a Land Use Authority Permittees may allow lighting if necessary for human health or safety.

Outside the UDA, wildlife crossing structures may be required for California tiger salamander (refer to CTS-1), and could also be required for other native species.

ROAD-3 (Roadside Pesticide Use²⁰): If pesticide use is necessary along roadsides, the appropriate SSHCP Permittee will ensure that the pesticide application strictly complies with the pesticide label and all other applicable federal, state, and local authorities pertaining to the use, safety, storage, disposal, and reporting of the pesticide. Where roadside weed infestations have reached a critical control point, the Implementing Entity or a Land Use Authority Permittee will apply the appropriate manual, mechanical, or chemical treatment. In addition, the Implementing Entity or appropriate Land Use Authority Permittee will post signs along road shoulders adjacent to sensitive areas that are within the SSHCP

²⁰ Use of pesticides (including rodenticides and herbicides) is not an SSHCP Covered Activity. However, pesticide use specified in Section 5.3 is an allowed land management tool, provided the pesticide application is otherwise legal and conforms to all conditions in Section 5.4.

Final South Sacramento Habitat Conservation Plan

Preserve System (e.g., California tiger salamander breeding ponds, endemic plant populations, vertebrates that rely on insects for part of their diet). The signs will identify pesticide use restrictions or other roadside maintenance restrictions.

Condition 5. Avoid and Minimize Impacts that Result from Public Use of Low-Impact Nature Trails in Preserves

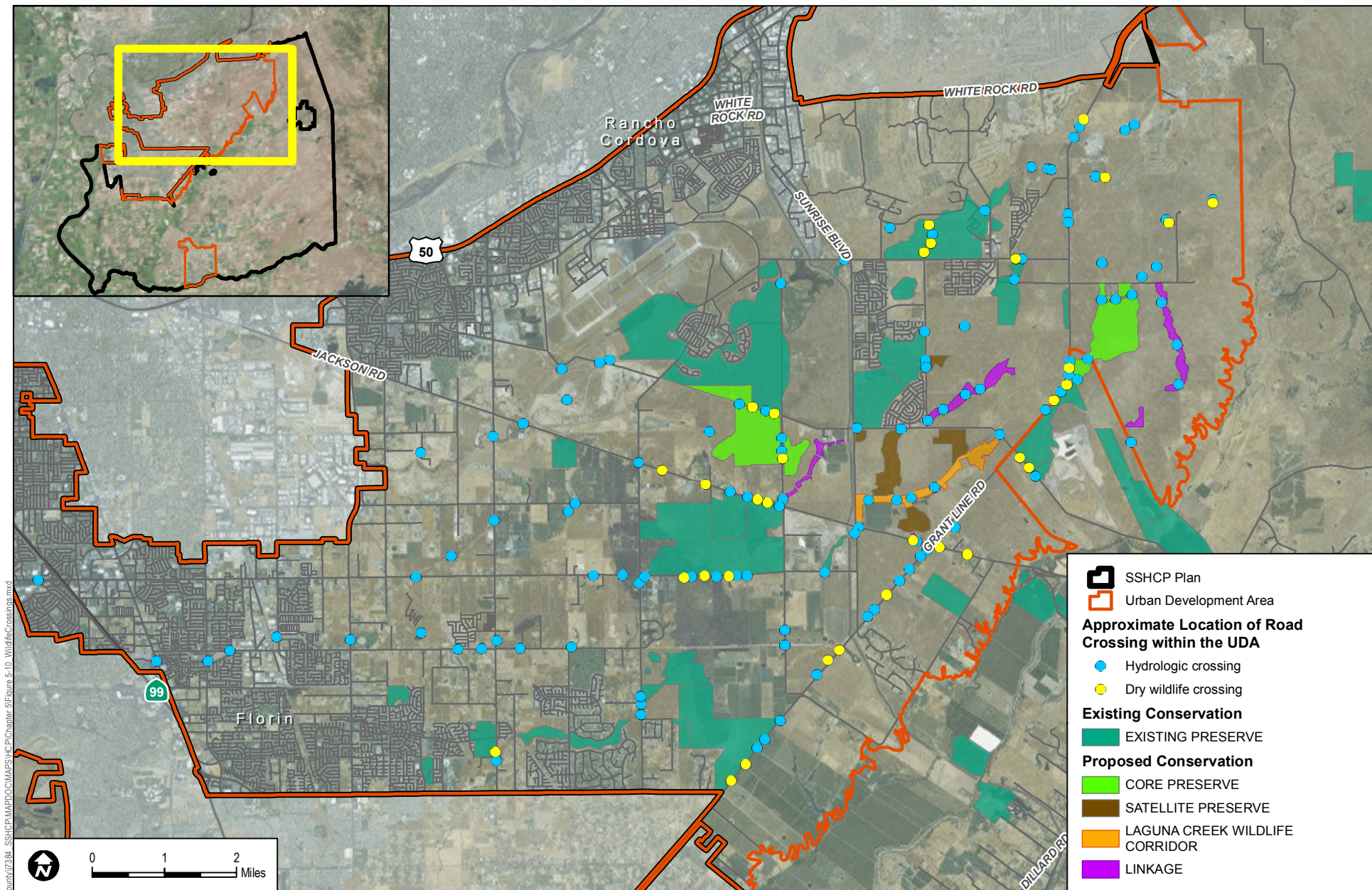
Preserves within the UDA are likely to be surrounded by urban development. As discussed in Section 5.2.7, allowing limited use of SSHCP Preserves will help to foster a sense of community ownership and will provide an opportunity to educate the community about the natural resources to be protected within the SSHCP Preserve System.

Low-impact nature trails will be designed following the AMMs outlined below.

NATURE TRAIL-1 (Nature Trail Plan): A nature trail plan must be prepared for each Preserve where a trail is allowed by the Preserve Management Plan. Nature trails will be unpaved trails that vary in width depending on terrain and existing constraints, but will never exceed 4 feet in width. Where a trail crosses a swale, wooden walkways elevated to a height no greater than 2 feet will be installed. Trail improvements may include mowing vegetation to create or maintain a trail, minor grading to remove trip hazards, and signs providing directional and educational information. Public access to land acquired for preservation will be prohibited until a trail plan can be prepared by the Implementing Entity and approved by the Permitting Agencies. A trail plan will include the following:

- Maps identifying areas that contain sensitive habitats or species occurrences.
- Maps that show the location and footprint of proposed trails.
- Methods used to control public access.
- Trail and use monitoring methods, schedules, and responsibilities.
- Trail operation and maintenance guidelines and responsibilities.
- Clear triggers for use restrictions or closure based on sensitive biological indicators (e.g., seasonal closures of some trails on the basis of activity periods of Covered Species or sensitive species).

NATURE TRAIL-2 (Nature Trail Protection of Duripan): Nature trails will be sited and constructed so as not to interfere with existing soil duripan and the perched aquifer that support the existing hydrologic regime of the Vernal Pool–Grassland, and will not interfere with existing pool hydrology. Trails within Preserves will not be paved.



SOURCE: ESRI, County of Sacramento 2014, USFWS 2015



SOUTH SACRAMENTO HABITAT CONSERVATION PLAN

FIGURE 5-10
Wildlife Crossings

Final South Sacramento Habitat Conservation Plan

INTENTIONALLY LEFT BLANK

Final South Sacramento Habitat Conservation Plan

NATURE TRAIL-3 (Nature Trail Location): Nature trails will be located away from sensitive natural resources (e.g., vernal pools, riparian habitat, woodland habitat, Covered Species occurrences, raptor nesting sites, tricolored blackbird (*Agelaius tricolor*) colony sites). The Wildlife Agencies will determine the distance necessary to avoid impacts to sensitive natural resources.

NATURE TRAIL-4 (Biological Studies Prior to Nature Trail Design): Biological studies will be conducted within the area being considered for nature trail construction prior to project design. The studies will include land cover type mapping and focused species surveys and/or wetland delineations. The biological studies will include assessments of potential effects of trail construction on Preserve System resources, and recommendations for avoidance and minimization that may be incorporated into project siting, design, construction, and operation.

NATURE TRAIL-5 (Monitoring of Nature Trail Impacts): Impacts that could result from use of a nature trail within a Preserve will be monitored according to the Preserve Management Plan (Chapter 8) to ensure that uses do not conflict with the individual Preserve Management Plan. If use of a trail is found to conflict with the individual Preserve Management Plan, use of that trail will be discontinued until adjustments in the use can be made to reduce or eliminate conflicts. The Implementing Entity will make decisions about discontinuing or modifying use of a trail in consultation with the Preserve Manager or other applicable Preserve management agency or organization.

Condition 6. Avoid and Minimize Impacts When Re-Establishing or Establishing Wetlands

As discussed in Chapter 7, the Plan Permittees anticipate that 389 acres of Vernal Pool habitat will be re-established or established²¹ within the Plan Area as part of the SSHCP Conservation Strategy. Although re-establishment or establishment of vernal pools is a Measurable Objective under this Plan, if not done correctly, the action could have an adverse impact on existing vernal pools.

RE-ESTABLISHMENT/ESTABLISHMENT-1 (Vernal Pool): Re-establish or establish Vernal Pool Wetland according to the following guidelines:

- Re-establishment will always take priority over establishment of vernal pools. Establishment will be permitted only after it has been determined that sites with the potential to re-establish vernal pools no longer exist in the Plan Area or cannot be acquired through a willing seller/buyer agreement.

²¹ In the context of this Plan, “establish” is synonymous with “create.”

Final South Sacramento Habitat Conservation Plan

- When possible, re-established or established sites will be located adjacent to an existing Preserve(s) to maximize connectivity and Preserve area.
- Re-establishment or establishment will not result in direct or indirect adverse impacts to the hydrologic regime of existing vernal pools. Vernal pool re-establishment or establishment actions will not remove more than 10% of any existing vernal pool watershed, as defined by the SSHCP LIDAR analysis (see Section 3.3 and Conservation Action VPI1.2 in Table 7.1).
- Vernal pool re-establishment will attempt to restore the historical density and range of vernal pool sizes to the maximum extent feasible using historical aerial photography of the site, if available. Where aerial photography of the site's historical conditions is not available, vernal pool re-establishment will include a range of pool sizes (area and depth) to accommodate the different habitat needs and life history characteristics of the vernal pool invertebrate Covered Species.
- Established vernal pools must be located on sites with vernal pool soils, defined as any Plan Area soil type where vernal pools currently exist.
- Established vernal pool sites will include a range of pool sizes to accommodate the different habitat needs and life history characteristics of the three vernal pool invertebrate Covered Species.
- The total density of vernal pools will not exceed 10% of the suitable soil areas in any vernal pool re-establishment and/or establishment site, unless it can be shown that the suitable areas of that site historically supported greater densities.
- Re-establishment or establishment may include inoculation when it is likely that no seed or cyst bank of vernal pool species remains at a site. Vernal Pool inocula will come from nearby vernal pools that are on the same geologic formation and soil type.

RE-ESTABLISHMENT/ESTABLISHMENT-2 (Vernal Pool Inocula Bank): Vernal pool re-establishment or establishment may include “soil inoculation” when it is likely that no seed or cyst bank of vernal pool species remains at a re-establishment or establishment site.

- During conversion of Urban Development Area vernal pools to a developed land cover type, project proponents will excavate and retain soil from vernal pools following protocols developed by the SSHCP Technical Advisory Committee (Chapter 9).

Final South Sacramento Habitat Conservation Plan

- Inocula applied in re-established or established vernal pools must be harvested from a vernal pool that is on the same geologic formation and soil type shown on the County General Soil Map as the re-establishment/establishment site. Geologic formations and soil types will follow U.S. Department of Agriculture Soil Conservation Service's 1993 Soil Survey of Sacramento County, California. Proposed off-site inocula sources must be approved by the Wildlife Agencies.

RE-ESTABLISHMENT/ESTABLISHMENT-3 (Re-Establishment/Establishment of Freshwater Marsh or Open Water Near Airports): During review of proposed re-establishment/establishment projects for freshwater marsh or open water on SSHCP Preserves, the Implementing Entity shall consider the potential for the location of the re-establishment/establishment projects to increase the risk of wildlife strikes or generation of ground fog at airports. If a re-establishment/establishment project would result in (1) a net increase in open water or freshwater marsh acreage over baseline conditions²² within 5 miles of Mather Field, Sacramento Executive Airport, or Franklin Field; or (2) replacement of open water/freshwater marsh habitat that is located 2 or more miles from Mather Field or Sacramento Executive Airport with open water/freshwater marsh habitat that is located less than 2 miles from those airports, a qualified biologist shall prepare a concise letter report. The letter report shall summarize the biologist's findings regarding (1) the species likely to use the re-established/established habitat, (2) a rough order of magnitude estimate on the peak number of birds that might use the re-established/established habitat, and (3) potential movement patterns for birds using the re-established/established habitat and whether they might cross through the airport safety zones (e.g., to reach foraging habitat or another wildlife attractant). The letter report will also provide recommendations to the Implementing Entity on how they could reduce any of the identified wildlife hazards if there are any feasible means to do so that would not conflict with the biological goals and measurable objectives of the Conservation Plan.

Condition 7. Avoid and Minimize Impacts to Streams and Creeks

AMMs associated with Condition 7 must be applied to all Covered Activities where a stream or creek is located within a project footprint.

²² For purposes of establishing baseline conditions, Freshwater Marsh and Open Water acreages will be calculated using that version of the SSHCP Land Cover Type Map in existence as of the date that the SSHCP permit was issued to the Plan Permittees by the USFWS.

Final South Sacramento Habitat Conservation Plan

STREAM-1 (Laguna Creek Wildlife Corridor): A 150-foot setback measured from the top of the bank on both sides of the stream will be applied to Laguna Creek within the Urban Development Area (minimum 300-foot corridor width). If trails are located within the Laguna Creek Wildlife Corridor, the nearest edge of the trail will be located at least 80 feet from the top of the bank.

STREAM-2 (UDA Stream Setbacks): A 100-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all streams listed in Table 5-1 (see also Figure 2-4). If a stream reach supports woody riparian vegetation, the setback will be equal to the riparian edge plus 25 feet or will be the setback defined above, whichever is greater. If trails are located within the Stream Setback, the nearest edge of the trail will be located at least 50 feet from the top of the bank.

Table 5-1
Stream Setback Minimum Requirements in the Urban Development Area

Stream	Minimum Setback (from the Top of Bank Measured in Aerial Perspective) on Both Sides of the Stream
Elder Creek	100 feet
Frye Creek	100 feet or as depicted as part of the NewBridge development project hardline Preserve (see Appendix K)
Gerber Creek	100 feet
Morrison Creek	100 feet
Central Paseo	100 feet or as depicted as part of the Cordova Hills development project hardline Preserve (Appendix K)
Sun Creek	100 feet or as depicted as part of the Sun Creek development project hardline Preserve (see Appendix K)

STREAM-3 (Minor Tributaries to UDA Streams): A 25-foot setback measured from the top of the bank on both sides of the stream channel will be applied to all avoided first and second order tributaries to the streams listed in Table 5-1 and Laguna Creek. Refer to Objective W6 in Chapter 7 (Table 7-1) regarding avoided first and second order tributaries. Trails are not permitted within headwater ephemeral Stream Setbacks.

STREAM-4 (Minimize Effects from Temporary Channel Re-Routing): When an Urban Development Covered Activity temporarily re-routes a stream, creek, or drainage, the re-routing will be completed in a manner that minimizes impacts to beneficial uses and habitat. The following measures will be employed to minimize disturbances that will adversely impact water quality:

- No equipment will be operated in areas of flowing or standing water.
- Construction materials and heavy equipment must be stored outside of the active flow of any waters.

Final South Sacramento Habitat Conservation Plan

- When work within waters is necessary, the entire stream flow will be diverted around the work area.
- In the event of rain, the disturbed in-water work area will be temporarily stabilized before water body flow exceeds the capacity of the diversion structure. The disturbed water body will be stabilized so that the disturbed areas will not come in contact with the flow.
- Once construction is complete, all project-introduced material (e.g., pipes, gravel, cofferdam, sandbags) must be removed, leaving the water as it was before construction. Excess materials will be disposed of at an appropriate disposal site.
- All work areas will be effectively isolated from stream flows using suitable control measures before commencement of any in-water work. The diverted stream flow will not be contaminated by construction activities. Structures for isolating the in-water work area and/or diverting the stream flow (e.g., cofferdam, geo-textile silt curtain) will not be removed until all disturbed areas are cleaned and stabilized.
- Any flow diversion used during construction will be designed in a manner to prevent pollution and minimize siltation, and will provide flows to downstream reaches. Flows will be maintained to support existing aquatic life, riparian wetlands, and habitat that may be located upstream and downstream from any temporary diversion.
- All surface waters, including ponded waters, will be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity that may result in a discharge to waters.
- All temporary dewatering methods will be designed to have the minimum necessary impacts to waters to isolate the immediate work area. All dewatering methods will be installed such that natural flow is maintained upstream and downstream of the diversion area. Any temporary dams and diversions will be installed such that the diversion does not cause sedimentation, siltation, or erosion upstream or downstream of the diversion area. All dewatering methods will be removed immediately upon completion of diversion activities.
- A method of containment must be used below any bridge, boardwalk, and/or temporary crossing to prevent debris from falling into the waters through the entire duration of a project.

Final South Sacramento Habitat Conservation Plan

- If temporary surface water diversions and/or dewatering are anticipated, the Third-Party Project Proponent will develop and maintain on site a surface water diversion and/or dewatering plan. The plan(s) must be developed prior to initiation of any water diversions and will include the proposed method and duration of diversion activities. The plan(s) must be made available to Central Valley Water Board staff upon request.
- When work in a flowing stream is unavoidable and any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water will be allowed at all times to pass downstream to maintain beneficial uses of waters below the dam. Construction, dewatering, and removal of temporary cofferdams will not violate the turbidity, settle-able matter, pH, temperature, or dissolved oxygen requirements of any Water Quality Control Plan.
- Any temporary dam or other artificial obstruction will only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel that will cause little or no siltation. Stream flow will be temporarily diverted using gravity flow through temporary culverts or pipes, or pumped around the work site with the use of hoses.

STREAM-5 (Design for Stream Channel Re-Routing, Widening, or Deepening): When an Urban Development Covered Activity alters a stream, creek, or drainage by re-routing, widening, or deepening a channel, the project design will include the following:

- The main channel of a re-routed channel will be free to migrate laterally over its active and terrace floodplain.
- Channel geometry (plan, profile, and cross-section) of the site will be appropriate for the watershed location and physical/hydrologic condition.
- Local, native materials will be used as fill material to the extent practicable.
- Bioengineering techniques will be used for construction and maintenance of bank stabilization. Bioengineered bank stabilization structures will use vegetation in combination with bank reshaping; biodegradable geotextile materials; and, in some cases, a minimal amount of rock or wood to the extent practicable to dissipate erosive energy. Third-Party Project Proponents will consult a professional engineer when considering using bioengineering techniques.
- All re-routed, widened, or deepened streams are required to establish Stream Setbacks with minimum widths required under STREAM-1, STREAM-2, or STREAM-3. All re-routed, widened, or deepened streams must re-establish/

Final South Sacramento Habitat Conservation Plan

establish and maintain native Woody Riparian land cover and/or native Grassland Riparian land cover in the entire Stream Setback.

Condition 8. Avoid and Minimize Impacts to Covered Species from Utility and Utility Maintenance Covered Activities

AMMs associated with Condition 8 must be applied to all Covered Activities associated with construction and maintenance of infrastructure projects.

UTILITY-1 (Avian Collision Avoidance): Installation of new, or relocation of existing, utility poles, lines, and cell towers located within the Preserve System or within 1,000 feet of a Preserve boundary will be coordinated with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The applicant or relevant utility/service provider will install utility poles, lines, and cell towers in conformance with Avian Powerline Interaction Committee (APLIC) standards for collision-reducing techniques, as outlined in Reducing Avian Collisions with Power Lines: State of the Art in 2012 (APLIC 2012), or any superseding document issued by the APLIC.

UTILITY-2 (Utility Maintenance on Preserves): Utility maintenance inside SSHCP Preserves and SSHCP Preserve Setbacks containing vernal pools will occur only when vernal pools have been dry for 30 days, except in emergency situations related to human health and safety.

UTILITY-3 (Trenchless Construction Methods): Where a pipeline or conduit crosses an existing or planned Preserve or will be located between adjacent Preserves (e.g., under a roadway that has a Preserve on both sides), trenchless construction methods will be used to minimize impacts to the existing soil profile (including impacts to a hardpan or duripan) to maintain the perched aquifer in Vernal Pool Grassland land cover type.

UTILITY-4 (Siting of Entry and Exit Location): The entry and exit locations for the trenchless construction method (see Utility-3) will be sited to avoid impacts to vernal pools and Riparian Woodland, and to avoid direct take of SSHCP Covered Species.

Condition 9. Avoid and Minimize Impacts That Might Result From Removing or Breaching Levees to Establish or Re-establish Riparian Habitat

LEVEE-1 (Preparation of Hydrologic Analysis): Prior to approving a draft Preserve Management Plan that includes (1) modifying or breaching an existing levee, or (2) would place a potential impediment to high-water event flood-flows on the water side of an existing levee (including new riparian vegetation plantings or

Final South Sacramento Habitat Conservation Plan

other new Preserve facilities), a hydrologic analysis will be conducted. The Preserve activity will only be implemented if the hydrologic analysis concludes that the activity will not result in a substantial increase in flood stage elevations or flood risk on lands outside the Preserve.

Condition 10. Avoid and Minimize Impacts That Might Result From Potential Residual Contamination of Preserves and Related Exposure of People to Such Hazardous Materials

HAZARDOUS MATERIALS-1 (Preparation of Phase I Environmental Site Assessment):

Prior to the acquisition of a preserve site or implementation of a stream or riparian restoration project, a Phase I Environmental Site Assessment shall be conducted in general accordance with the American Society for Testing and Materials Standard Practice E1527-05. The purpose of this Environmental Site Assessment is to identify, to the extent feasible pursuant to the American Society for Testing and Materials Standard, recognized environmental conditions in connection with the potential site. The term “recognized environmental condition” means the presence or likely presence of hazardous substances or petroleum products on the property under conditions that may indicate an existing release, a past release, or a material threat of release of these substances to the property. If the Phase I Environmental Site Assessment indicates the presence of a recognized environmental condition, the Implementing Entity shall consider the following options.

- Determine that the acquisition/project can proceed on the basis that the Habitat Plan goals and objectives can be met on the site even with the presence of a recognized environmental condition.
- Conduct a Phase II Environmental Site Assessment, including soil and groundwater testing, to further study the potential for contamination to limit the Implementing Entity’s management activities.
- If the results of the Phase I (or Phase II) Environmental Site Assessment indicate that the Habitat Plan goals and objectives cannot be met on the site, the Implementing Entity should not acquire the site.

HAZARDOUS MATERIALS-2 (Contingency Plan): As part of each Preserve Management Plan or site restoration plan, a Contingency Plan shall be prepared to address the actions that would be taken during construction in the event that unexpected contaminated soil or groundwater is discovered. The Contingency Plan shall include health and safety considerations, handling and disposal of wastes, reporting requirements, and emergency procedures. The Contingency Plan shall include a requirement that if evidence of contaminated materials is encountered

Final South Sacramento Habitat Conservation Plan

during construction, construction would cease immediately and applicable requirements of the Comprehensive Environmental Release Compensation and Liability Act and the California Code of Regulations Title 22 regarding the disposal of waste would be implemented.

5.4.2 Covered Species Take Avoidance and Minimization Measures

The following section describes measures to avoid or minimize effects of Covered Activities on specific SSHCP Covered Species. Species-specific AMMs include species surveys, pre-construction surveys, and construction monitoring. Most species-specific AMMs require that species surveys be conducted if Covered Species modeled habitat is within the proposed Covered Activity footprint or within a specified distance of the proposed Covered Activity. Section 3.4 provides maps and descriptions of modeled habitat for each Covered Species. The AMMs described below apply to Covered Activities when Covered Species modeled habitat or a Covered Species occurrence are at a project site. The Implementing Entity and Wildlife Agencies may update specific SSHCP AMMs over the Permit Term to provide the best and most appropriate protective measures for a Covered Species.

General Covered Species Take Avoidance and Minimization Measures

The following AMMs will apply to all Covered Activities that are required to implement Covered Species take AMMs.

SPECIES-1 (Litter Removal Program): A litter control program will be instituted for the entire project site. All workers will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. All garbage will be removed from the project site at the end of each work day, and construction personnel will not feed or otherwise attract wildlife to the area where construction activities are taking place.

SPECIES-2 (No Pets in Construction Areas): To avoid harm and harassment of native species, workers and visitors will not bring pets onto a project site.

SPECIES-3 (Take Report): If accidental injury or death of any Covered Species occurs, workers will immediately inform the approved biologist or on-site monitor and site supervisor. The approved biologist or on-site monitor will phone the appropriate contact person at the Implementing Entity. The Implementing Entity will immediately contact the Wildlife Agencies by telephone. A memorandum will be provided to the Implementing Entity and Wildlife Agencies within 1 working day of the incident. The report will provide the date and location of the incident, number of individuals taken,

Final South Sacramento Habitat Conservation Plan

the circumstances resulting in the take, and any corrective measures taken to prevent additional take.

SPECIES-4 (Post-Construction Compliance Report): A post-construction compliance report will be submitted to the SSHCP Implementing Entity within 30 calendar days of completion of construction activities or within 30 calendar days of any break in construction activity that lasts more than 30 days. The report will detail the construction start and completion dates, any information about meeting or failing to meet species take Avoidance and Minimization Measures (AMM), effectiveness of each AMM that was applied at the project site, and any known project effects to Covered Species.

Rare Plants

PLANT-1 (Rare Plant Surveys): If a Covered Activity project site contains modeled habitat for Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia pusilla*), Legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii*), or Sanford's arrowhead (*Sagittaria sanfordii*), the Covered Activity project site will be surveyed for the rare plant by an approved biologist and following the California Department of Fish and Wildlife (CDFW) rare plant survey protocols (CDFG 2009) or the most recent CDFW rare plant survey protocols. An approved biologist will conduct the field surveys and will identify and map plant species occurrences according to the protocols. See Chapter 10 for the process to submit survey information to the Plan Permittee and the Permitting Agencies.

PLANT-2 (Rare Plant Protection): If a rare plant listed in AMM PLANT-1 is detected within an area proposed to be disturbed by a Covered Activity or is detected within 250 feet of the area proposed to be disturbed by a Covered Activity, the Implementing Entity will assure one unprotected occurrence of the species is protected within a SSHCP Preserve before any ground disturbance occurs at the project site.

Sacramento and Slender Orcutt Grass

Sacramento Orcutt grass (*Orcuttia viscida*) is a federally and state endangered species and is ranked by the California Native Plant Society as a California Rare Plant Rank 1B.1 species. Slender Orcutt grass (*Orcuttia tenuis*) is a federally threatened and state endangered species and is ranked by the California Native Plant Society as a California Rare Plant Rank 1B.1 species. Both Orcutt grasses are very rare, and the likelihood of finding new occurrences within the Plan Area is low. Due to their rarity, take of either of these species is not permitted under the SSHCP, with the exception of take related to Preserve management and monitoring (see Section 5.2.7, SSHCP Preserve System Covered Activities).

Final South Sacramento Habitat Conservation Plan

ORCUTT-1 (Orcutt Grass Surveys): If a Covered Activity project site is located within 1 mile of the Mather Core Recovery Area and contains the Vernal Pool land cover type, the project site will be surveyed for Sacramento and slender Orcutt grass by an approved biologist following California Department of Fish and Wildlife (CDFW) rare plant survey protocols (CDFG 2009) or most recent CDFW guidelines to determine if Sacramento and/or slender Orcutt grass is present. An approved biologist will conduct the field investigation to identify and map occurrences. See Chapter 10 for the process to conduct and submit survey information.

ORCUTT-2 (Orcutt Grass Protection): Where known or new Sacramento or slender Orcutt grass occurrences are found, they will be protected within an SSHCP Preserve that is at least 50 acres. The occurrence will be located interior to the Preserve at a distance of no less than 300 feet from the edge of the Preserve boundary. If a Third-Party Project Proponent encounters a previously undiscovered occurrence of Sacramento or slender Orcutt grass on a Covered Activity project site, the Third-Party Project Proponent will contact the Implementing Entity or Land Use Authority Permittee with authority over the project, who will coordinate with the Wildlife Agencies for written concurrence of avoidance to ensure that the project does not cause take of the species.

California Tiger Salamander

To avoid direct and indirect effects of Covered Activities on California tiger salamander (*Ambystoma californiense*), the following AMMs will be implemented.

CTS-1 (California Tiger Salamander Daily Construction Schedule): Ground-disturbing Covered Activities within California tiger salamander modeled habitat (Figure 3-16) will occur outside the breeding and dispersal season (occur after July 31 and before October 15), to the maximum extent practicable. If Covered Activities must be implemented in modeled habitat (Figure 3-16) during the breeding and dispersal season (after October 15 and before July 31), construction activities will not start until 30 minutes after sunrise and must be complete 30 minutes prior to sunset.

CTS-2 (California Tiger Salamander Exclusion Fencing): If a Covered Activity must be implemented in modeled habitat (Figure 3-16) during the breeding and dispersal season (after October 15 and before July 31), exclusion fencing will be installed around the project footprint before October 15. Temporary high-visibility construction fencing will be installed along the edge of work areas, and exclusion fencing will be installed immediately outside of the temporary high-visibility construction fencing to exclude California tiger salamanders from entering the construction area or becoming entangled in the construction fencing. Exclusion fencing will be at least 1 foot tall and be buried

Final South Sacramento Habitat Conservation Plan

at least 6 inches below the ground to prevent salamanders from going under the fencing. Fencing will remain in place until all construction activities within the construction area are complete. No project activities will occur outside the delineated project footprint. An approved biologist must inspect the exclusion fencing and project site every morning before 7:00 a.m. for integrity and for any entrapped California tiger salamanders. If a California tiger salamander is encountered, refer to CTS-5, below. (However, the Implementing Entity may, with approval of the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), determine that it is appropriate for a Covered Activity project to not implement CTS-2 for certain long and linear roadway Covered Activity projects if it appears that the exclusion fencing will likely trap individuals or cause more take of California tiger salamander than it would prevent.)

CTS-3 (California Tiger Salamander Monitoring): If Covered Activities must be implemented in modeled habitat (Figure 3-16), an approved biologist experienced with California tiger salamander identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place, and will inspect the project site for California tiger salamander every morning before 7:00 a.m., or prior to construction activities. As required by BMP-8 (Training of Construction Staff), the approved biologist will also train construction personnel on the required California tiger salamander avoidance procedures, exclusion fencing, and correct protocols in the event that a California tiger salamander enters an active construction zone. If a California tiger salamander is encountered, refer to CTS-5, below.

CTS-4 (Avoid California Tiger Salamander Entrapment): If Covered Activities must be implemented in modeled habitat, all excavated steep-walled holes or trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes or trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within California tiger salamander modeled habitat will be inspected for California tiger salamanders by the approved biologist prior to being moved. If a California tiger salamander is encountered, refer to CTS-5, below.

CTS-5 (California Tiger Salamander Encounter Protocol): If a California tiger salamander is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately (California Department of Fish and Wildlife (CDFW)

Final South Sacramento Habitat Conservation Plan

and U.S. Fish and Wildlife Service (USFWS)). Construction activities will be suspended in a 100-foot radius of the animal until the animal is relocated by an approved biologist with appropriate handling permits from the Wildlife Agencies. Prior to relocation, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the salamander, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to USFWS and CDFW immediately. Any worker who inadvertently injures or kills a California tiger salamander or who finds dead, injured, or entrapped California tiger salamander(s) must immediately report the incident to the approved biologist.

CTS-6 (Erosion Control Materials in California Tiger Salamander Habitat): If erosion control (BMP-2) is implemented within California tiger salamander modeled habitat (Figure 3-16), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that salamanders are not trapped (no monofilament). Coconut coir matting and fiber rolls with burlap are examples of acceptable erosion control materials. This limitation will be communicated to the contractor through use of special provisions included in the bid solicitation package.

CTS-7 (Rodent Control): CTS-7 only applies to projects that are within California tiger salamander modeled habitat (Figure 3-16) and on Covered Activities. Rodent control will be allowed only in developed portions of a Covered Activity project site. Where rodent control is allowed, the method of rodent control will comply with the methods of rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

Western Spadefoot

To avoid direct and indirect effects of Covered Activities on western spadefoot (*Spea hammondi*), the following AMMs will be implemented.

WS-1 (Western Spadefoot Work Window): Ground-disturbing Covered Activities within western spadefoot modeled habitat (Figure 3-17) will occur outside the breeding and dispersal season (after May 15 and before October 15), to the maximum extent practicable.

WS-2 (Western Spadefoot Exclusion Fencing): If Covered Activities must be implemented in modeled habitat (Figure 3-17) after October 15 and before May 15, exclusion fencing

Final South Sacramento Habitat Conservation Plan

will be installed around the project footprint before October 15, and the project site must be monitored by an approved biologist following rain events. Temporary high-visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude western spadefoot from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed. No project activities will occur outside the delineated project footprint. If a western spadefoot is encountered, refer to WS-6, below.

WS-3 (Western Spadefoot Monitoring): If Covered Activities must be implemented in modeled habitat (Figure 3-17) in the breeding and dispersal season (after October 15 and before May 15), an approved biologist experienced with western spadefoot identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place, and will inspect the project site daily for western spadefoot prior to construction activities. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western spadefoot enters an active construction zone (i.e., outside the buffer zone). If a western spadefoot is encountered, refer to WS-6, below.

WS-4 (Avoid Western Spadefoot Entrapment): If a Covered Activity occurs in western spadefoot modeled habitat (Figure 3-17), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot modeled habitat will be inspected for western spadefoot by the approved biologist prior to being moved. If a western spadefoot is encountered, refer to WS-6, below.

WS-5 (Erosion Control Materials in Western Spadefoot Habitat): If erosion control (BMP-2) is implemented within western spadefoot modeled habitat (Figure 3-17), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

Final South Sacramento Habitat Conservation Plan

WS-6 (Western Spadefoot Encounter Protocol): If Covered Activities must be implemented in modeled habitat (Figure 3-17) during the breeding and dispersal season (after October 15 and before May 15), and a western spadefoot is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the western spadefoot within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife immediately. Any worker who inadvertently injures or kills a western spadefoot or who finds dead, injured, or entrapped western spadefoot(s) must immediately report the incident to the approved biologist.

Giant Gartersnake

To avoid direct and indirect effects of Covered Activities on giant gartersnake (*Thamnophis gigas*), the following AMMs will be implemented.

GGs-1 (Giant Gartersnake Surveys): If the SSHCP giant gartersnake modeled habitat maps (Figure 3-18) show that modeled habitat for giant gartersnake is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate giant gartersnake aquatic habitat within the project footprint and adjacent areas within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-18, giant gartersnake aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, agricultural ditches, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide these maps to the Local Land Use Permittees and the Implementing Entity. Locations of delineated giant gartersnake habitat must also be noted on plans that are submitted to a Local Land Use Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as giant gartersnake habitat is identified and fully avoided. Otherwise, Covered Activities must comply with GGS-2 through GGS-8, below. See Chapter 10 for the process to conduct and submit survey information.

GGs-2 (Giant Gartersnake Work Window): Covered Activities that do not fully avoid giant gartersnake modeled habitat (Figure 3-18) will be conducted during the snake's active

Final South Sacramento Habitat Conservation Plan

season. Construction and ground-disturbing activities will be initiated after May 1 and will end prior to September 15. If it appears that construction activities may go beyond September 15, the Third-Party Project Proponent or Plan Permittee will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1. The Local Land Use Permittee and the Implementing Entity will discuss with the Wildlife Agencies additional measures necessary to minimize take.

GG-3 (Giant Gartersnake Monitoring): If a Covered Activity is occurring in giant gartersnake modeled habitat (Figure 3-18), an approved biologist experienced with giant gartersnake identification and behavior will monitor the project site, including the integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for giant gartersnake prior to construction activities. If a giant gartersnake is encountered, refer to GG-7. The approved biologist will also train construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a giant gartersnake enters an active construction zone (i.e., outside the buffer zone).

GG-4 (Giant Gartersnake Habitat Dewatering and Exclusion): If construction activities will occur in giant gartersnake aquatic habitat, aquatic habitat will be dewatered and then remain dry and absent of aquatic prey (e.g., fish and tadpoles) for 15 days prior to initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to giant gartersnake. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent snakes from attempting to move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify the construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Giant gartersnake habitat outside construction fencing will be avoided by all construction personnel. The fencing and the work area will be inspected by the approved biologist to ensure that the fencing is intact and that no snakes have entered the work area before the start of each work day. The fencing will be maintained by the contractor until completion of the project. If giant gartersnake is encountered, refer to GG-7, below.

GG-5 (Avoid Giant Gartersnake Entrapment): If a Covered Activity occurs in giant gartersnake modeled habitat (Figure 3-18), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or

Final South Sacramento Habitat Conservation Plan

provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within giant gartersnake modeled habitat will be inspected for giant gartersnake by the approved biologist prior to being moved. If a giant gartersnake is encountered, refer to GGS-7.

GGGS-6 (Erosion Control Materials in Giant Gartersnake Habitat): If erosion control (BMP-2) is implemented within giant gartersnake modeled habitat (Figure 3-18), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure snakes are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

GGGS-7 (Giant Gartersnake Encounter Protocol): If a giant gartersnake is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the giant gartersnake within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a giant gartersnake or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

GGGS-8 (Giant Gartersnake Post-Construction Restoration): After completion of ground-disturbing Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation. Refer to the U.S. Fish and Wildlife Service's (USFWS) Guidelines for the Restoration and/or Replacement of Giant Gartersnake Habitat (USFWS 1997), or the most current USFWS guidelines at the time of the

Final South Sacramento Habitat Conservation Plan

activity. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

Western Pond Turtle

To avoid direct and indirect effects of Covered Activities on western pond turtle (*Actinemys marmorata*), the following AMMs will be implemented.

WPT-1 (Western Pond Turtle Surveys): If the SSHCP western pond turtle modeled habitat maps (Figure 3-19) show that modeled habitat for western pond turtle is present within a Covered Activity's project footprint or within 300 feet of a project footprint, then an approved biologist will conduct a field investigation to delineate western pond turtle aquatic habitat within the project footprint and within 300 feet of the project footprint. In addition to the SSHCP land cover types shown in Figure 3-19, western pond turtle aquatic habitat includes, but is not limited to, low-gradient streams and creeks, open water, freshwater marsh, and rice fields. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential sites and provide those maps to the Local Land Use Permittees and the Implementing Entity. Locations of delineated western pond turtle habitat must also be noted on plans that are submitted to a Local Land Use Permittee. The applicant will use this information to finalize project design. Covered Activities may occur throughout the year as long as western pond turtle habitat is identified and fully avoided. Otherwise, Covered Activities must comply with WPT-2 through WPT-9. See Chapter 10 for the process to conduct and submit survey information.

WPT-2 (Western Pond Turtle Work Window): Maintenance and improvements to existing structures may occur throughout the year as long as western pond turtle habitat is identified and avoided, and movement of equipment is confined to existing roads. Otherwise, construction and ground-disturbing Covered Activities must be conducted outside of western pond turtle's active season. Construction and ground-disturbing activities will be initiated after May 1 and will commence prior to September 15. If it appears that construction activities may go beyond September 15, the appropriate Plan Permittee will contact the Local Land Use Permittee and the Implementing Entity as soon as possible, but not later than September 1, to determine if additional measures are necessary to minimize take.

WPT-3 (Western Pond Turtle Monitoring): If a Covered Activity is occurring in western pond turtle modeled habitat (Figure 3-19), an approved biologist experienced with western pond turtle identification and behavior will monitor the project site, including the

Final South Sacramento Habitat Conservation Plan

integrity of any exclusion fencing. The approved biologist will be on site daily while construction-related activities are taking place in aquatic habitat or within 300 feet of aquatic habitat, and will inspect the project site daily for western pond turtle prior to construction activities. The approved biologist will also training construction personnel on the required avoidance procedures, exclusion fencing, and protocols in the event that a western pond turtle enters an active construction zone (i.e., outside the buffer zone).

WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion): If construction activities will occur in western pond turtle aquatic habitat, aquatic habitat for the turtle will be dewatered and then remain dry and absent of aquatic prey (e.g., crustaceans and other aquatic invertebrates) for 15 days prior to the initiation of construction activities. If complete dewatering is not possible, the Implementing Entity will be contacted to determine what additional measures may be necessary to minimize effects to western pond turtle. After aquatic habitat has been dewatered 15 days prior to construction activities, exclusion fencing will be installed extending a minimum of 300 feet into adjacent uplands to isolate both the aquatic and adjacent upland habitat. Exclusionary fencing will be erected 36 inches above ground and buried at least 6 inches below the ground to prevent turtles from attempting to burrow or move under the fence into the construction area. In addition, high-visibility fencing will be erected to identify construction limits and to protect adjacent habitat from encroachment of personnel and equipment. Western pond turtle habitat outside construction fencing will be avoided by all construction personnel. The fencing and work area will be inspected by the approved biologist to ensure that the fencing is intact and that no turtles have entered the work area before the start of each work day. Fencing will be maintained by the contractor until completion of the project. If, after exclusion fencing and dewatering, western pond turtles are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will discuss the next best steps with the Implementing Entity and Wildlife Agencies.

WPT-5 (Avoid Western Pond Turtle Entrapment): If a Covered Activity occurs within western pond turtle modeled habitat (Figure 3-19), all excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected by the approved biologist each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western pond turtle modeled habitat will be inspected for western pond turtle by the approved biologist prior to being moved.

Final South Sacramento Habitat Conservation Plan

WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat): If erosion control (BMP-2) is implemented within western pond turtle modeled habitat (Figure 3-19), non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that turtles are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit): Covered Activity construction and maintenance vehicles will observe a 20-mile-per-hour speed limit within western pond turtle modeled upland habitat (Figure 3-19).

WPT-8 (Western Pond Turtle Encounter Protocol): If a western pond turtle is encountered during construction activities, the approved biologist will notify the Wildlife Agencies immediately. Construction activities will be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, the approved biologist will notify the Wildlife Agencies to determine the appropriate procedures related to relocation. If the animal is handled, a report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the turtle, within 1 business day to the Wildlife Agencies. The biologist will report any take of listed species to the U.S. Fish and Wildlife Service immediately. Any worker who inadvertently injures or kills a western pond turtle or who finds one dead, injured, or entrapped must immediately report the incident to the approved biologist.

WPT-9 (Western Pond Turtle Post-Construction Restoration): After completion of ground-disturbing Covered Activities, the applicant will remove any temporary fill and construction debris and will restore temporarily disturbed areas to pre-project conditions. Restoration work includes such activities as re-vegetating the banks and active channels with a seed mix similar to pre-project conditions. Appropriate methods and plant species used to re-vegetate such areas will be determined on a site-specific basis in consultation with the Implementing Entity. Restoration work may include replanting emergent aquatic vegetation and placing appropriate artificial or natural basking areas in waterways and wetlands. A photo documentation report showing pre- and post-project conditions will be submitted to the Implementing Entity 1 month after implementation of the restoration.

Tricolored Blackbird

To avoid direct and indirect effects of Covered Activities on tricolored blackbird (*Agelaius tricolor*), the following AMMs will be implemented.

Final South Sacramento Habitat Conservation Plan

TCB-1 (Tricolored Blackbird Surveys): If modeled habitat for tricolored blackbird is present within a Covered Activity's project footprint or within 500 feet of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting or foraging sites are present within the project footprint and adjacent areas within 500 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Within the Plan Area, potential tricolor blackbird nest sites are often associated with freshwater marsh and seasonal wetlands, or in thickets of willow, blackberry, wild rose, thistle, and other thorny vegetation. Tricolored blackbirds are also known to nest in crops associated with dairy farms. Foraging habitat is associated with annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields (such as large tracts of alfalfa and pastures with continuous haying schedules and recently tilled fields), cattle feedlots, and dairies. The Third-Party Project Proponent will map all existing or potential nesting or foraging sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

TCB-2 (Tricolored Blackbird Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 500 feet of a project footprint if existing or potential nest sites were found during design surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and within 3 days of ground-disturbing activities, and within the proposed project footprint and 500 feet of the proposed project footprint to determine the presence of nesting tricolored blackbird. Pre-construction surveys will be conducted during the breeding season (March 1 through August 31). Surveys conducted in February (to meet pre-construction survey requirements for work starting in March) must be conducted within 14 days and 3 days in advance of ground-disturbing activities. If a nest is present, then TCB-3 and TCB-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and the Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

TCB-3 (Tricolored Blackbird Nest Buffer): If active nests are found within the project footprint or within 500 feet of any project-related Covered Activity, the Third-Party Project Proponent will establish a 500-foot temporary buffer around the active nest until the young have fledged.

TCB-4 (Tricolored Blackbird Nest Buffer Monitoring): If nesting tricolored blackbirds are present within the project footprint or within 500 feet of any project-related Covered

Final South Sacramento Habitat Conservation Plan

Activity, then an approved biologist experienced with tricolored blackbird behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone).

TCB-5 (Timing of Pesticide Use and Harvest Timing on Agricultural Preserves): On SSHCP Agricultural Preserves, pesticides (including herbicides) will not be applied from January 1 through July 15.

Swainson's Hawk

To avoid direct and indirect effects of Covered Activities on Swainson's hawk (*Buteo swainsoni*), the following AMMs will be implemented.

SWHA-1 (Swainson's Hawk Surveys): If modeled habitat for Swainson's hawk (Figure 3-25) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a survey to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Nest sites are often associated with Riparian land cover, but also include lone trees in fields, trees along roadways, and trees around structures. Nest trees may include, but are not limited to, Fremont's cottonwood (*Populus fremontii*), oaks (*Quercus* spp.), willows (*Salix* spp.), walnuts (*Juglans* spp.), eucalyptus (*Eucalyptus* spp.), pines (*Pinus* spp.), and Deodar cedar (*Cedrus deodara*). The Third-Party Project Proponent will map all existing and potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

Final South Sacramento Habitat Conservation Plan

SWHA-2 (Swainson's Hawk Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present within a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites were found during initial surveys and construction activities will occur during the breeding season (March 1 through September 15). An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities to determine presence of nesting Swainson's hawk. Pre-construction surveys will be conducted during the breeding season (March 1 through September 15). If a nest is present, then SWHA-3 and SWHA-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

SWHA-3 (Swainson's Hawk Nest Buffer): If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.25 mile disturbance buffer around the active nest until the young have fledged, with concurrence from the Wildlife Agencies.

SWHA-4 (Swainson's Hawk Nest Buffer Monitoring): If nesting Swainson's hawks are present within the project footprint or within 0.25 mile of any project-related Covered Activity, then an approved biologist experienced with Swainson's hawk behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting Swainson's hawks begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a Swainson's hawk flies into an active construction zone (i.e., outside the buffer zone).

Greater Sandhill Crane

To avoid direct and indirect effects of Covered Activities on greater sandhill crane (*Grus canadensis*), the following AMMs will be implemented.

Final South Sacramento Habitat Conservation Plan

GSC-1 (Greater Sandhill Crane Surveys): If modeled habitat for greater sandhill crane (Figure 3-22) is present within a Covered Activity's project footprint or within 0.5 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential roosting sites are present within the project footprint and adjacent areas within 0.5 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. Roosting sites within the Plan Area are often associated with flooded fields, seasonal wetlands, and freshwater marsh. The Third-Party Project Proponent will map all existing or potential roosting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Roosting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

GSC-2 (Greater Sandhill Crane Pre-Construction Surveys): Pre-construction surveys will be required to determine if active roosting sites are present within a project footprint or within 0.5 mile of a project footprint if existing or potential roosting sites were found during initial surveys and construction activities will occur when wintering flocks are present within the Plan Area (September 1 through March 15). An approved biologist will conduct pre-construction surveys within 15 days of ground-disturbing activities, and within 0.5 mile of a project footprint, to determine presence of roosting greater sandhill cranes. Pre-construction surveys will be conducted September 1 through March 15, when wintering flocks are present within the Plan Area. If birds are present, then GSC-3, GSC-4, and GSC-5 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

GSC-3 (Greater Sandhill Crane Roosting Buffer): If active roosting sites are found within the project footprint or within 0.5 mile of any project-related Covered Activity, the Third-Party Project Proponent will establish a 0.5 mile temporary roosting disturbance buffer around the roosting site until the cranes have left.

GSC-4 (Greater Sandhill Crane Visual Barrier): Greater sandhill cranes have low tolerance for human disturbance, and such disturbance has caused cranes to abandon foraging and roosting sites. Repeat disturbance affects their ability to feed and store energy needed for survival. If project-related activities occur within 0.5 mile of a known roosting site as identified by surveys conducted during implementation of GSC-1 or GSC-2, a visual barrier will be constructed.

GSC-5 (Greater Sandhill Crane Roosting Buffer Monitoring): If roosting sites are found within the project footprint or within 0.50 mile of any project-related Covered Activity, an

Final South Sacramento Habitat Conservation Plan

approved biologist experienced with greater sandhill crane behavior will be retained by the Third-Party Project Proponent to monitor the roosting site throughout the roosting season and to determine when the birds have left. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary disturbance buffer can only occur with the written permission of the Implementing Entity and Wildlife Agencies. If greater sandhill cranes are abandoning their roosting and/or forage sites, the approved biologist will have the authority to shut down construction activities. If roost abandonment occurs, the approved biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid harm and harassment of individuals. The approved biologist will also train construction personnel on the avoidance procedures, buffer zones, and protocols in the event that greater sandhill cranes move into an active construction zone (i.e., outside the buffer zone).

Western Burrowing Owl

To avoid direct and indirect effects of Covered Activities on western burrowing owl (*Athene cunicularia*), the following AMMs will be implemented.

WBO-1 (Western Burrowing Owl Surveys): Surveys within modeled habitat are required for both the breeding and non-breeding season. If the project site falls within modeled habitat, an approved biologist will survey the project site and map all burrows, noting any burrows that may be occupied. Occupied burrows are often (but not always) indicated by tracks, feathers, egg shell fragments, pellets, prey remains, and/or excrement. Surveying and mapping will be conducted by the approved biologist while walking transects throughout the entire project site plus all accessible areas within a 250-foot radius from the project site. The centerline of these transects will be no more than 50 feet apart and will vary in width to account for changes in terrain and vegetation that can preclude complete visual coverage of the area. For example, in hilly terrain with patches of tall grass, transects will be closer together, and in open areas with little vegetation, they can be 50 feet apart. This methodology is consistent with current survey protocols for this species (California Burrowing Owl Consortium 1993). Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If suitable habitat is identified during the initial survey, and if the project does not fully avoid the habitat, pre-construction surveys will be required. Burrowing owl habitat is fully avoided if project-related activities do not impinge on a 250-foot buffer established by the approved biologist around suitable burrows. See Chapter 10 for the process to conduct and submit survey information.

Final South Sacramento Habitat Conservation Plan

WBO-2 (Western Burrowing Owl Pre-Construction Surveys): Prior to any Covered Activity ground disturbance, an approved biologist will conduct pre-construction surveys in all areas that were identified as suitable habitat during the initial surveys. The purpose of the pre-construction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 250 feet of construction activities. To maximize the likelihood of detecting owls, the pre-construction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total), or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required for large project sites. A minimum of two pre-construction surveys will be conducted (if owls are detected on the first survey, a second survey is not needed). All owls observed will be counted and their location will be mapped. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the Third-Party Project Proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last-minute changes in schedule or contracting that may occur if burrowing owls are found, the Third-Party Project Proponent may also conduct a preliminary survey up to 15 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction.

WBO-3 (Burrowing Owl Avoidance): If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 250 feet of the project site during pre-construction surveys, then the following will occur:

During Breeding Season: If the approved biologist finds evidence of western burrowing owls within a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 250-foot buffer zone around nests. Construction and other project-related activities may occur outside of the 250-foot buffer zone. Construction and other project-related activities may be allowed inside of the 250-foot non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the Implementing Entity and Wildlife Agencies prior to project construction based on the following criteria:

- The Implementing Entity and Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant.

Final South Sacramento Habitat Conservation Plan

- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.

If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with written concurrence from the Wildlife Agencies.

If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies.

The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the proposed construction monitoring plan within 21 days.

During Non-Breeding Season: During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non-disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning overwintering sites:

- An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same approved biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 250-foot buffer.
- If the owls are gone for at least 1 week, the Third-Party Project Proponent may request approval from the Implementing Entity and Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary

Final South Sacramento Habitat Conservation Plan

devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue.

Monitoring must continue as described above for the non-breeding season as long as the burrow remains active.

WBO-4 (Burrowing Owl Construction Monitoring): During construction of Covered Activities, 250-foot construction buffer zones will be established and maintained around any occupied burrow. An approved biologist will monitor the site to ensure that buffers are enforced and owls are not disturbed. The approved biologist will also train construction personnel on avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.

WBO-5 (Burrowing Owl Passive Relocation): Passive relocation is not allowed without the express written approval of the Wildlife Agencies. Passive owl relocation may be allowed on a case-by-case basis on project sites during the non-breeding season (September 1 through January 31) with the written approval of the Wildlife Agencies if the other measures described in this condition preclude work from continuing. Passive relocation must be done in accordance with the latest California Department of Fish and Wildlife guidelines for burrowing owl. Passive relocation will only be proposed if the burrow needing to be removed or with the potential to collapse from construction activities is the result of a Covered Activity. If passive relocation is approved by the Wildlife Agencies, an approved biologist can passively exclude birds from their burrows during the non-breeding season by installing one-way doors in burrow entrances. These doors will be in place for 48 hours to ensure that owls have left the burrow, and then the biologist will excavate the burrow to prevent reoccupation. Burrows will be excavated using hand tools only. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having materials collapse into the burrow and trap owls inside. Other methods of passive relocation, based on best available science, may be approved by the Wildlife Agencies over the 50-year Permit Term.

WBO-6 (Burrowing Owl Timing of Maintenance Activities): All activities adjacent to existing or planned Preserves, Preserve Setbacks, or Stream Setback areas will be seasonally timed, when safety permits, to avoid or minimize adverse effects on occupied burrows.

WBO-7 (Rodent Control): Rodent control will be allowed only in developed portions of a Covered Activity project site within western burrowing owl modeled habitat. Where rodent control is allowed, the method of rodent control will comply with the methods of

Final South Sacramento Habitat Conservation Plan

rodent control discussed in the 4(d) Rule published in the U.S. Fish and Wildlife Service's (2004) final listing rule for tiger salamander.

Covered Raptor Species

To avoid direct and indirect effects of Covered Activities on covered raptor species, the following AMMs will be implemented. This measure applies to Cooper's hawk (*Accipiter cooperii*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*). The following AMMs do not apply to ferruginous hawk (*Buteo regalis*), as they do not nest in the Plan Area. The following AMMs also do not apply to Swainson's hawk or burrowing owl, as specific AMMs have been developed for these covered raptor species.

RAPTOR-1 (Raptor Surveys): If modeled habitat for a covered raptor species (Figures 3-20, 3-23, 3-24, or 3-28) is present within a Covered Activity's project footprint or within 0.25 mile of a project footprint, then an approved biologist will conduct a field investigation to determine if existing or potential nesting sites are present within the project footprint and adjacent areas within 0.25 mile of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. The Third-Party Project Proponent will map all existing or potential nesting sites and provide these maps to the Local Land Use Permittees and Implementing Entity. Nesting sites must also be noted on plans that are submitted to a Local Land Use Permittee. See Chapter 10 for the process to conduct and submit survey information.

RAPTOR-2 (Raptor Pre-Construction Surveys): Pre-construction surveys will be required to determine if active nests are present with a project footprint or within 0.25 mile of a project footprint if existing or potential nest sites are found during initial surveys and construction activities will occur during the raptor breeding season. An approved biologist will conduct pre-construction surveys within 30 days and 3 days of ground-disturbing activities within the proposed project footprint and within 0.25 mile of the proposed project footprint to determine presence of nesting covered raptor species. Pre-construction surveys will be conducted during the raptor breeding season. If a nest is present, then RAPTOR-3 and RAPTOR-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

RAPTOR-3 (Raptor Nest/Roost Buffer): If active nests are found within the project footprint or within 0.25 mile of any project-related Covered Activity, the Third-Party Project

Final South Sacramento Habitat Conservation Plan

Proponent will establish a 0.25 mile temporary nest disturbance buffer around the active nest until the young have fledged.

RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring): If project-related Covered Activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the Third-Party Project Proponent to monitor the nest throughout the nesting season and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Implementing Entity and Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, Third-Party Project Proponent, Implementing Entity, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone).

Western Red Bat

To avoid direct and indirect effects of Covered Activities on western red bat (*Lasiurus blossevillii*), the following AMMs will be implemented.

BAT-1 (Winter Hibernaculum Surveys): If modeled habitat (Figure 3-30) for western red bat is present within 300 feet of a Covered Activity's project footprint, then an approved biologist will conduct a field investigation of the project footprint and adjacent areas within 300 feet of a project footprint to determine if a potential winter hibernaculum is present, and to identify and map potential hibernaculum sites. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas. If potential hibernaculum sites are found, the Third-Party Project Proponent will note their locations on project designs and will design the project to avoid all areas within a 300-foot buffer around the potential hibernaculum sites. Winter hibernaculum habitat is fully avoided if project-related activities do not impinge on a 300-foot buffer established by the approved biologist around an existing or potential winter hibernaculum site. See Chapter 10 for the process to conduct and submit survey information.

BAT-2 (Winter Hibernaculum Pre-Construction Surveys): If the Third-Party Project Proponent elects not to avoid potential winter hibernaculum sites within the project footprint plus a 300-foot buffer, additional surveys are required. Prior to any ground disturbance related to Covered Activities, an approved biologist will conduct a pre-construction survey within 3 days of ground-disturbing activities within the project footprint and 300 feet of the project footprint to determine the presence of winter hibernaculum sites. Pre-construction surveys will be conducted during the winter hibernaculum season (November 1 through March 31). If a winter hibernaculum is present, then BAT-3 and BAT-4 will be implemented. The approved biologist will inform the Land Use Authority Permittee and Implementing Entity of species locations, and they in turn will notify the Wildlife Agencies.

BAT-3 (Winter Hibernaculum Buffer): If active winter hibernaculum sites are found within the project footprint or within 300 feet of the project footprint, the Third-Party Project Proponent will establish a 300-foot temporary disturbance buffer around the active winter hibernaculum site until bats have vacated the hibernaculum and the Implementing Entity and Wildlife Agencies concur.

BAT-4 (Bat Eviction Methods): An approved biologist will determine if non-maternity and non-hibernaculum day and night roosts are present on the project site. If necessary, an approved biologist will use safe eviction methods to remove bats if direct impacts to non-maternity and non-hibernaculum day and night roosts cannot be avoided. If a winter hibernaculum site is present, Covered Activities will not occur until the hibernaculum is vacated, or, if necessary, safely evicted using methods acceptable to the Wildlife Agencies.

5.5 How Conditions on Covered Activities are Applied to Various Urban Development Permit Types Approved by the Land Use Authority Permittees

Covered Activities can be approved by Land Use Authority Permittees at different scales. For example, master plans (including specific plans, comprehensive plans, and special planning areas) generally include large areas of land, and other permit types (conditional use permits, grading permits, and building permits) can apply over a range of project footprints. The process that Land Use Authority Permittees will use to approve Covered Activities in these planning documents is described in Chapter 10. See Table 5-2 for a list of projects and activities that are considered Covered Activities.

APPENDIX C

ARBORIST REPORT AND TREE INVENTORY



California Tree and Landscape Consulting, Inc.

March 30, 2020

TTLC Galt - Caterina, LLC
c/o Kim Sanfilippo
The True Life Companies
110 Blue Ravine Road, Suite 209
Folsom, California 95630

Phone: (916) 945-9719

Via Email: KSanfilippo@thetruelifecompanies.com

PROPERTY TRANSITION ARBORIST REPORT

RE: Arborist Report and Tree Inventory for Caterina Estates
802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]

Executive Summary:

The True Life Companies contacted California Tree and Landscape Consulting, Inc. to document the trees on the property for a better understanding of the existing resource and any potential improvement obstacles that may arise. The True Life Companies requested an arborist report and tree inventory suitable for submittal to the City of Galt. This is a Preliminary Arborist Report and Tree Inventory for the initial filing of plans to develop the property.

Ed Stirtz, ISA Certified Arborist WE0510A, visited the property on March 12, 2020, to provide species identification, measurements of DBH and canopy, field condition notes, recommended actions, ratings, and approximate locations for the trees. A total of 35 trees were evaluated on this property, of which none are protected trees according to the City of Galt.

The City of Galt Development Code, Section 18.52, regulates heritage oak and public trees. "Heritage oak tree" includes, but is not limited to, Valley Oak (*Quercus lobata*), Interior Live Oak (*Quercus wislizenii*), Blue Oak (*Quercus douglasii*), Coast Live Oak (*Quercus agrifolia*) or Oracle Oak (*Quercus morehus*) having at least one trunk of 6" diameter measured 4' above the ground, or multi-trunks with an aggregate diameter of 8" or more, measured 4' above ground. "Public tree" refers to any tree with one-half or more of its trunk or branches on or above public land.

The vegetation includes those trees identified in the inventory and annual grasses.

TABLE 1

Tree Species	Trees on this Site	Protected Trees on the Site	Proposed for Removal for Development	Total Proposed for Retention
Black Walnut	5	0	4	1
English Walnut	29	0	26	3
Tulip	1	0	1	0
TOTALS	35	0	31	4

ASSIGNMENT

Perform an examination of the site to document the presence and condition of trees protected by the City of Galt. The study area includes Sacramento County APN 150-0101-040 and APN 150-0101-004. (All trees protected by the County are included in the inventory.) Prepare a report of findings.

METHODS

Appendix 2 and Tables 1, 2 and 3 in this report are the detailed inventory and recommendations for the trees. The following terms and Table A – Ratings Descriptions will further explain our findings.

Species of trees is listed by our local common name and botanical name by genus and species.

DBH (diameter breast high) is normally measured at 4'6" (54" above the average ground, height but if that varies then the location where it is measured is noted here. A steel diameter tape was used to measure the trees.

Canopy radius is measured in feet. It is the farthest extent of the crown composed of leaves and small twigs measured by a Stanley digital distance meter. This measurement often defines the Critical Root Zone (CRZ) or Protection Zone (PZ), which is a circular area around a tree with a radius equal to this measurement.

Actions listed are recommendations to improve health or structure of the tree. Trees in public spaces require maintenance. If a tree is to remain and be preserved, then the tree may need some form of work to reduce the likelihood of failure and increase the longevity of the tree. Preservation requirements and actions based on a proposed development plan are not included here.

Arborist Rating is subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead). The rating was done in the field at the time of the measuring and inspection.

Table A – Ratings Descriptions

No problem(s)	5	excellent
No apparent problem(s)	4	good
Minor problem(s)	3	fair
Major problem(s)	2	poor
Extreme problem(s)	1	hazardous, non-correctable
Dead	0	dead

Rating #0: This indicates a tree that has no significant sign of life.

Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.

Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.

Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.

Rating #4: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.

Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

Notes indicate the health, structure and environment of the tree and explain why the tree should be removed or preserved. Additional notes may indicate if problems are minor, extreme or correctible.

Remove is the recommendation that the tree be removed. The recommendation will normally be based either on poor structure or poor health and is indicated as follows:

Yes H – Tree is unhealthy

Yes S – Tree is structurally unsound

OBSERVATIONS AND CONCLUSIONS

The site is an undeveloped parcel in a mixed-use area of town and has previously been fallow or in-crop production. The trees included in the inventory are essentially remnants of an orchard and in very poor condition both structurally and in terms of general health. Suitability for preservation of all the trees in this inventory is low.

RECOMMENDED REMOVALS

At this time, 31 trees have been recommended for removal from the proposed project area due to the nature and extent of defects, compromised health, and/or structural instability noted at the time of field inventory efforts. If these trees were retained within the proposed project area, it is our opinion that they may be hazardous depending upon their proximity to planned development activities. For reference, the trees which have been recommended for removal due to the severity of noted defects, compromised health, and/or structural instability are highlighted in green within the accompanying Tree Inventory Summary and are briefly summarized as follows:

TABLE 3

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating
5526	No	English Walnut	<i>Juglans regia</i>		14	36	16	2 Major Structure or Health Problems
5527	No	Black Walnut	<i>Juglans nigra</i>		30	48	9	2 Major Structure or Health Problems
5528	No	English Walnut	<i>Juglans regia</i>		13	54	14	1 Extreme Structure or Health Problems
5529	No	English Walnut	<i>Juglans regia</i>		17	54	17	1 Extreme Structure or Health Problems
5530	No	English Walnut	<i>Juglans regia</i>		33	54	20	1 Extreme Structure or Health Problems
5531	No	English Walnut	<i>Juglans regia</i>		34	54	12	1 Extreme Structure or Health Problems
5532	No	English Walnut	<i>Juglans regia</i>		35	54	13	1 Extreme Structure or Health Problems
5534	No	English Walnut	<i>Juglans regia</i>	6,12	18	54	14	1 Extreme Structure or Health Problems
5535	No	Black Walnut	<i>Juglans nigra</i>		15	36	16	1 Extreme Structure or Health Problems
5536	No	English Walnut	<i>Juglans regia</i>		26	36	14	1 Extreme Structure or Health Problems
5537	No	English Walnut	<i>Juglans regia</i>		30	24	9	1 Extreme Structure or Health Problems
5538	No	Black Walnut	<i>Juglans nigra</i>		9	48	12	1 Extreme Structure or Health Problems
5539	No	Black Walnut	<i>Juglans nigra</i>		5	54	7	1 Extreme Structure or Health Problems
5540	No	English Walnut	<i>Juglans regia</i>	4,5,5	14	54	8	1 Extreme Structure or Health Problems
5541	No	English Walnut	<i>Juglans regia</i>		33	54	7	1 Extreme Structure or Health Problems
5542	No	English Walnut	<i>Juglans regia</i>	3,4,5	5	54	6	1 Extreme Structure or Health Problems

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating
5543	No	English Walnut	<i>Juglans regia</i>		25	54	17	1 Extreme Structure or Health Problems
5544	No	Tulip	<i>Liriodendron tulipifera</i>		6	54	10	1 Extreme Structure or Health Problems
5545	No	English Walnut	<i>Juglans regia</i>		6	54	8	1 Extreme Structure or Health Problems
5546	No	English Walnut	<i>Juglans regia</i>		16	54	7	1 Extreme Structure or Health Problems
5547	No	English Walnut	<i>Juglans regia</i>		8	54	13	1 Extreme Structure or Health Problems
5548	No	English Walnut	<i>Juglans regia</i>		9	54	8	1 Extreme Structure or Health Problems
5549	No	English Walnut	<i>Juglans regia</i>		13	54	11	1 Extreme Structure or Health Problems
5550	No	English Walnut	<i>Juglans regia</i>		36	54	18	2 Major Structure or Health Problems
5551	No	English Walnut	<i>Juglans regia</i>		30	54	15	2 Major Structure or Health Problems
5552	No	English Walnut	<i>Juglans regia</i>		38	54	5	0 Dead
5553	No	English Walnut	<i>Juglans regia</i>		12	54	15	1 Extreme Structure or Health Problems
5554	No	English Walnut	<i>Juglans regia</i>		18	54	11	1 Extreme Structure or Health Problems
5555	No	English Walnut	<i>Juglans regia</i>		13	24	5	1 Extreme Structure or Health Problems
5557	No	English Walnut	<i>Juglans regia</i>		7	48	5	1 Extreme Structure or Health Problems
5558	No	English Walnut	<i>Juglans regia</i>		12	42	9	1 Extreme Structure or Health Problems

DISCUSSION

Trees need to be protected from normal construction practices if they are to remain healthy and viable on the site. Our recommendations are based on experience, and County ordinance requirements, so as to enhance tree longevity. This requires their root zones remain intact and viable, despite heavy equipment being on site, and the need to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil has serious consequences for tree health.

Following is a summary of Impacts to trees during construction and Tree Protection measures that should be incorporated into the site plans in order to protect the trees. Once the plans are approved, they become the document that all contractors will follow. ***The plans become the contract between the owner and the contractor, so that only items spelled out in the plans can be expected to be followed. Hence, all protection measures, such as fence locations, mulch requirements and root pruning specifications must be shown on the plans.***

RECOMMENDATIONS: SUMMARY OF TREE PROTECTION MEASURES

Hire a Project Arborist to help ensure protection measures are incorporated into the site plans and followed. The Project Arborist should, in cooperation with the Engineers and/or Architects:

- Identify the Root Protection Zones on the final construction drawings, prior to bidding the project.
- Show the placement of tree protection fences, as well as areas to be irrigated, fertilized and mulched on the final construction drawings.
- Clearly show trees for removal on the plans and mark them clearly on site. A Contractor who is a Certified Arborist should perform tree and stump removal. All stumps within the root zone of trees to be preserved shall be ground out using a stump router or left in place. **No trunk within the root zone of other trees shall be removed using a backhoe or other piece of grading equipment.**
- Prior to any grading, or other work on the site that will come within 50' of any tree to be preserved:
 1. Irrigate (if needed) and place a 3" layer of chip mulch over the protected root zone of all trees that will be impacted.
 2. Erect Tree Protection Fences. Place boards against trees located within 3' of construction zones, even if fenced off.
 3. Remove lower foliage that may interfere with equipment PRIOR to having grading or other equipment on site. The Project Arborist should approve the extent of foliage elevation, and oversee the pruning, performed by a contractor who is an ISA Certified Arborist.
- For cuts, expose roots by hand digging, potholing or using an air spade and then cut roots cleanly prior to further grading outside the tree protection zones.
- For fills, if a cut is required first, follow as for cuts.
- Where possible, specify geotextile fabric in lieu of compacting and root cutting, prior to placing fills on the soil surface. Any proposed retaining wall or fill soil shall be discussed with the engineer and arborist in order to reduce impacts to trees to be preserved.

- Clearly designate an area on the site outside the drip line of all trees where construction materials may be stored, and parking can take place. No materials or parking shall take place within the root zones of protected trees.
- Design utility and irrigation trenches to minimize disturbance to tree roots. Where possible, dig trenches with a hydraulic or air spade, placing pipes underneath the roots, or bore the deeper trenches underneath the roots.
- Include on the plans an Arborist inspection schedule to monitor the site during (and after) construction to ensure protection measures are followed and make recommendations for care of the trees on site, as needed.

General Tree protection measures are included as Appendix 3. These measures need to be included on the Site, Grading, Utility and Landscape Plans. A final report of recommendations specific to the plan can be completed as part of, and in conjunction with, the actual plans. This will require the arborist working directly with the engineer and architect for the project. If the above recommendations are followed, the amount of time required by the arborist for the final report should be minim this will require the arborist working directly with the engineer and architect for the project. If the above recommendations are followed, the amount of time required by the arborist for the final report should be minimal.

Report Prepared by:



Edwin E. Stirtz, Consulting Arborist
International Society of Arboriculture
Certified Arborist WE-0510A
ISA Tree Risk Assessment Qualified
Member, American Society of Consulting Arborists

Enc.: Appendix 1 – Map of The Property Showing Tree Locations
Appendix 2 – Tree Information Collected
Appendix 3 – General Practices for Tree Protection

APPENDIX 1 – MAP OF THE PROPERTY SHOWING TREE LOCATIONS



APPENDIX 2 – TREE INFORMATION COLLECTED

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
5525	No	English Walnut	<i>Juglans regia</i>		16	36	13	2 Major Structure or Health Problems	Poor condition. English Walnut grafted to Black Walnut. Basal defects and decay.	None at this time.
5526	No	English Walnut	<i>Juglans regia</i>		14	36	16	2 Major Structure or Health Problems	English Walnut with no graft. Lower trunk wound. Moderate decay/additional defects in upper canopy.	Recommend removal due to nature and extent of noted defects.
5527	No	Black Walnut	<i>Juglans nigra</i>		30	48	9	2 Major Structure or Health Problems	Trees previously failed 12 feet above grade. 90% dead.	Recommend removal due to nature and extent of noted defects.
5528	No	English Walnut	<i>Juglans regia</i>		13	54	14	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Basal trunk cavity with decay. One lateral remains. 90% dead.	Recommend removal due to nature and extent of noted defects.
5529	No	English Walnut	<i>Juglans regia</i>		17	54	17	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Very poor condition. Main stem failure 6 feet above grade.	Recommend removal due to nature and extent of noted defects.
5530	No	English Walnut	<i>Juglans regia</i>		33	54	20	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Basal and lower trunk defects with significant decay.	Recommend removal due to nature and extent of noted defects.
5531	No	English Walnut	<i>Juglans regia</i>		34	54	12	1 Extreme Structure or Health Problems	Very poor condition with significant defects. 95% dead.	Recommend removal due to nature and extent of noted defects.
5532	No	English Walnut	<i>Juglans regia</i>		35	54	13	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Basal and lower trunk defects with decay. 80% dead.	Recommend removal due to nature and extent of noted defects.
5533	No	English Walnut	<i>Juglans regia</i>	5,6	11	54	5	1 Extreme Structure or Health Problems	Stems arise from old stump.	None at this time.
5534	No	English Walnut	<i>Juglans regia</i>	6,12	18	54	14	1 Extreme Structure or Health Problems	English Walnut/Black Walnut both arising from the same stump.	Recommend removal due to nature and extent of noted defects.
5535	No	Black Walnut	<i>Juglans nigra</i>		15	36	16	1 Extreme Structure or Health Problems	Black Walnut stump sprout. Forks into codominant stems 4 feet above grade. Basal defects.	Recommend removal due to nature and extent of noted defects.

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
5536	No	English Walnut	<i>Juglans regia</i>		26	36	14	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Decay in primary crotch with weak attachments.	Recommend removal due to nature and extent of noted defects.
5537	No	English Walnut	<i>Juglans regia</i>		30	24	9	1 Extreme Structure or Health Problems	English Walnut grafted to Black Walnut. Significant basal defects with decay.	Recommend removal due to nature and extent of noted defects.
5538	No	Black Walnut	<i>Juglans nigra</i>		9	48	12	1 Extreme Structure or Health Problems	Black Walnut stump sprout. Weak attachments. Poor structure.	Recommend removal due to nature and extent of noted defects.
5539	No	Black Walnut	<i>Juglans nigra</i>		5	54	7	1 Extreme Structure or Health Problems	Black Walnut stump sprouts. English Walnut stems originally grafted are dead. Weak attachment.	Recommend removal due to nature and extent of noted defects.
5540	No	English Walnut	<i>Juglans regia</i>	4,5,5	14	54	8	1 Extreme Structure or Health Problems	Stump sprouts. Weak attachments.	Recommend removal due to nature and extent of noted defects.
5541	No	English Walnut	<i>Juglans regia</i>		33	54	7	1 Extreme Structure or Health Problems	Small sprouts emanate from a large Black Walnut stump with significant defects.	Recommend removal due to nature and extent of noted defects.
5542	No	English Walnut	<i>Juglans regia</i>	3,4,5	5	54	6	1 Extreme Structure or Health Problems	Stump sprouts, large stump.	Recommend removal due to nature and extent of noted defects.
5543	No	English Walnut	<i>Juglans regia</i>		25	54	17	1 Extreme Structure or Health Problems	Both Black Walnut and English Walnut stems emanate from this old stump with significant defects and weak attachments.	Recommend removal due to nature and extent of noted defects.
5544	No	Tulip	<i>Liriodendron tulipifera</i>		6	54	10	1 Extreme Structure or Health Problems		Recommend removal due to nature and extent of noted defects.
5545	No	English Walnut	<i>Juglans regia</i>		6	54	8	1 Extreme Structure or Health Problems	Basal cavity west side to 2.5 feet with moderate decay. Leans slightly.	Recommend removal due to nature and extent of noted defects.
5545	No	English Walnut	<i>Juglans regia</i>		15	54	19	2 Major Structure or Health Problems	Graft at ground level. Fair condition. Grecian Laurel located 16 feet northwest.	None at this time.
5546	No	English Walnut	<i>Juglans regia</i>		16	54	7	1 Extreme Structure or Health Problems	Grafted 2 feet above grade. Basal defect. Significant decay.	Recommend removal due to nature and extent of noted defects.

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
5547	No	English Walnut	<i>Juglans regia</i>		8	54	13	1 Extreme Structure or Health Problems	Bends/leans/out of balance southwest. Basal cavity with decay to 3 feet, significant.	Recommend removal due to nature and extent of noted defects.
5548	No	English Walnut	<i>Juglans regia</i>		9	54	8	1 Extreme Structure or Health Problems	Codominant stems grafted together above graft union 3 feet above grade. Weak attachment.	Recommend removal due to nature and extent of noted defects.
5549	No	English Walnut	<i>Juglans regia</i>		13	54	11	1 Extreme Structure or Health Problems	Significant decay at graft.	Recommend removal due to nature and extent of noted defects.
5550	No	English Walnut	<i>Juglans regia</i>		36	54	18	2 Major Structure or Health Problems	Approximately 7 stems arise 7 feet above grade at the graft union. Basal defects with decay and weak attachments.	Recommend removal due to nature and extent of noted defects.
5551	No	English Walnut	<i>Juglans regia</i>		30	54	15	2 Major Structure or Health Problems	Defects and decay at the graft union 7 to 9 feet above grade.	Recommend removal due to nature and extent of noted defects.
5552	No	English Walnut	<i>Juglans regia</i>		38	54	5	0 Dead	90% dead. Significant defects, various locations.	Recommend removal due to nature and extent of noted defects.
5553	No	English Walnut	<i>Juglans regia</i>		12	54	15	1 Extreme Structure or Health Problems	Basal defects with minor to moderate decay. Additional decay at graft.	Recommend removal due to nature and extent of noted defects.
5554	No	English Walnut	<i>Juglans regia</i>		18	54	11	1 Extreme Structure or Health Problems	95% dead.	Recommend removal due to nature and extent of noted defects.
5555	No	English Walnut	<i>Juglans regia</i>		13	24	5	1 Extreme Structure or Health Problems	Basal trunk cavity grade to 5 feet above grade with significant decay.	Recommend removal due to nature and extent of noted defects.
5556	No	Black Walnut	<i>Juglans nigra</i>		7	54	9	2 Major Structure or Health Problems	Callusing basal trunk wound west side, minor decay.	None at this time.
5557	No	English Walnut	<i>Juglans regia</i>		7	48	5	1 Extreme Structure or Health Problems	Significant lower trunk decay, crook in graft on stem.	Recommend removal due to nature and extent of noted defects.
5558	No	English Walnut	<i>Juglans regia</i>		12	42	9	1 Extreme Structure or Health Problems	Significant decay at graft union.	Recommend removal due to nature and extent of noted defects.

Tag #	Protected By Code	Common Name	Species	Multi-Stems (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
-------	-------------------	-------------	---------	-------------------	-----------	-------------	------------------------------	-----------------	-------	-----------------

TOTAL INVENTORIED TREES = 35 trees (629 aggregate diameter inches)
TOTAL RECOMMENDED REMOVALS = 31 trees (580 aggregate diameter inches)
Rating (0-5, where 5 is remove) = 0=1 tree; 1=27 trees; 2=7 trees; 3=0 trees; 4=0 trees; 5=0 trees
City Protected Trees = None

APPENDIX 3 – GENERAL PRACTICES FOR TREE PROTECTION

Definitions:

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 10'. The Project Arborist must approve work within the RPZ.

Irrigate, Fertilize, Mulch: Prior to grading on the site near any tree, the area within the Tree Protection fence should be fertilized with 4 pounds of nitrogen per 1000 square feet, and the fertilizer irrigated in. The irrigation should percolate at least 24 inches into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree.

The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.¹

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

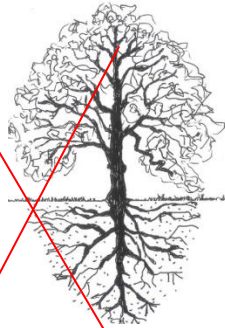
Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is

¹ International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

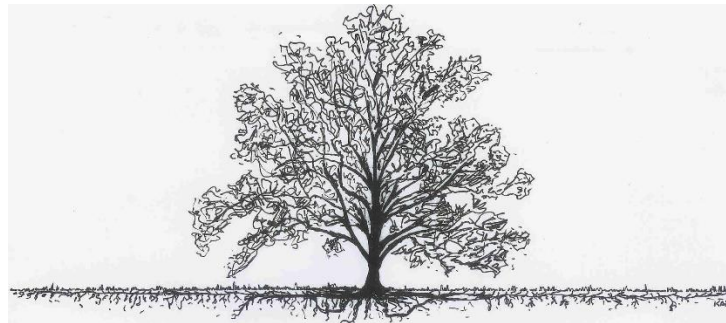
Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy (see Drawing A below). The correct root structure of a tree is in Drawing B. All plants' roots need both water and air for survival. Surface roots are a common phenomenon with trees grown in compacted soil. Poor canopy development or canopy decline in mature trees is often the result of inadequate root space and/or soil compaction.



Drawing A

Common misconception of where tree roots are assumed to be located



Drawing B

The reality of where roots are generally located

Structural Issues

Limited space for canopy development produces poor structure in trees. The largest tree in a given area, which is 'shading' the other trees is considered Dominant. The 'shaded' trees are considered Suppressed. The following picture illustrates this point. Suppressed trees are more likely to become a potential hazard due to their poor structure.

Dominant Tree

Growth is upright

Canopy is balanced by limbs and foliage equally

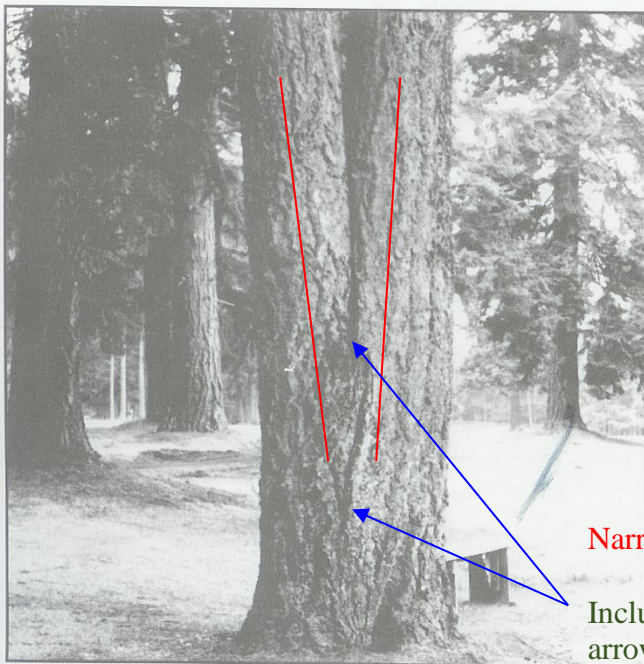


Suppressed Tree

Canopy weight all to one side

Limbs and foliage grow away from dominant tree

Co-dominant leaders are another common structural problem in trees.



The tree in this picture has a co-dominant leader at about 3' and included bark up to 7 or 8'. Included bark occurs when two or more limbs have a narrow angle of attachment resulting in bark between the stems – instead of cell to cell structure. This is considered a critical defect in trees and is the cause of many failures.

Narrow Angle

Included Bark between the arrows

Figure 6. Codominant stems are inherently weak because the stems are of similar diameter.

Photo from Evaluation of Hazard Trees in Urban Areas by Nelda P. Matheny and James R. Clark, 1994 International Society of Arboriculture

Pruning Mature Trees for Risk Reduction

There are few good reasons to prune mature trees. Removal of deadwood, directional pruning, removal of decayed or damaged wood, and end-weight reduction as a method of mitigation for structural faults are the only reasons a mature tree should be pruned. Live wood over 3" should not be pruned unless absolutely necessary. Pruning cuts should be clean and correctly placed. Pruning should be done in accordance with the American National Standards Institute (ANSI) A300 standards. It is far better to use more small cuts than a few large cuts as small pruning wounds reduce risk while large wounds increase risk.

Pruning causes an open wound in the tree. Trees do not "heal" they compartmentalize. Any wound made today will always remain, but a healthy tree, in the absence of decay in the wound, will 'cover it' with callus tissue. Large, old pruning wounds with advanced decay are a likely failure point. Mature trees with large wounds are a high failure risk.

Overweight limbs are a common structural fault in suppressed trees. There are two remedial actions for overweight limbs (1) prune the limb to reduce the extension of the canopy, or (2) cable the limb to reduce movement. Cables do not hold weight they only stabilize the limb and require annual inspection.



Photo of another tree – not at this site.

Normal limb structure

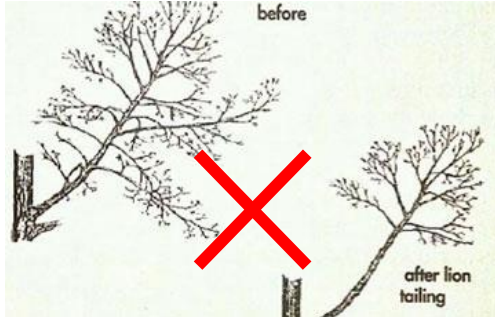
Over weight, reaching limb with main stem diameter small compared with amount of foliage present



Photo of another tree – not at this site

Lion's – Tailing is the pruning practice of removal of “an excessive number of inner and/or lower lateral branches from parent branches. Lion's tailing is not an acceptable pruning practice” ANSI A300 (part 1) 4.23. It increases the risk of failure.

Pruning – Cutting back trees changes their natural structure, while leaving trees in their natural form enhances longevity.



Arborist Classifications

There are different types of Arborists:

Tree Removal and/or Pruning Companies. These companies may be licensed by the State of California to do business, but they do not necessarily know anything about trees;

Arborists. Arborist is a broad term. It is intended to mean someone with specialized knowledge of trees but is often used to imply knowledge that is not there.

ISA Certified Arborist: An International Society of Arboriculture Certified Arborist is someone who has been trained and tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: isa-arbor.org.

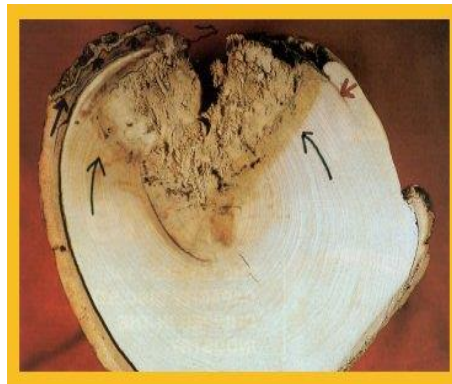
Consulting Arborist: An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and tested to have specialized knowledge of trees and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: <https://www.asca-consultants.org/>

Decay in Trees

Decay (in General): Fungi cause all decay of living trees. Decay is considered a disease because cell walls are altered, wood strength is affected, and living sapwood cells may be killed. Fungi decay wood by secreting enzymes. Different types of fungi cause different types of decay through the secretion of different chemical enzymes. Some decays, such as white rot, cause less wood strength loss than others because they first attack the lignin (causes cell walls to thicken and reduces susceptibility to decay and pest damage) secondarily the cellulose (another structural component in a cell walls). Others, such as soft rot, attack the cellulose chain and cause substantial losses in wood strength even in the initial stages of decay. Brown rot causes wood to become brittle and fractures easily with tension. Identification of internal decay in a tree is difficult because visible evidence may not be present.



According to Evaluation of Hazard Trees in Urban Areas (Matheny, 1994) decay is a critical factor in the stability of the tree. As decay progresses in the trunk, the stem becomes a hollow tube or cylinder rather than a solid rod. This change is not readily apparent to the casual observer. Trees require only a small amount of bark and wood to transport water, minerals and sugars. Interior heartwood can be eliminated (or degraded) to a great degree without compromising the transport process. Therefore, trees can contain significant amounts of decay without showing decline symptoms in the crown.



additional cells. The weakest of the vertical wall. Accordingly, decay progression inward at large are more than one pruning cut trunk of the tree, the likelihood of decay progression and the associated structural loss of integrity of the internal wood is high.

Compartmentalization of decay in trees is a biological process in which the cellular tissue around wounds is changed to inhibit fungal growth and provide a barrier against the spread of decay agents into the barrier zones is the formation of while a tree may be able to limit pruning cuts, in the event that there located vertically along the main

Oak Tree Impacts

Our native oak trees are easily damaged or killed by having the soil within the Critical Root Zone (CRZ) disturbed or compacted. All of the work initially performed around protected trees that will be saved should be done by people rather than by wheeled or track type tractors. Oaks are fragile giants that can take little change in soil grade, compaction, or warm season watering. Don't be fooled into believing that warm season watering has no adverse effects on native oaks. Decline and eventual death can take as long as 5-20 years with poor care and inappropriate watering. Oaks can live hundreds of years if treated properly during construction, as well as later with proper pruning, and the appropriate landscape/irrigation design.



California Tree and Landscape Consulting, Inc.

August 20, 2020

Derek Spalding
The True Life Companies
110 Blue Ravine Road, Suite 209
Folsom, California 95630

Via Email: DSpalding@thetruelifecompanies.com

PRECONSTRUCTION INVENTORY ARBORIST REPORT

RE: Arborist Report and Tree Inventory for Caterina Estates
802 Joy Drive, City of Galt, California [APN 150-0101-004 and 150-0101-040]

Executive Summary:

The True Life Companies contacted California Tree and Landscape Consulting, Inc. to document the trees on the property for a better understanding of the existing resource and any potential improvement obstacles that may arise. The True Life Companies requested an arborist report and tree inventory suitable for submittal to the City of Galt. This is a Preconstruction Tree Inventory for street frontage improvements.

Ed Stirtz, ISA Certified Arborist WE0510A, visited the property on August 17, 2020, to provide species identification, measurements of DBH and canopy, field condition notes, recommended actions, ratings, and approximate locations for the trees. We were to inventory all protected trees on the west side of 4th Street between H Street and F Street. The trees which met the defined criteria were identified in the field by affixing an acorn-shaped tag to the tree trunks. A total of 24 trees were evaluated on this property, of which 20 are protected trees according to the City of Galt.

The City of Galt Development Code, Section 18.52, regulates heritage oak and public trees. "Heritage oak tree" includes, but is not limited to, Valley Oak (*Quercus lobata*), Interior Live Oak (*Quercus wislizenii*), Blue Oak (*Quercus douglasii*), Coast Live Oak (*Quercus agrifolia*) or Oracle Oak (*Quercus morehus*) having at least one trunk of 6" diameter measured 4' above the ground, or multi-trunks with an aggregate diameter of 8" or more, measured 4' above ground. "Public tree" refers to any tree with one-half or more of its trunk or branches on or above public land.

The vegetation includes those trees identified in the inventory and annual grasses.

TABLE 1

Tree Species	Trees on this Site	Protected Trees on the Site	Proposed for Removal for Development	Total Proposed for Retention
Blue Oak	6	5	0	6
Coast Live Oak	5	5	1	4

Tree Species	Trees on this Site	Protected Trees on the Site	Proposed for Removal for Development	Total Proposed for Retention
Pecan	3	0	0	3
Valley Oak	10	10	1	9
TOTAL	24	20	2	22

ASSIGNMENT

Perform an examination of the site to document the presence and condition of trees protected by the City of Galt. The study area for this effort includes the west side of 4th Street between H Street and F Street, as depicted on the "4th Street Improvements, Caterina Estates Subdivision, Galt, California," including the roadside drainage ditch and into the property approximately 15'. (All trees protected by the City are included in the inventory.) Prepare a report of findings.

METHODS

Appendix 2 and Tables 1 and 2 in this report are the detailed inventory and recommendations for the trees. The following terms and Table A – Ratings Descriptions will further explain our findings.

Species of trees is listed by our local common name and botanical name by genus and species.

DBH (diameter breast high) is normally measured at 4'6" (54" above the average ground, height but if that varies then the location where it is measured is noted here. A steel diameter tape was used to measure the trees.

Canopy radius is measured in feet. It is the farthest extent of the crown composed of leaves and small twigs measured by a Stanley digital distance meter. This measurement often defines the Critical Root Zone (CRZ) or Protection Zone (PZ), which is a circular area around a tree with a radius equal to this measurement.

Actions listed are recommendations to improve health or structure of the tree. Trees in public spaces require maintenance. If a tree is to remain and be preserved, then the tree may need some form of work to reduce the likelihood of failure and increase the longevity of the tree. Preservation requirements and actions based on a proposed development plan are not included here.

Arborist Rating is subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead). The rating was done in the field at the time of the measuring and inspection.

Table A – Ratings Descriptions

No problem(s)	5	excellent
No apparent problem(s)	4	good
Minor problem(s)	3	fair
Major problem(s)	2	poor
Extreme problem(s)	1	hazardous, non-correctable
Dead	0	dead

Rating #0: This indicates a tree that has no significant sign of life.

Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.

Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.

Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.

Rating #4: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.

Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

Notes indicate the health, structure and environment of the tree and explain why the tree should be removed or preserved. Additional notes may indicate if problems are minor, extreme or correctible.

Remove is the recommendation that the tree be removed. The recommendation will normally be based either on poor structure or poor health and is indicated as follows:

Yes H – Tree is unhealthy

Yes S – Tree is structurally unsound

OBSERVATIONS AND CONCLUSIONS

The site is a roadside drainage ditch with trees along the top/west edge and a disked field beyond the trees. The vegetation includes the trees within the inventory, some small oaks, and other volunteers and annual grasses.

RECOMMENDED REMOVALS

At this time, 2 trees have been recommended for removal from the proposed project area due to the nature and extent of defects, compromised health, and/or structural instability noted at the time of field inventory efforts. If these trees were retained within the proposed project area, it is our opinion that they may be hazardous depending upon their proximity to planned development activities. For reference, the trees which have been recommended for removal due to the severity of noted defects, compromised health, and/or structural instability are highlighted in green within the accompanying Tree Inventory Summary and are briefly summarized as follows:

TABLE 2

Tag #	Protected By Code	Common Name	Species	Multi-Stem DBH (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating
2369	yes	Valley Oak	<i>Quercus lobata</i>		16	54	22	2 Major Structure or Health Problems
2381	yes	Coast Live Oak	<i>Quercus agrifolia</i>		7	54	7	1 Extreme Structure or Health Problems

DISCUSSION

Trees need to be protected from normal construction practices if they are to remain healthy and viable on the site. Our recommendations are based on experience, and County ordinance requirements, so as to enhance tree longevity. This requires their root zones remain intact and viable, despite heavy equipment being on site, and the need to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil has serious consequences for tree health.

Following is a summary of Impacts to trees during construction and Tree Protection measures that should be incorporated into the site plans in order to protect the trees. Once the plans are approved, they become the document that all contractors will follow. ***The plans become the contract between the owner and the contractor, so that only items spelled out in the plans can be expected to be followed. Hence, all protection measures, such as fence locations, mulch requirements and root pruning specifications must be shown on the plans.***

RECOMMENDATIONS: SUMMARY OF TREE PROTECTION MEASURES

Hire a Project Arborist to help ensure protection measures are incorporated into the site plans and followed. The Project Arborist should, in cooperation with the Engineers and/or Architects:

- Identify the Root Protection Zones on the final construction drawings, prior to bidding the project.
- Show the placement of tree protection fences, as well as areas to be irrigated, fertilized and mulched on the final construction drawings.
- Clearly show trees for removal on the plans and mark them clearly on site. A Contractor who is a Certified Arborist should perform tree and stump removal. All stumps within the root zone of trees to be preserved shall be ground out using a stump router or left in place. **No trunk within the root zone of other trees shall be removed using a backhoe or other piece of grading equipment.**
- Prior to any grading, or other work on the site that will come within 50' of any tree to be preserved:
 1. Irrigate (if needed) and place a 3" layer of chip mulch over the protected root zone of all trees that will be impacted.
 2. Erect Tree Protection Fences. Place boards against trees located within 3' of construction zones, even if fenced off.
 3. Remove lower foliage that may interfere with equipment PRIOR to having grading or other equipment on site. The Project Arborist should approve the extent of foliage elevation, and oversee the pruning, performed by a contractor who is an ISA Certified Arborist.
- For grade cuts, expose roots by hand digging, potholing or using an air spade and then cut roots cleanly prior to further grading outside the tree protection zones.
- For fills, if a cut is required first, follow as for cuts.
- Where possible, specify geotextile fabric and/or thickened paving, re-enforced paving and structural soil in lieu of compacting, and avoid root cutting as much as possible, prior to placing fills on the soil surface. Any proposed retaining wall or fill soil shall be discussed with the engineer and arborist in order to reduce impacts to trees to be preserved.
- Clearly designate an area on the site outside the drip line of all trees where construction materials may be stored, and parking can take place. No materials or parking shall take place within the root zones of protected trees.

- Design utility and irrigation trenches to minimize disturbance to tree roots. Where possible, dig trenches with hydro-vac equipment or air spade, placing pipes underneath the roots, or bore the deeper trenches underneath the roots.
- Include on the plans an Arborist inspection schedule to monitor the site during (and after) construction to ensure protection measures are followed and make recommendations for care of the trees on site, as needed.

General Tree protection measures are included as Appendix 3. These measures need to be included on the Site, Grading, Utility and Landscape Plans. A final report of recommendations specific to the plan can be completed as part of, and in conjunction with, the actual plans. This will require the arborist working directly with the engineer and architect for the project. If the above recommendations are followed, the amount of time required by the arborist for the final report should be minimal.

Report Prepared by:



Edwin E. Stirtz, Consulting Arborist
International Society of Arboriculture
Certified Arborist WE-0510A
ISA Tree Risk Assessment Qualified
Member, American Society of Consulting Arborists

Enc.: Appendix 1 – Map of The Property Showing Tree Locations
Appendix 2 – 4th Street Improvements, Caterina Estates Subdivision Exhibit
Appendix 3 – Tree Information Collected
Appendix 4 – General Practices for Tree Protection

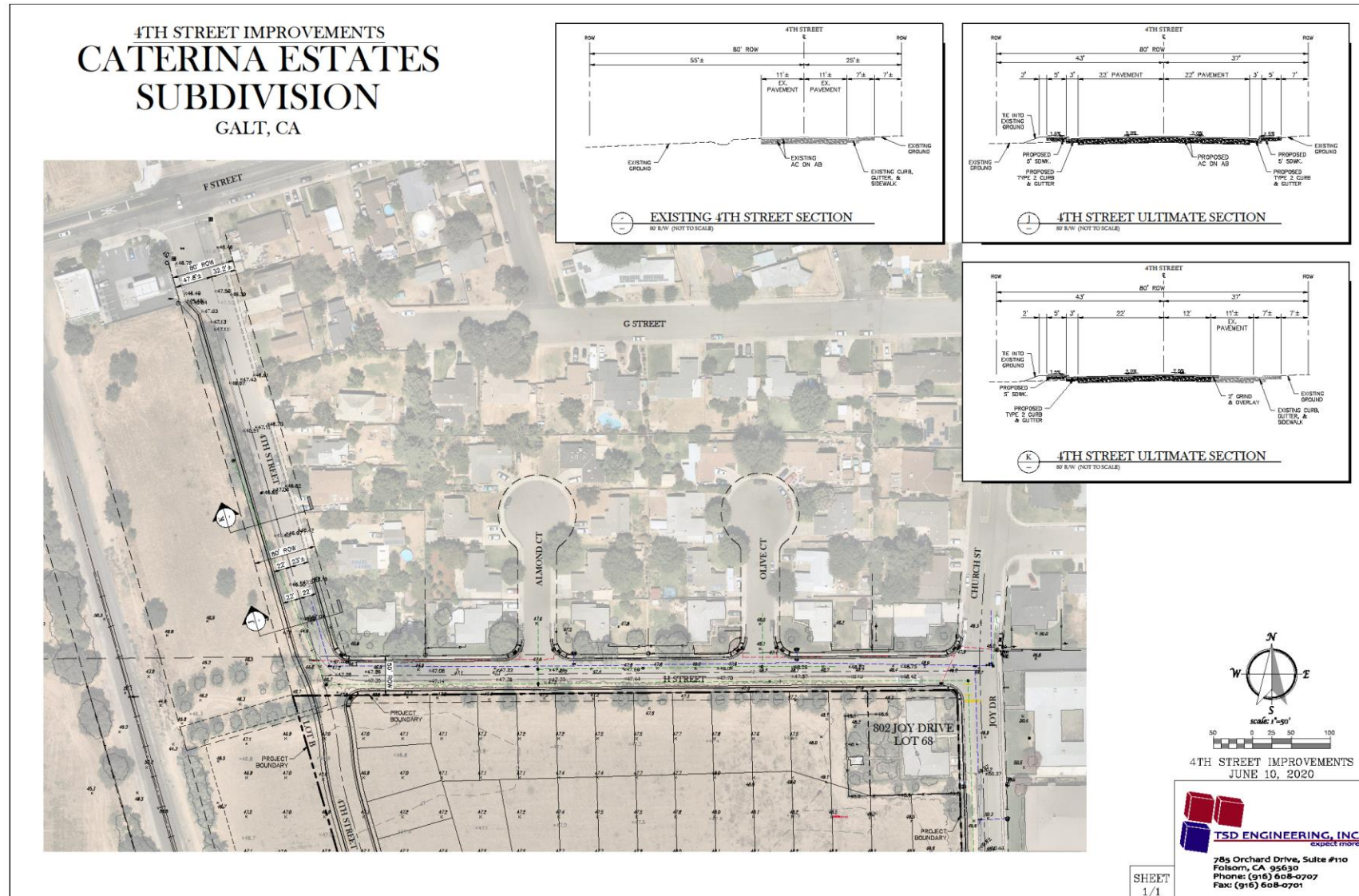
APPENDIX 1 – MAP OF THE PROPERTY SHOWING TREE LOCATIONS



APPENDIX 1 – MAP OF THE PROPERTY SHOWING TREE LOCATIONS



APPENDIX 2 – 4TH STREET IMPROVEMENTS, CATERINA ESTATES SUBDIVISION EXHIBIT



APPENDIX 3 – TREE INFORMATION COLLECTED

Tag #	Protected Heritage Oak Tree	Protected Public Tree	Common Name	Species	Multi-Stem DBH (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
2365	Yes	No	Valley Oak	<i>Quercus lobata</i>		6	54	7	3 Fair - Minor Problems	Fair condition. Slightly above average amount of dead branches.	None at this time.
2366	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	7,8	15	54	12	3 Fair - Minor Problems	Fair condition. Forks 4.5 feet above grade with codominant stems. One-sided northwest.	None at this time.
2367	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	5,7,8,10	25	36	15	3 Fair - Minor Problems	Fair condition. Forks from grade to 24 inches above grade. Weak attachments. Above average amount of dead branches.	None at this time.
2368	Yes	No	Valley Oak	<i>Quercus lobata</i>		10	36	15	3 Fair - Minor Problems	Forks 4 feet above grade. Tri-dominant with weak attachments. Reaction growth/grafting 6 feet above grade between three stems.	None at this time.
2369	Yes	No	Valley Oak	<i>Quercus lobata</i>		16	54	22	2 Major Structure or Health Problems	Trunk leans/has a sweep to the west turning upright. Above average amount of branches.	Recommend removal due to nature and extent of defects.
2370	Yes	No	Valley Oak	<i>Quercus lobata</i>	5,6	11	54	11	2 Major Structure or Health Problems	Forks a foot above grade. Weak attachment. One-sided east.	None at this time.
2371	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	5,12	17	54	23	3 Fair - Minor Problems	Measured 3 feet above grade. Forks 1.5 and 4 feet above grade. Weak attachments. One-sided west.	None at this time.
2372	Yes	No	Blue Oak	<i>Quercus douglasii</i>	5,6	11	54	12	2 Major Structure or Health Problems	Forks 2 feet above grade. Weak attachments with inclusions. One-sided west. Above average amount of dead branches.	None at this time.

Tag #	Protected Heritage Oak Tree	Protected Public Tree	Common Name	Species	Multi-Stem DBH (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
2373	No	No	Pecan	<i>Carya illinoensis</i>	5,8,9	22	54	16	2 Major Structure or Health Problems	Forks at grade. Weak attachments.	None at this time.
2374	Yes	No	Valley Oak	<i>Quercus lobata</i>		21	54	26	3 Fair - Minor Problems	Fair condition. Above average amount of dead branches.	None at this time.
2375	Yes	No	Valley Oak	<i>Quercus lobata</i>		15	54	24	3 Fair - Minor Problems	Fair condition. Above average amount of dead branches. Slightly sparse foliage.	None at this time.
2376	No	No	Pecan	<i>Carya illinoensis</i>		14	24	18	3 Fair - Minor Problems	Forks 4 feet above grade. Weak attachment. Above average amount of dead branches.	None at this time.
2377	Yes	No	Blue Oak	<i>Quercus douglasii</i>		6	54	9	3 Fair - Minor Problems	Fair condition.	None at this time.
2378	Yes	No	Blue Oak	<i>Quercus douglasii</i>		14	54	20	2 Major Structure or Health Problems	Fair condition. Above average amount of dead branches.	None at this time.
2379	No	No	Blue Oak	<i>Quercus douglasii</i>	3,5	8	54	10	3 Fair - Minor Problems	Sub-standard size. Forks at grade.	None at this time.
2380	Yes	No	Blue Oak	<i>Quercus douglasii</i>	5,6	11	54	9	3 Fair - Minor Problems	Forks at grade. Weak attachment.	None at this time.
2381	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>		7	54	7	1 Extreme Structure or Health Problems	Tree has an abrupt bend 3 feet above grade and old pruning injury at that location. One horizontal lateral remains.	Recommend removal due to nature and extent of defects.
2382	Yes	No	Blue Oak	<i>Quercus douglasii</i>	8,10	18	54	15	3 Fair - Minor Problems	Forks just above grade. Weak attachments. One-sided southwest.	None at this time.

Tag #	Protected Heritage Oak Tree	Protected Public Tree	Common Name	Species	Multi-Stem DBH (in.)	DBH (in.)	Measured At	Measured Canopy Radius (ft.)	Arborist Rating	Notes	Recommendations
2383	Yes	No	Valley Oak	<i>Quercus lobata</i>		20	54	27	3 Fair - Minor Problems	Leans/out of balance southwest.	None at this time.
2384	No	No	Pecan	<i>Carya illinoensis</i>		14	54	17	3 Fair - Minor Problems	Fair condition.	None at this time.
2385	Yes	No	Valley Oak	<i>Quercus lobata</i>		14	54	21	3 Fair - Minor Problems	Fair condition. Above average amount of dead branches. One-sided northeast.	None at this time.
2386	Yes	No	Valley Oak	<i>Quercus lobata</i>		14	54	27	3 Fair - Minor Problems	Fair condition. Above average amount of dead branches.	None at this time.
2387	Yes	No	Valley Oak	<i>Quercus lobata</i>		15	54	25	3 Fair - Minor Problems	Fair condition. Weak attachments. Above average amount of dead branches.	None at this time.
2388	Yes	No	Coast Live Oak	<i>Quercus agrifolia</i>	3,3,4	10	54	8	2 Major Structure or Health Problems	Forks at grade. Weak attachments.	None at this time.

TOTAL INVENTORIED TREES = 24 trees (334 aggregate diameter inches)
TOTAL RECOMMENDED REMOVALS = 2 trees (23 aggregate diameter inches)
Rating (0-5, where 5 is remove) = 1=1 tree; 2=6 trees; 3=17 trees
City Protected Trees = 20 trees (276 aggregate diameter inches)

APPENDIX 4 – GENERAL PRACTICES FOR TREE PROTECTION

Definitions:

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 10'. The Project Arborist must approve work within the RPZ.

Irrigate, Fertilize, Mulch: Prior to grading on the site near any tree, the area within the Tree Protection fence should be fertilized with 4 pounds of nitrogen per 1000 square feet, and the fertilizer irrigated in. The irrigation should percolate at least 24 inches into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree.

The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.¹

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

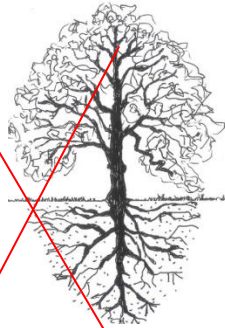
Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is

¹ International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

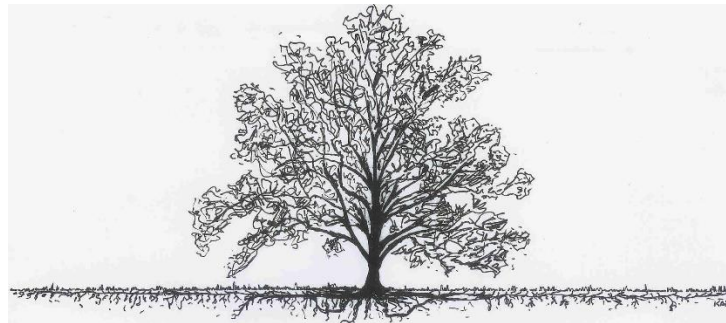
Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy (see Drawing A below). The correct root structure of a tree is in Drawing B. All plants' roots need both water and air for survival. Surface roots are a common phenomenon with trees grown in compacted soil. Poor canopy development or canopy decline in mature trees is often the result of inadequate root space and/or soil compaction.



Drawing A

Common misconception of where tree roots are assumed to be located



Drawing B

The reality of where roots are generally located

Structural Issues

Limited space for canopy development produces poor structure in trees. The largest tree in a given area, which is 'shading' the other trees is considered Dominant. The 'shaded' trees are considered Suppressed. The following picture illustrates this point. Suppressed trees are more likely to become a potential hazard due to their poor structure.

Dominant Tree

Growth is upright

Canopy is balanced by limbs and foliage equally



Suppressed Tree

Canopy weight all to one side

Limbs and foliage grow away from dominant tree

Co-dominant leaders are another common structural problem in trees.

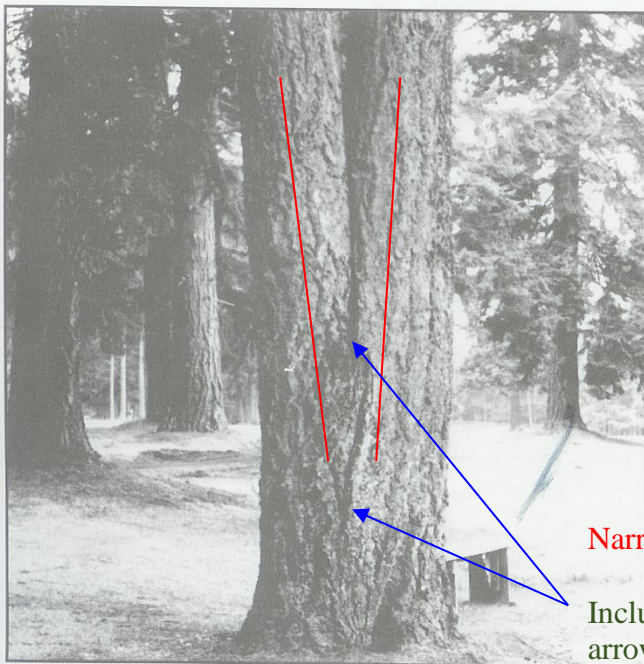


Figure 6. Codominant stems are inherently weak because the stems are of similar diameter.

The tree in this picture has a co-dominant leader at about 3' and included bark up to 7 or 8'. Included bark occurs when two or more limbs have a narrow angle of attachment resulting in bark between the stems – instead of cell to cell structure. This is considered a critical defect in trees and is the cause of many failures.

Narrow Angle

Included Bark between the arrows

Photo from Evaluation of Hazard Trees in Urban Areas by Nelda P. Matheny and James R. Clark, 1994 International Society of Arboriculture

Pruning Mature Trees for Risk Reduction

There are few good reasons to prune mature trees. Removal of deadwood, directional pruning, removal of decayed or damaged wood, and end-weight reduction as a method of mitigation for structural faults are the only reasons a mature tree should be pruned. Live wood over 3" should not be pruned unless absolutely necessary. Pruning cuts should be clean and correctly placed. Pruning should be done in accordance with the American National Standards Institute (ANSI) A300 standards. It is far better to use more small cuts than a few large cuts as small pruning wounds reduce risk while large wounds increase risk.

Pruning causes an open wound in the tree. Trees do not "heal" they compartmentalize. Any wound made today will always remain, but a healthy tree, in the absence of decay in the wound, will 'cover it' with callus tissue. Large, old pruning wounds with advanced decay are a likely failure point. Mature trees with large wounds are a high failure risk.

Overweight limbs are a common structural fault in suppressed trees. There are two remedial actions for overweight limbs (1) prune the limb to reduce the extension of the canopy, or (2) cable the limb to reduce movement. Cables do not hold weight they only stabilize the limb and require annual inspection.



Normal limb structure

Over weight, reaching limb with main stem diameter small compared with amount of foliage present

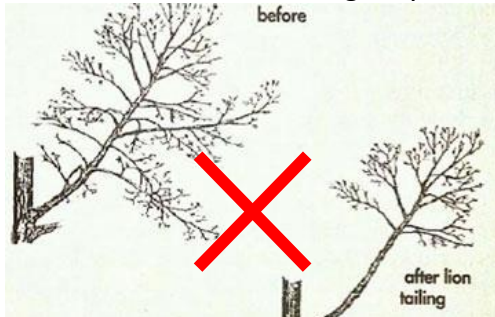


Photo of another tree – not at this site

Photo of another tree – not at this site.

Lion's – Tailing is the pruning practice of removal of “an excessive number of inner and/or lower lateral branches from parent branches. Lion's tailing is not an acceptable pruning practice” ANSI A300 (part 1) 4.23. It increases the risk of failure.

Pruning – Cutting back trees changes their natural structure, while leaving trees in their natural form enhances longevity.



Arborist Classifications

There are different types of Arborists:

Tree Removal and/or Pruning Companies. These companies may be licensed by the State of California to do business, but they do not necessarily know anything about trees;

Arborists. Arborist is a broad term. It is intended to mean someone with specialized knowledge of trees but is often used to imply knowledge that is not there.

ISA Certified Arborist: An International Society of Arboriculture Certified Arborist is someone who has been trained and tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: isa-arbor.org.

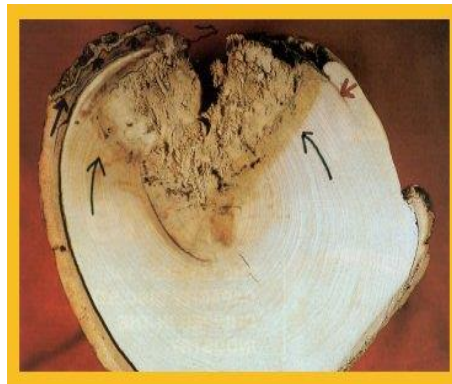
Consulting Arborist: An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and tested to have specialized knowledge of trees and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: <https://www.asca-consultants.org/>

Decay in Trees

Decay (in General): Fungi cause all decay of living trees. Decay is considered a disease because cell walls are altered, wood strength is affected, and living sapwood cells may be killed. Fungi decay wood by secreting enzymes. Different types of fungi cause different types of decay through the secretion of different chemical enzymes. Some decays, such as white rot, cause less wood strength loss than others because they first attack the lignin (causes cell walls to thicken and reduces susceptibility to decay and pest damage) secondarily the cellulose (another structural component in a cell walls). Others, such as soft rot, attack the cellulose chain and cause substantial losses in wood strength even in the initial stages of decay. Brown rot causes wood to become brittle and fractures easily with tension. Identification of internal decay in a tree is difficult because visible evidence may not be present.



According to Evaluation of Hazard Trees in Urban Areas (Matheny, 1994) decay is a critical factor in the stability of the tree. As decay progresses in the trunk, the stem becomes a hollow tube or cylinder rather than a solid rod. This change is not readily apparent to the casual observer. Trees require only a small amount of bark and wood to transport water, minerals and sugars. Interior heartwood can be eliminated (or degraded) to a great degree without compromising the transport process. Therefore, trees can contain significant amounts of decay without showing decline symptoms in the crown.



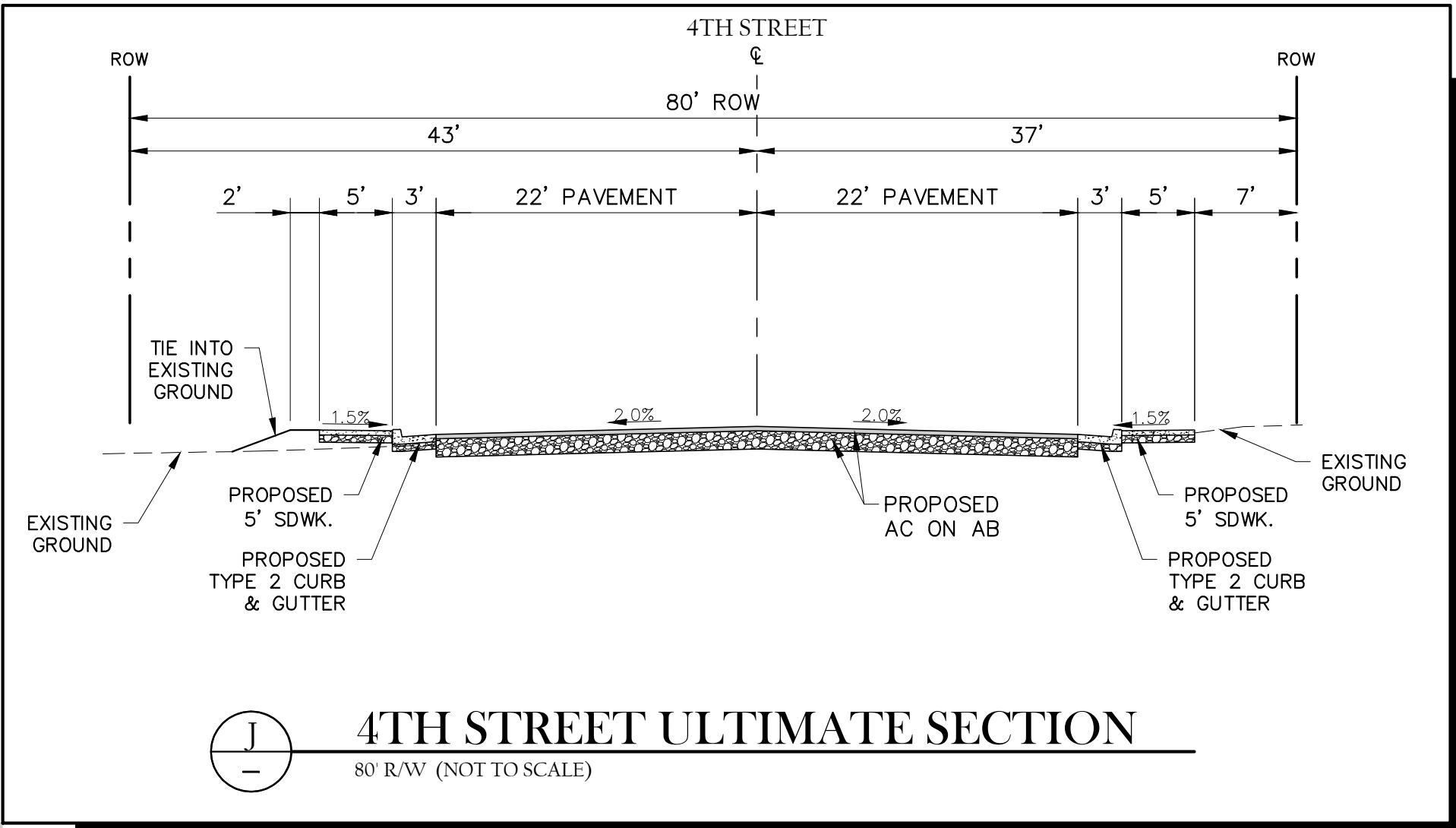
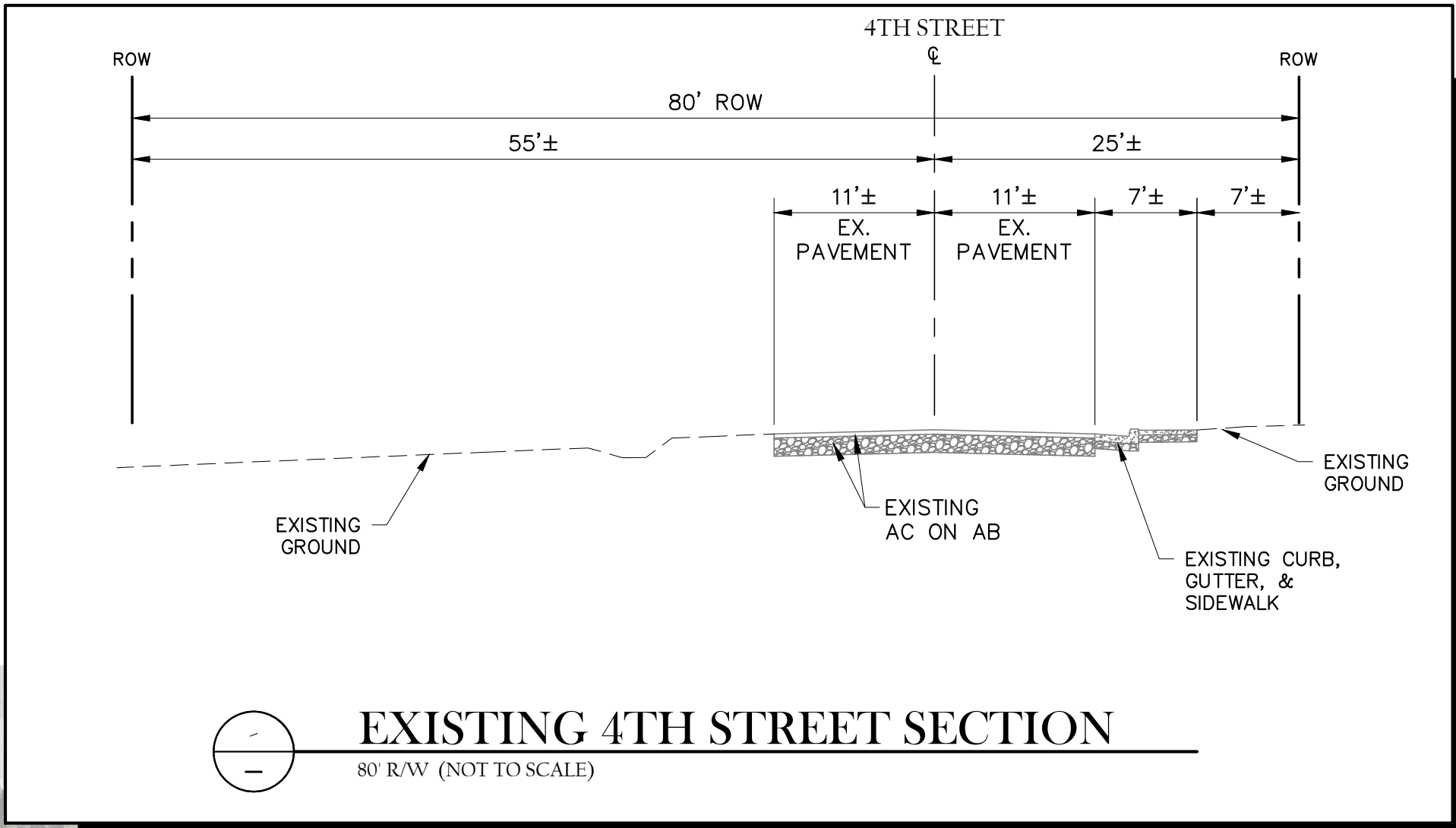
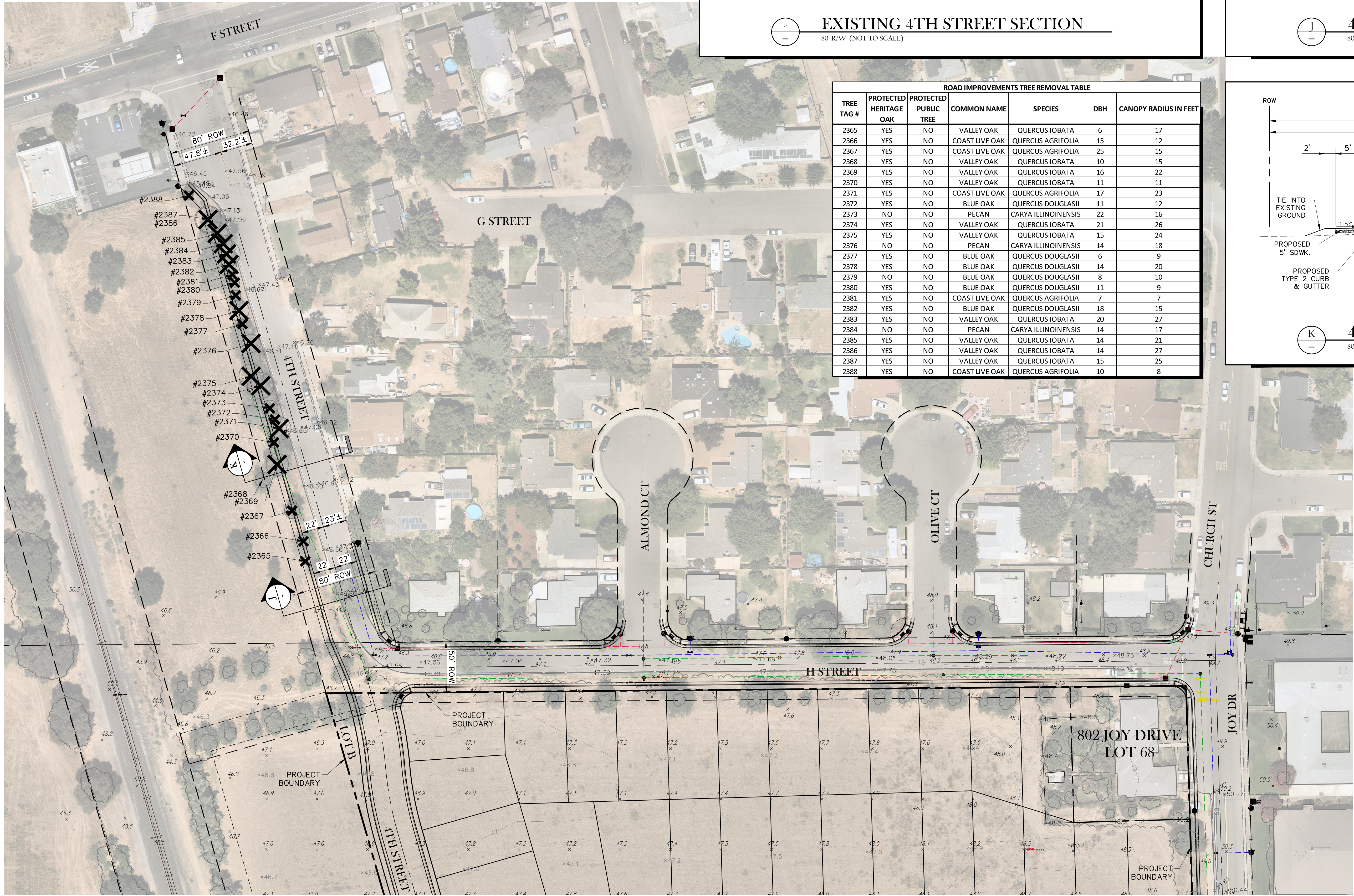
additional cells. The weakest of the vertical wall. Accordingly, decay progression inward at large are more than one pruning cut trunk of the tree, the likelihood of decay progression and the associated structural loss of integrity of the internal wood is high.

Compartmentalization of decay in trees is a biological process in which the cellular tissue around wounds is changed to inhibit fungal growth and provide a barrier against the spread of decay agents into the barrier zones is the formation of while a tree may be able to limit pruning cuts, in the event that there located vertically along the main

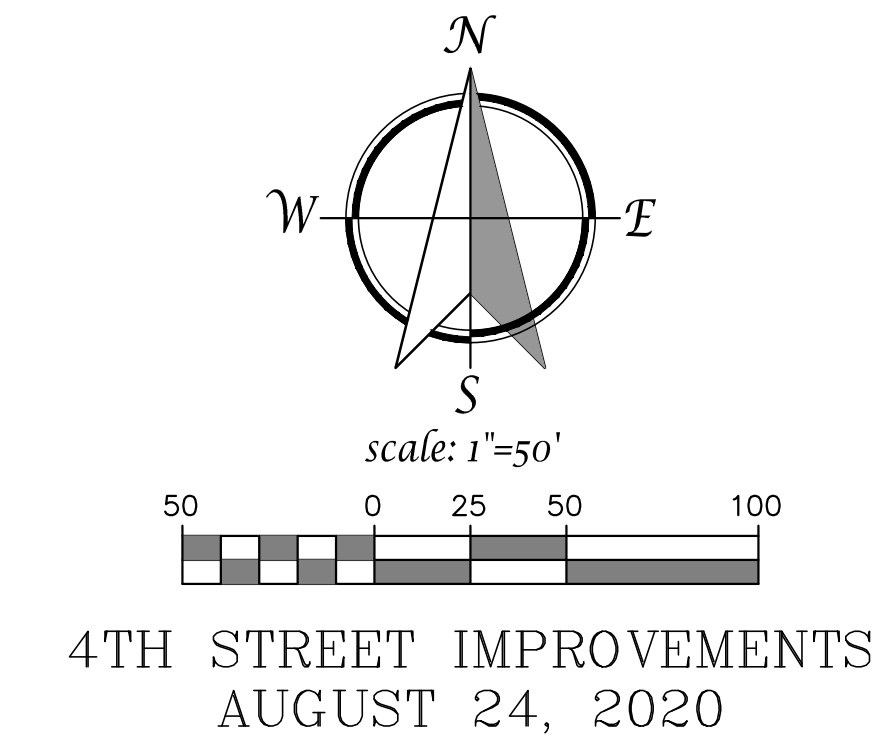
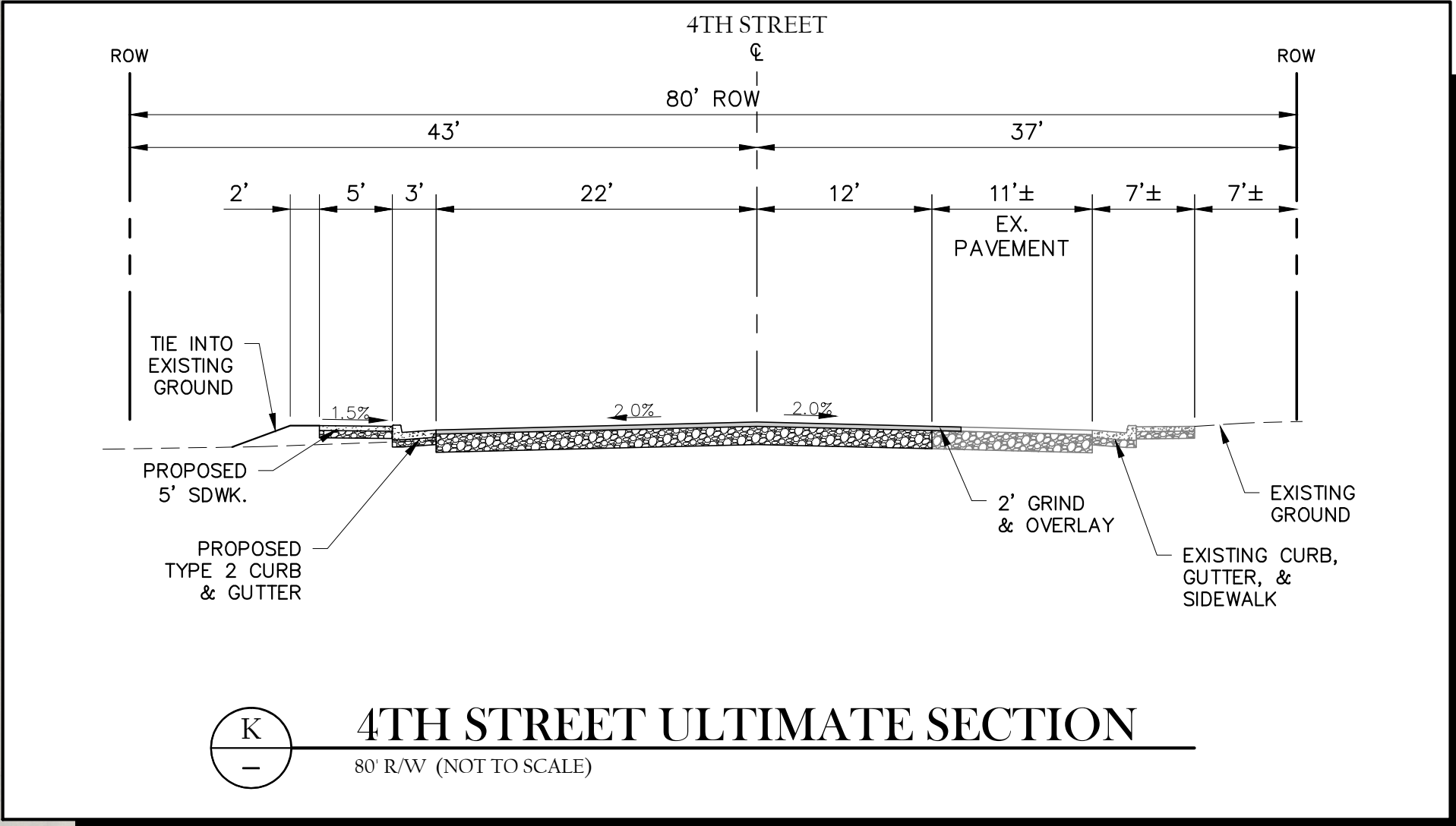
Oak Tree Impacts

Our native oak trees are easily damaged or killed by having the soil within the Critical Root Zone (CRZ) disturbed or compacted. All of the work initially performed around protected trees that will be saved should be done by people rather than by wheeled or track type tractors. Oaks are fragile giants that can take little change in soil grade, compaction, or warm season watering. Don't be fooled into believing that warm season watering has no adverse effects on native oaks. Decline and eventual death can take as long as 5-20 years with poor care and inappropriate watering. Oaks can live hundreds of years if treated properly during construction, as well as later with proper pruning, and the appropriate landscape/irrigation design.

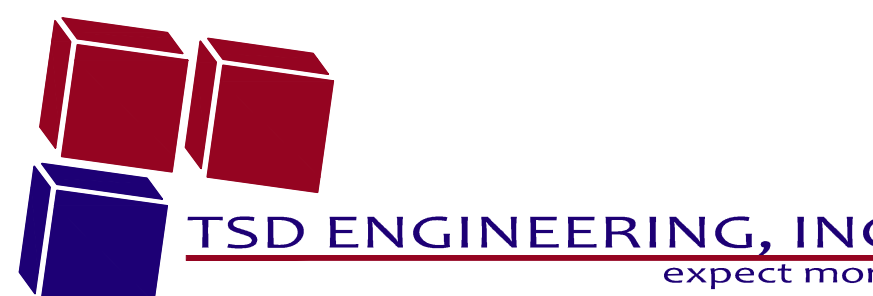
4TH STREET IMPROVEMENTS
CATERINA ESTATES
SUBDIVISION
GALT, CA



ROAD IMPROVEMENTS TREE REMOVAL TABLE						
TREE TAG #	PROTECTED HERITAGE OAK	PROTECTED PUBLIC TREE	COMMON NAME	SPECIES	DBH	CANOPY RADIUS IN FEET
2365	YES	NO	VALLEY OAK	QUERCUS IOBATA	6	17
2366	YES	NO	COAST LIVE OAK	QUERCUS AGRIFOLIA	15	12
2367	YES	NO	COAST LIVE OAK	QUERCUS AGRIFOLIA	25	15
2368	YES	NO	VALLEY OAK	QUERCUS IOBATA	10	15
2369	YES	NO	VALLEY OAK	QUERCUS IOBATA	16	22
2370	YES	NO	VALLEY OAK	QUERCUS IOBATA	11	11
2371	YES	NO	COAST LIVE OAK	QUERCUS AGRIFOLIA	17	23
2372	YES	NO	BLUE OAK	QUERCUS DOUGLASII	11	12
2373	NO	NO	PECAN	CARYA ILLINOINENSIS	22	16
2374	YES	NO	VALLEY OAK	QUERCUS IOBATA	21	26
2375	YES	NO	VALLEY OAK	QUERCUS IOBATA	15	24
2376	NO	NO	PECAN	CARYA ILLINOINENSIS	14	18
2377	YES	NO	BLUE OAK	QUERCUS DOUGLASII	6	9
2378	YES	NO	BLUE OAK	QUERCUS DOUGLASII	14	20
2379	NO	NO	BLUE OAK	QUERCUS DOUGLASII	8	10
2380	YES	NO	BLUE OAK	QUERCUS DOUGLASII	11	9
2381	YES	NO	COAST LIVE OAK	QUERCUS AGRIFOLIA	7	7
2382	YES	NO	BLUE OAK	QUERCUS DOUGLASII	18	15
2383	YES	NO	VALLEY OAK	QUERCUS IOBATA	20	27
2384	NO	NO	PECAN	CARYA ILLINOINENSIS	14	17
2385	YES	NO	VALLEY OAK	QUERCUS IOBATA	14	21
2386	YES	NO	VALLEY OAK	QUERCUS IOBATA	14	27
2387	YES	NO	VALLEY OAK	QUERCUS IOBATA	15	25
2388	YES	NO	COAST LIVE OAK	QUERCUS AGRIFOLIA	10	8



4TH STREET IMPROVEMENTS
AUGUST 24, 2020

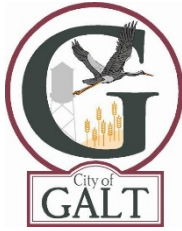


785 Orchard Drive, Suite #110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

SHEET
1/1

APPENDIX D

CLIMATE ACTION PLAN CONSISTENCY REVIEW CHECKLIST



CITY OF GALT

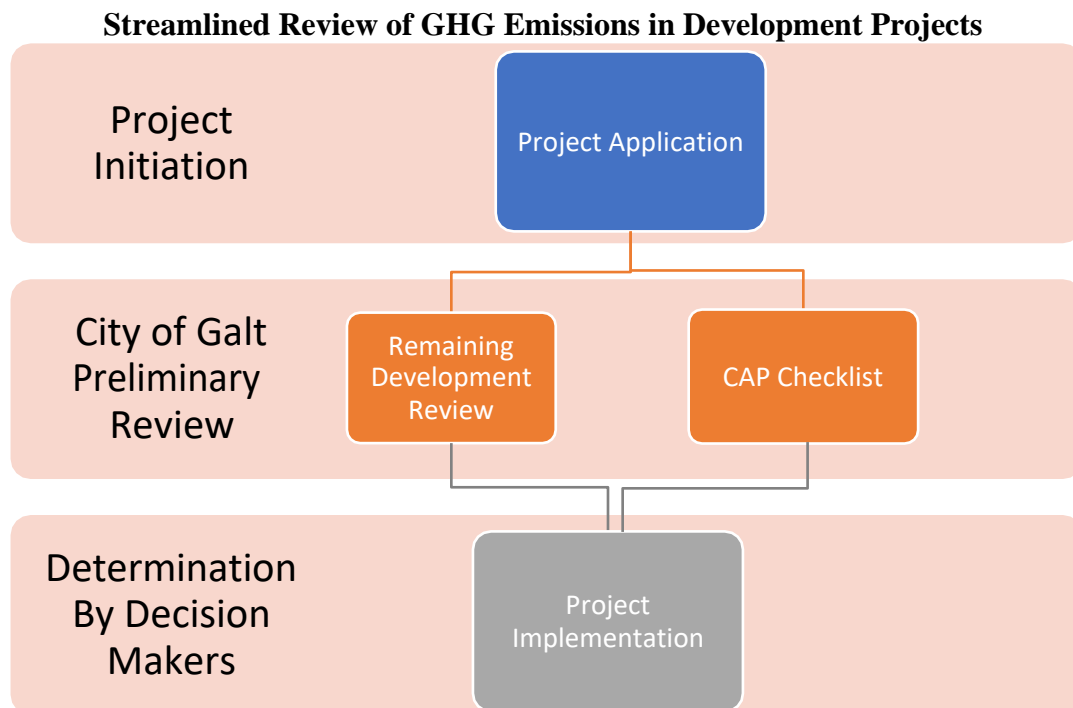
380 Civic Drive
Galt, California 95632
TELEPHONE (209) 366-7130

CLIMATE ACTION PLAN- DRAFT CONSISTENCY REVIEW CHECKLIST

The City of Galt's Climate Action Plan (CAP) establishes greenhouse gas (GHG) emission reduction targets for the City of Galt that are consistent with the State of California's. The purpose of the Draft CAP Consistency Review Checklist is to streamline the review process for new development projects which are subject to environmental review pursuant to the California Environmental Quality Act (CEQA). The Draft CAP Consistency Review Checklist will help the City and developers establish a project's compliance with the CAP and CEQA guidelines.

CEQA is a statute that requires state and local agencies to identify the significant environmental impacts of a project, and avoid or mitigate those impacts if feasible. The City of Galt's CAP qualifies under section 15183.5 of the CEQA Guidelines as a plan to reduce GHG emissions that may be used to analyze and mitigate significant impacts of the proposed project.

The diagram below shows the review process a project would follow under the checklist.



CLIMATE ACTION PLAN- DRAFT CONSISTENCY REVIEW CHECKLIST

Application Submittal Requirements

1. The CAP Consistency Review Checklist is required for all proposed new development.
2. The CAP Consistency Review Checklist must be submitted in addition to the basic set of requirements for project proposal.
3. All items listed to show that proposed project meets the requirements of the Checklist should also be listed in project description and shown on the submitted plans.

Application Information

Name of Applicant: TTLIC CATERINA LLC

Address: 110 BLUE RAVINE ROAD, SUITE 209, FOLSOM, CA 95630

Phone: 916-945-9719 E-mail: ABARRY@THETRUELIFECOMPANIES.COM

Address of Property: 802 JOY DRIVE, GALT CA

APN of Property: 150-0101-004, 150-0101-040

Applicant is owner of subject property: ☐ Yes ☒ No. If no, complete the following information and attach a letter of agency.

Name of Owner: CATERINA LAVAGNINO FAMILY TRUST

Address: 259 WINDRUSH WAY LODI CA 95412

Phone: _____ E-mail: rockylavagnino@icloud.com

Section 1- Sustainability Checklist Requirements

Instructions for answering the following questions can be found on page 10

Checklist Item (Check the appropriate box, and provide explanation for your answer)	Yes	No	N/A
1. Does the project include bicycle, pedestrian, and/or transit infrastructure? (Transportation Measure 1 & 2)	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why.</p> <p>THE PROJECT PROVIDES AN EXTENSION OF 4TH STREET INTO THE PROJECT AND CONTINUATION OF THE DOWNTOWN STREET GRID PATTERN FOR INCREASED PEDESTRIAN CONNECTIVITY BETWEEN THE NEIGHBORING AREA AND THE DOWNTOWN AREA.</p>			
2. Are at least 50 percent of all proposed roadways and intersections within the project site designed with traffic calming and congestion management measures? (Transportation Measure 7)	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why.</p> <p>SHORTENED ROADWAYS WITHIN THE COMMUNITY AND STOP SIGNS LOCATED AT THE INTERSECTIONS CONNECTING THE SUBDIVISION TO JOY AND H STREETS</p>			
3. Does the project include Electric Vehicle charging infrastructure and parking spaces as require by State or City standards? (Transportation Measure 5)	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why</p> <p>ELECTRIC VEHICLE CHARGING STATIONS WILL BE OFFERED AS PART OF THE HOMEBUILDER OPTION PROGRAM.</p>			

Checklist Item (Check the appropriate box, and provide explanation for your answer)	Yes	No	N/A
4. If the project is located within a designated safe route to school, does the project include infrastructure supporting alternative transportation to school? Such infrastructure may include bicycle infrastructure (i.e. bicycle parking, bicycle lanes, bicycle paths) sidewalks, raised or signalized cross-walks, or areas for school busses to stop. (Transportation Measure 3)	X		
Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why. SIDEWALKS ARE BEING BUILT THROUGHOUT THE SUBDIVISION AND NEW HANDYCAP ACCESS RAMPS WILL BE CONSTRUCTED ON H STREET AS PART OF DEVELOPMENT. A BIKE PATH IS BEING CONSTRUCTED ON JOY DRIVE CONSISTANT WITH THE GALT TRAIL SYSTEM PROGRAM.			
5. If the project includes construction activity, will a sufficient proportion of project equipment meet the City’s mobile source emissions reductions requirements? Please refer to directions attached to this checklist to determine the mobile source emissions reduction requirements for your project. (Transportation Measure 9)	X		
Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why. ALL EQUIPMENT WILL MEET THE US EPA TIER 4 ENGINE REQUIREMENTS FOR THE CURRENT YEAR OF OPERATION. MONTHLY EMISSION REPORTS WILL BE SUPPLIED TO SAC METRO AIR QUALITY AS REQUIRED. ALL EQUIPMENT IN OPERATION WILL BE REPORTED ON A MONTHLY BASIS			
6. Does the project meet the City or State requirements for zero net energy (ZNE) structures and on-site renewable energy generation? (Building Efficiency Measure 2)	X		
Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why. ALL HOME CONSTRUCTION WILL MEET OR EXCEED THE CURRENT ENERGY REQUIREMENTS FOR THE YEAR THEY ARE CONSTRUCTED IN. PER THE CALIFORNIA BUILDING STANDARDS CODE.			

Checklist Item (Check the appropriate box, and provide explanation for your answer)	Yes	No	N/A
7. If the project includes the use of large amounts of high global warming potential gases (e.g. refrigerants, aerosol products such as paint, spray foam insulation, etc.) has the project been designed to minimize or offset the release of such gases? (Building Efficiency Measure 3)			X
Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why			
8. Does the project include provision of adequate recycling and green waste facilities? (Waste Measure 1 & 2)	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why.</p> <p>DURING HOME CONSTRUCTION, SEPERATE CONTAINERS WILL BE SUPPLIED FOR LUMBER SCRAPS, RECYCLABLE MATERIALS AND CONSTRUCTION WASTE PER WASTE MEASURES 1 & 2. IN ADDITION, THE CITY OF GALT PROVIDES A COMPREHENSIVE RECYCLING PROGRAM. DURING PROJECT OPERATIONS, SINGLE-FAMILY RESIDENCES WOULD BE SUPPLIED WITH A STANDARD 64-GALLON CO-MINGLED RECYCLING CART AND A 64-GALLON YARD WASTE CART AT NO COST. ADDITIONAL RECYCLING AND YARD WASTE CARTS ARE ALSO AVAILABLE TO RESIDENTS IF NEEDED. AS SUCH, THE PROPOSED PROJECT WOULD PROVIDE ADEQUATE RECYCLING AND GREEN WASTE FACILITIES TO RESIDENTS OF THE DEVELOPMENT.</p>			
9. Does the project include urban tree planting in compliance with the City’s requirements? (Land Use Measure 3)	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why.</p> <p>ALL FRONTAGE LANDSCAPE AREAS WILL COMPLY WITH THE CITY'S REQUIREMENTS REGARDING PLANTS AND TREES AND IRRIGATION AS REQUIRED IN LAND USE MEASURE 3</p>			

Checklist Item (Check the appropriate box, and provide explanation for your answer)	Yes	No	N/A
<p>10. Does the project include the provision of outdoor electrical outlets or infrastructure to support all electric landscaping equipment? Furthermore, if the project would include loading docks, does the project include electrical infrastructure sufficient to provide power to any transportation refrigeration units that may be used as part of project operations? (Transportation Measure 9)</p>	X		
<p>Please explain how proposed project meets this requirement, or how it does not. If “not applicable,” please explain why.</p> <p>OUTDOOR ELECTRICAL OUTLETS WILL BE PROVIDED PER THE BUILDING CODE WHICH WILL BE USED FOR IRRIGATION TIMERS. FRONTAGE LANDSCAPE AREAS WILL HAVE ELECTRICAL SERVICES INSTALLED PER THE APPROVED LANDSCAPE CONTROL UNIT REQUIREMENTS.</p>			

Section 2- Sustainable Design Options

In addition to the foregoing questions, new development shall also meet at least two of the following requirements:

- ☐ Does the project include reuse or redevelopment of an existing building or previously developed parcel?
- ☒ Does the project constitute an infill project?
Projects considered infill must be located in an urban area on a site that has either been previously developed or adjoins existing development on at least 75 percent of the site's perimeter.
- ☐ Does the project include a mix of land uses?
A mix of land uses includes any combination of at least two of the following: residential, commercial, institutional (e.g., elementary school, middle school, etc.), public park, or industrial. Uses may be mixed vertically or horizontally.
- ☒ Does the project include sustainable design practices (e.g. south facing windows, sustainable or local building materials, water efficient landscaping, natural ventilation, etc.)?
- ☐ Does the project include permanent protection of high-quality farmland through the use of conservation easements, or rezoning or general plan amendments to remove low-density residential development as a potential use of the farmland to be conserved?
- ☐ Does the project include the use of all electric appliances, or otherwise reduce the amount of natural gas consumed on-site (e.g. by installing electric or solar powered water heating systems)?
- ☐ Will the project participate in a Transportation Management Association established by the City or other agencies, which encompass the City?
- ☐ Does the project include the purchase of carbon off-set credits or implementation of a carbon sequestration program sufficient to off-set 15 percent or more of the project's anticipated greenhouse gas emissions?
- ☐ Does the project exceed the on-site renewable energy standards required by the applicable California Building Standards Code?

Certification

I hereby certify that the answers to the questions above and the information in the attached exhibits present the data and information required for this initial evaluation to the best of my ability and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: _____ Date: _____

Directions for filling out the Draft CAP Consistency Review Checklist

Question 1: Does the project include bicycle, pedestrian, and/or transit infrastructure?

Explanation: The applicant must demonstrate how the proposed project would support alternative means of transportation through the incorporation of bicycle, pedestrian and/or transit infrastructure. Examples of bicycle infrastructure include bicycle lanes on new/existing roads, designated bicycle/pedestrian paths, construction of sidewalks along the project frontage that connect to pedestrian features within the project site or to existing or planned off-site pedestrian infrastructure, installation of bicycle parking spots, provision of space for bus turnouts or transit shelters. Some pieces of infrastructure complying with this question may also satisfy the requirements of Question 2 of this document, such as intersection bulb outs, raised cross-walks, rumble strips, and chicanes may also support alternative transportation by calming traffic speeds.

Question 2: Are at least 50 percent of all proposed roadways and intersections designed with traffic calming and congestion management measures?

Explanation: At least 50 percent of the proposed roadway segments and/or intersections shall be designed with traffic calming or congestion management measures. Such measures may include intersection bulb outs, raised cross-walks, rumble strips, chicanes, roundabouts, and one-way roads. Should the City's Public Works Department determine that incorporation of such measures infeasible at a proposed development, the City's Public Works Department, or other qualified City entity, shall prepare a written statement explaining why such measures would not be feasible, and the statement shall be appended to this checklist.

Question 3: Does the project include Electric Vehicle charging infrastructure and parking spaces as required by State or City standards?

Explanation: The project shall provide for Electric Vehicle charging stations and preferential parking areas for such vehicles in compliance with City and State requirements. Electric Vehicle charging must be fully installed and operational prior to occupancy of proposed structures.

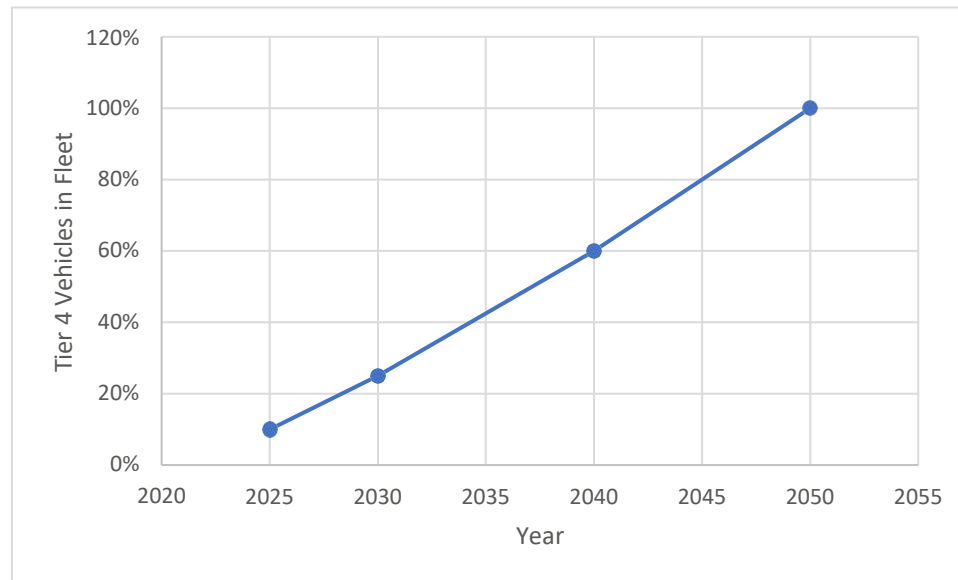
Question 4: If the project is located within a designated safe route to school, does the project include infrastructure supporting alternative transportation to school? Such infrastructure may include bicycle infrastructure (i.e. bicycle parking, bicycle lanes, bicycle paths) sidewalks, raised or signalized cross-walks, or areas for school busses to stop.

Explanation: If existing or planned transportation infrastructure adjacent to or within the project site has been designated for use as a safe route to school, the proposed project shall include pedestrian, bicycle, or school bus infrastructure. Such infrastructure shall comply with the City's Bikeway Master Plan, and may be used to meet the requirements of Questions 1 or 2 of this section.

Question 5: If the project includes construction activity, will a sufficient proportion of project equipment meet the City's mobile source emissions reductions requirements?

Explanation: The City's CAP establishes a timeline for the use of U.S. EPA Tier 4 engines. Engines meeting the U.S. EPA Tier 4 engine requirements consume less fuel than non-tier engines, and emit fewer pollutants such as particulate matter and ozone pre-cursors. The City's

timeline for implementation of Tier 4 engines requires that 10 percent of construction fleets operating within the City in the year 2025 to meet the U.S. EPA’s Tier 4 standard, with the proportion of vehicles in the fleet meeting such standards increasing to 30 percent in 2030, 60 percent in 2040 and 100 percent in 2050. The implementation schedule is depicted in the following graph



Project applicants may submit a construction equipment inventory to the City demonstrating compliance with the proposed measures. The City acknowledges that the use of alternatively fueled construction equipment, such as hybrid electric or natural gas powered equipment, could provide similar emissions reductions to Tier 4. As such, project applicants may meet the requirement of this measure through the use of alternatively fueled equipment, or increased use of grid powered equipment, to the satisfaction of the City.

Question 6: Does the project meet the City or State requirements for zero net energy (ZNE) structures and on-site renewable energy generation?

Explanation: Per the 2019 California Building Standards Code, all new residential buildings constructed within the State, which are three-stories tall or less, must include sufficient on-site renewable energy systems to meet 100 percent of the building’s anticipate energy demand. For the purposes of this analysis, such standards represent ZNE for residential buildings, as all energy consumed on-site would be provided or off-set by energy created on-site. Non-residential structured developed within the City must be demonstrated to meet similar ZNE standards by the year 2030, or as required to meet the intervening California Building Standards Code.

Question 7: If the project includes the use of large amounts of high global warming potential gases (e.g. refrigerants, aerosol products such as paint, spray foam insulation, etc.) has the project been designed to minimize or off-set the release of such gases?

Explanation: If operation of the project includes the use of large amounts of high global warming potential gases, the project applicant shall provide the City with a comprehensive plan that demonstrates how releases of high global warming potential gases will be minimized to

the extent practicable. Such plans may include demonstration of the efficiency measures incorporated into refrigeration systems, the use of air filtration devices, the substitution of non-high global warming potential gases where practicable, or other means to reduce or eliminate the release of such gases. If the reduction in releases of such gases cannot be demonstrated the project applicant shall demonstrate an alternative means of complying with this measure, for instance by entering into agreements to reduce the release of high global warming potential gases from other existing sources, or the purchase of greenhouse gas off-set credits equivalent to the level of emissions anticipated from project operations.

Question 8: Does the project include provision of adequate recycling and green waste facilities?

Explanation: Project plans shall show that new developments would include the provision of recycling and green waste collection services, unless the proposed development is itself a waste management-oriented development.

Question 9: Does the project include urban tree planting in compliance with the City's requirements?

Explanation: Project plans shall show that new developments would include planting of trees sufficient to meet the City's tree planting requirements in place at the time of project proposal.

Question 10: Does the project include the provision of outdoor electrical outlets or infrastructure to support all electric landscaping equipment? Furthermore, if the project would include loading docks, does the project include electrical infrastructure sufficient to provide power to any transportation refrigeration units that may be used as part of project operations?

Explanation: Project plans shall show that new developments include outdoor electrical outlets sufficient to power electric landscaping equipment. Should the project include loading docks, electrical infrastructure sufficient to provide supplemental power to any docked vehicles must be provided.

APPENDIX E

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT



PHASE I ENVIRONMENTAL SITE ASSESSMENT

**CATERINA
GALT, CALIFORNIA**



**PROJECT NUMBER: 2019-00077
October 25, 2019**

This document and its use are intended for the recipient and specific identified users contained within. Any unauthorized use of this report without prior consent is strictly prohibited.



October 25, 2019
Project No. 2019-00077

Mr. Aidan Barry
The True Life Companies
110 Blue Ravine Road
Folsom, CA 95632

Subject: Phase I Environmental Site Assessment
Caterina
Galt, CA 95632
APNs: 150-0101-004 (portion of) and 150-0101-040 (portion of)

Dear Mr. Barry:

We are pleased to present the following report, which contains the findings and conclusions of our Phase I Environmental Site Assessment conducted for the subject site. This report was designed to provide a Phase I Environmental Site Assessment in compliance with the ASTM E 1527-13 Standard and is in accordance with the All Appropriate Inquiries (AAI) rule standard. This report is also developed in compliance with the scope as outlined in our original proposal dated September 24, 2019 and accepted on September 24, 2019. Findings for this project have been provided in the body of the report and are listed in the executive summary.

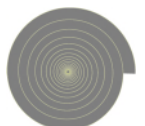
Petalogix Engineering, Inc. uses professionals who meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. As an environmental consulting company, we have the specific qualifications (based on education, professional certification, training, and experience) to assess properties. Petralogix has developed and performed the all appropriate inquiries in conformance with the standards and practices as set forth in 40 CFR 312.

We appreciate the opportunity to provide our expertise on this project and look forward to providing other services in the future. Please feel free to contact us if you have any questions.

Sincerely,
Petalogix Engineering, Inc.

Justin Anderson, Staff Scientist
B.A. Geography GIS Systems

Daniel E. Kramer, President
Professional Geologist No. 8657



PHASE I ENVIRONMENTAL SITE ASSESSMENT – IMPORTANT CONSIDERATIONS AND LIMITATIONS

Contact Petralogix to Discuss all Questions

It is important to contact our firm whenever you have any questions. The value in retaining our company for your environmental consulting needs is that we are here to help and guide. No question or comment is unimportant to Petralogix. We can save our clients time, money, and confusion by discussing development components at critical times within a project's timeframe. We are here to help regarding possible environmental conditions that could affect your project.

Limitations of the Phase I Environmental Site Assessment (ESA)

When reviewing and considering the final Phase I ESA report, it should be understood that it is not intended to be an all exhaustive end all review. Rather, a Phase I Environmental Site Assessment is written to provide database search results, third party information, observations, and professional opinions regarding a specific site for a specific project, under a specific timeframe.

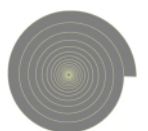
There are many uncertainties that can exist about a property even with appropriate review being met under the requirements of the AAI and ASTM standards. Additional research can be performed to aid in a higher level of certainty about a site's historic environmental risk. The amount of research required to do this depends on the type of property, the risk tolerance of the client, and information developed in the course of the property review.

This Phase I ESA Report is useable for 180 days from the date of completion. The Report is produced for the client and project owner, and may not be used by a different entity or person without also satisfying the User's Responsibilities and having express consent from Petralogix Engineering, Inc.

Client & User Responsibilities

The ASTM Standard E1527-13 requires the user to be involved in the process and adequately inform professionals of their whole knowledge for a site. In order to meet the requirements to qualify for the innocent landowner defense within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) the following items must be performed.

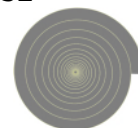
- **Required** - review title and judicial records for environmental liens or activities and use limitations (AULs).
- **Must** - communicate any specialized knowledge or experience to the environmental professional that is material to recognized environmental conditions in connection to the property.
- **Must** - communicate any actual knowledge of environmental liens or AULs encumbering the property to the environmental professional.
- **Shall** - consider the relationship of the purchase price of the property to the fair market value. If the amount is lower, a written explanation of the lower value is required.
- **Must** - communicate commonly known or reasonably ascertainable information about recognized environmental conditions in connection to the property to the environmental professional.



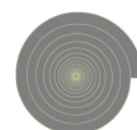
**PHASE I ENVIRONMENTAL SITE ASSESSMENT
CATERINA**

TABLE OF CONTENTS

1.0	SUMMARY	1
1.1	Executive Summary	1
1.1.1	Findings.....	1
1.1.2	Conclusions	2
1.1.3	Recommendations.....	3
2.1	Purpose.....	4
2.2	Detailed Scope-of-Review	5
2.3	Significant Assumptions	5
2.4	Limitations and Exceptions	5
2.5	Special Terms and Conditions.....	6
2.6	User Reliance.....	7
3.0	SITE DESCRIPTION	7
3.1	Location and Legal Explanation	7
3.2	Site and Vicinity Features	7
3.3	Current Use - Property	7
3.4	Descriptions of Structures, Roads, Other Improvements for the Site	8
3.5	Current Uses - Adjoining Properties	8
3.6	Physical Setting	8
3.6.1	Topography.....	8
3.6.2	Geology and Soils	8
3.6.3	Hydrogeology	8
4.0	USER PROVIDED DATA.....	9
4.1	Title Records	9
4.2	Environmental Liens or Activity and Use Limitations	9
4.3	Specialized Knowledge and Awareness	9
4.4	Commonly Known or Reasonably Ascertainable Data	9
4.5	Valuation Decrease for Environmental Matters	10
4.6	Owner, Property Manager, and Occupant Data	10
4.7	Purpose for Performing Phase I ESA	10
5.0	RECORDS EXAMINATION	10
5.1	Standard Environmental Records	10
5.2	Supplementary Environmental Records.....	10
5.3	Environmental Record Discoveries	11
5.3.1	Subject Property	11
5.3.2	Surrounding Sites	11
5.3.3	Orphan Sites	14
6.0	HISTORICAL USE DATA	15
6.1	Historical Aerial Photographs & Topographic Maps.....	15
6.2	Sanborn Insurance Company Maps	32



6.3	Local Street Directories.....	32
7.0	SITE RECONNAISSANCE.....	33
7.1	Procedure and Restrictive Conditions.....	33
7.2	Petralogix Site Visit Worksheet	33
8.0	INTERVIEWS	34
8.1	Interview with Owner / Site Manager and Key Individuals.....	34
8.2	Interviews with Local Government Offices	36
8.2.1	City of Galt Clerk's Office	36
8.2.3	Sacramento County Environmental Management Department	36
8.2.4	Cosumnes Fire District	37
9.0	MOLD ASSESSMENT SCREENING	37
10.0	LEAD SCREENING EVALUATION	38
11.0	ASBESTOS SCREENING EVALUATION	38
12.0	RADON GAS ASSESSMENT	38
13.0	VEC & VAPOR INTRUSION SCREENING	38
14.0	DISCOVERIES & FINDINGS	39
15.0	PROFESSIONAL OPINIONS AND FINAL CONCLUSIONS.....	39
16.0	RECOMMENDATIONS.....	40
17.0	SPECIFIC DEVIATIONS.....	40
18.0	ADDITIONAL SERVICES.....	40
19.0	QUALIFICATIONS OF PETRALOGIX ENVIRONMENTAL PROFESSIONALS	41
APPENDIX A		
	Vicinity Map	Plate 1
	Site Map	Plate 2
APPENDIX B		
	Site Photographs	
APPENDIX C		
	Database Searches and Standard Distances Reviewed	
APPENDIX D		
	Regulatory Record Documentation	
APPENDIX E		
	Historical Research Documentation	
APPENDIX F		
	Interview Certificates/Questionnaires	
APPENDIX G		
	Sacramento County Environmental Management Department Records	



PHASE I ENVIRONMENTAL SITE ASSESSMENT

CATERINA

GALT, CALIFORNIA

OUR PROJECT NO: 2019-00077

1.0 SUMMARY

Petralogix Engineering, Inc. has been retained by Mr. Barry (The True Life Companies) to conduct a Phase I Environmental Site Assessment for the property located on Joy Drive in the City of Galt, Sacramento County, California. The site assessor parcel numbers (APNs) are portions of 150-0101-004 and 150-0101-040.

Our firm conducted a Public Records review, in which information was obtained from both federal and state databases. Petralogix uses Environmental Data Resources Inc. (EDR) to assist and supply many of these documents. In addition, we have supplemented this data with regional and local sources to determine whether or not obvious recognized or historically recognized environmental conditions (RECs) may exist (and/or be known to exist by regulatory agencies) for the site. The search radius for this investigation extended to adjoining properties, and properties within a search distance varying from one-eighth to one mile, depending on the information type that was being researched.

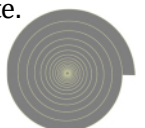
Background and past use of the subject property were investigated in great detail. Sources describing the physical characteristics of the property, many of the surrounding properties, and the general region were compiled for review. These sources were studied in order to determine the topography, geologic setting, and groundwater depth and flow direction beneath the property. Site reconnaissance of the subject property was also performed. Immediate surroundings were also reviewed during our site reconnaissance. The complete data review and summary required for compliance (under the ASTM and AAI standards) can be found in the body of this document. This assessment was conducted under the supervision of Daniel E. Kramer, Chief Professional Geologist (PG#8657) and President of Petralogix.

1.1 Executive Summary

1.1.1 Findings

According to the County of Sacramento, the subject property is located on Joy Drive, in the city of Galt, Sacramento County, California (portions of APNs: 150-0101-004 and 150-0101-040). Joy Drive borders the site to the East. H Street borders the site to the north. The subject property is unfenced except for a small section at the northeast corner of the site where the fence separates the subject property from a single-family residence. The site is generally surrounded by agricultural, commercial and residential use.

The site was likely utilized for agriculture from at least 1937 through at least 1993 and likely continued up to 2013. Historic agricultural use includes a walnut orchard; pesticides, herbicides, or other chemicals were reportedly sprayed on the walnut trees on the perimeter of the subject property as recent as 1990. It is possible that residual levels of persistent agricultural chemicals remain in the soil, the former agricultural practices represent an environmental concern to the site.



There is one former structure (likely a barn) which was located on the northeastern subject property boundary from at least 1937 and reportedly demolished in 1968. The former structure was built and demolished prior the effect ban of asbestos containing building materials and lead paints and products. Therefore, the potential for lead-based paints and asbestos located in the former structure location and on the adjacent subject property is considered moderate to high. In addition, the former structure was likely a barn that may have been utilized to store pesticides and petroleum products for farm equipment. The former structure is an environmental concern.

Based on information provided by Sacramento County Environmental Management Department (EMD), a well was constructed on the property in 1962. According to EMD, the well was deemed a possible abandoned well in 2010 and 2015. The location of the potentially abandoned well was not determined during records review or observed during the site reconnaissance; the well may not be located on the subject property.

Small amounts of garbage, old farm equipment, and three “non-PCB containing” pole-mounted transformers were observed during the site reconnaissance.

A variety of offsite EDR identified sites exist throughout the region, none of which have the likelihood of impacting the site based on our review.

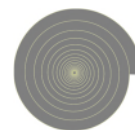
1.1.2 Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 for the subject property. Any exceptions to, or deletions from, this practice are described in the Limitations Section of this report. This assessment has identified the following recognized environmental conditions (RECs) in connection with the subject property:

- The site has been used as agriculture from at least 1937 to 1993 and likely continued until at least 2013. Based on information provided by the property owner via questionnaire, pesticides, herbicides, or other chemicals were sprayed on walnut trees along the perimeter of the subject property. It is possible that residual levels of persistent agricultural chemicals remain in the soil; the possible former agricultural practices represent a REC to the site.
- There is one former structure (likely a barn) which was located on the northeastern subject property boundary from at least 1937 and reportedly demolished in 1968. The former structure was built and demolished prior the effect ban of asbestos containing building materials and lead paints and products. Therefore, the potential for lead-based paints and asbestos located around the former structure location, including a portion of the subject property, is considered moderate to high. In addition, the former structure was likely a barn that may have been utilized to store pesticides and petroleum products for farm equipment. The former structure is considered a REC to the site.

This assessment has identified the following *de minimis* conditions in connection with the subject property:

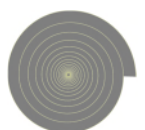
- Small amounts of trash observed along the northwestern border of the site.
- Small amount of old, rusted farming equipment located in the northeast section of the site.



1.1.3 Recommendations

Further investigation should be performed to evaluate whether environmental media has been impacted from historic agricultural use. Further investigation should be performed to evaluate whether environmental media has been impacted by the former historic structure built and demolished prior to 1970.

DRAFT



ENVIRONMENTAL PROFESSIONAL?

A person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases (per ASTM Standards E1527)

&

In California such a person must hold a current Professional Engineer's or Professional Geologist's license.

2.0 INTRODUCTION

2.1 Purpose

In order to address concerns regarding potential liability for toxic hazards, real estate investors (lenders, brokers, buyers, and sellers) need to assess property prior to purchase. The main objective of any study should be to determine current and/or past occupants (or surrounding land uses) which could adversely impact property development, the environment, or the human health.

Performance of a Phase I Environmental Site Assessment according to ASTM Standard E1527-13 and the All Appropriate Inquiries (AAI) rule satisfies one of the requirements to qualify for landowner liability protections (LLPs) within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The purpose of this Phase I Environmental Site Assessment is to identify to the extent feasible, pursuant to the processes prescribed by the AAI rule and in ASTM Standard E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, recognized environmental conditions in connection with the property. Additional investigative procedures, designed to meet the due diligence criteria specified by many lending institutions, have also been implemented. As defined by ASTM¹ E1527-13, §11.1, the term "recognized environmental conditions" or (REC) refers to:

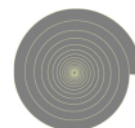
*"The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any **release** to the environment; (2) under conditions indicative of a **release** to the environment; or (3) under conditions that pose a material threat of a future **release** to the environment."*

Under CERCLA the definition of a **release** is given as:

42 U.S.C. § 9601(22) defines a "**release**" as "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant."

It is important to note the issuance and consideration of Business Recognized Environmental Concerns (BREC), Historic Recognized Environmental Concerns (HREC), and/or Controlled Recognized Environmental Concerns (CREC). Each of these items is more clearly defined in the regulatory literature and standards. We have considered the application of these definitions as part of this review. We do this to help determine impact significance for sites which once had items of recognized concern due to use and or historic practice, but for which a cleanup or change of regulatory law and regulation has removed the hazardous condition from the site.

¹ American Society for Testing and Materials, www.astm.org



ASTM STANDARDS AND REQUIREMENTS

Phase I ESAs must be conducted in accordance with the current version of American Society for Testing and Materials International (ASTM) Standard E1527 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", ASTM International in conjunction with ASTM Standard E1528 "Standard Practice for Environmental Site Assessments: Transaction Screen Process", ASTM International. For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. Contact Petralogix to discuss these requirements in more detail. If preferred we can come to your office and present a 30 minute power point on the ASTM Standard as topic for better understanding. Contact us at questions@petralogix.com to setup a presentation.

2.2 Detailed Scope-of-Review

The scope of work performed to develop the information contained in this Phase I Environmental Site Assessment report includes:

1. Collecting available information concerning the property
2. Review of other data pertinent to the specific site
3. Conducting a site visit to assess physical features, observe adjacent land use, and gather evidence of indiscriminate and/or illegal waste disposal
4. Conducting a review of regulatory agencies' records
5. Contacting appropriate regulatory personnel,
6. Reviewing regulatory files regarding the property in question.
7. Detailed discussions with both the Client and all previous owners who are available to discuss the history of the site.

No previous environmental assessments were identified for review.

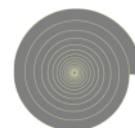
This Phase I Environmental Site Assessment discusses all work performed by Petralogix to date with regard to this specific project. The principal findings are outlined throughout the body of this text and are summarized in the conclusion of this report.

2.3 Significant Assumptions

No significant assumptions were made in the course of this assessment. To clarify, a significant assumption is defined in the following statement: "things and/or items that were based on speculative reports or study, or which were not verified through rigorous evaluation and objective review."

2.4 Limitations and Exceptions

This report was compiled as a Phase I Environmental Site Assessment for the subject project. This report contains information and data that was provided to Petralogix by a variety of outside sources. Petralogix cannot warrant the accuracy and/or completeness of the information which was provided to us by those sources.



When an assessment is completed without adequate subsurface exploration or chemical screening very little certainty (or conclusive statement) can be made about the conditions of the soil and groundwater beneath a particular site. As is the case with this study, uncertainty regarding latent subsurface conditions which may be the result of on-site or off-site sources exists. In order to best determine with certainty these conditions, physical testing would be required. Therefore, the findings and conclusions of this report are not scientific certainty, but rather a statement of probability based on professional judgment. These statements of probability are based on the data gathered during the course of this investigation.

Petralogix is not able to represent that the site or adjoining land contains no hazardous waste, oil, underground storage tanks, or other latent condition beyond that detected or observed by Petralogix during the Phase I Environmental Site Assessment. Without physical tests and additional review for those sites, we can determine no definite answer. A possibility always exists for contaminants to migrate through surface water, air, or groundwater. An investigation to determine whether or not contaminants are present in the surface and subsurface soil is not within the scope of work required to produce the Phase I Environmental Site Assessment. Chemical analysis of soil and groundwater samples to quantify levels of contamination are also not within the scope of work required to develop a Phase I Environmental Site Assessment.

As discussed in ASTM E1527-13, it is never possible to eliminate all uncertainty from an investigation of this type:

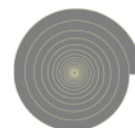
No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognizes reasonable limits of time and cost.

For this assessment, there were no specific limitations identified.

2.5 Special Terms and Conditions

As part of this, certain materials are not fully evaluated, including Asbestos, Mold, Radon, Vapor, or Lead. These are discussed and considered, but we are not proposing to provide characterization of these items (nor is characterization required or intended within the ASTM scope). Intention here is directed towards screening.

Our office has not been provided with any specific criteria for the development of this report that is separate from the general request to evaluate the property in question for possible problems related to toxic or hazardous agents. We have not been directed to address any specific questions concerning the site. If there is a need to conduct an investigation into a specific question not addressed in this report, please contact Petralogix immediately regarding your concerns.



2.6 User Reliance

This report was prepared for the exclusive use of Mr. Aidan Barry (The True Life Companies). No other person or entity is entitled to use or rely upon this report without specific written authorization from Petralogix. Such reliance is subject to the same limitations, terms, and conditions as our original contract with the above stated client(s). Petralogix specifically rejects any responsibility for unauthorized use of this report. Unauthorized use is any use that is not consented for by Petralogix in writing. This Phase I ESA is only reliable for 180 days from the date of the completion, October 25, 2019.

180 Day Limitation?

Phase I ESAs are only valid for 180 days. Many clients want a more detailed explanation of why. Over time, conditions may change at the site which cause an impact and form an environmental liability. There are many examples of this happening. One value of retaining the same professional with time is that the revised and updated Phase I ESAs are generally more simplified than if using multiple consultants.

3.0 SITE DESCRIPTION

3.1 Location and Legal Explanation

The subject property address is located on Joy Drive, within the unincorporated area in the City of Galt, Sacramento County, California (APNs: 150-0101-004 and 150-0101-040). Joy Drive borders the site to the east. The site is generally surrounded by agricultural, residential, and public-quasi public use.

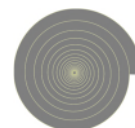
A general location map (Vicinity Map – Plate 1) and a general site map showing survey photograph locations (Site Map – Plate 2) are attached to this report in **Appendix A**. Photographs from our onsite field survey of the subject property are attached to this report as **Appendix B**.

3.2 Site and Vicinity Features

The subject property consists of vacant agricultural land covering approximately 12.45 acres. To the north, H Street separates the subject property from residential housing. To the north-northwest, vacant land separates the subject property from a gas station. To the west, railroad tracks trending north-northwest separate the subject property from agricultural land that sits adjacent a residential subdivision. To the south, agricultural land separates the subject property from a graveyard that extends southward to Kost Road. To the east, Joy Drive separates the subject property from sparse residential and public-quasi public use.

3.3 Current Use - Property

The subject property is currently vacant agricultural land.



3.4 Descriptions of Structures, Roads, Other Improvements for the Site

The site is unfenced, except for a small section at the northeast corner of the site where the fence separates the subject property from a single-family residence, providing easy access to the site from H Street which borders the site to the north and Joy Drive which borders the site to the east. There is a single-family residence located adjacent to the northeast corner of the site, connecting to the eastern border of APN 150-0101-004 and the northeastern border of APN 150-0101-040. There is a powerline with three transformers with identification indicating that they contain no PCBs.

3.5 Current Uses - Adjoining Properties

To the north, H Street separates the subject property from residential housing. To the north-northwest, vacant land separates the subject property from a gas station. To the west, railroad tracks trending north-northwest separate the subject property from agricultural land that sits adjacent to a residential subdivision. To the south, agricultural land separates the subject property from a graveyard that extends southward to Kost Road. To the east, Joy Drive separates the subject property from sparse residential and public-quasi public use.

3.6 Physical Setting

3.6.1 Topography

According to the most recent United States Geological Survey Topographic map² covering the subject property and vicinity, the subject property is at an elevation of approximately 50 feet above mean sea level. The site is relatively flat. The general area slopes shallowly toward the east-southeast³.

3.6.2 Geology and Soils

According to the most detailed Geologic Map covering the subject property and vicinity, the majority of the soil consists of foothill-derived alluvial sand and silt; contains abundant volcanic detritus (San Joaquin soils); likely derived from glacial out wash which make up the middle unit of the Riverbank Formation (Qr2f)⁴.

Site soil consists primarily of Kimball silt loam (0-2 percent slopes)⁵. Kimball silt loam is well drained with slow infiltration rates; soils are clayey with a layer of fine-grained silt-clay at approximately 24 to 35 inches below ground surface (bgs)⁶.

3.6.3 Hydrogeology

According to the Sacramento County Water Resources⁷, Spring 2007 and Fall 2007 groundwater elevation contour maps, groundwater elevation is approximately -20 feet below mean sea level (msl) to -30 feet msl, respectively; based on the most recently available groundwater data (2007 Spring

² US Geological Survey, 2018, 7.5' Topographic Map, California, Lodi North Quadrangle

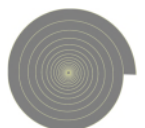
³ EDR Radius Map Report, 5802452.2s, September 7, 2019.

⁴ US Geological Survey, Marchand, D. E. and Atwater, B. F., 1979, Preliminary Geologic Map Showing Quaternary Deposits of The Lodi Quadrangle, 7.5-minute quadrangles. Scale 1:62,500.

⁵ UC Davis California Soil Resource Lab, SoilWeb.

⁶ EDR Radius Map Report, 5802452.2s, September 24, 2019.

⁷ <http://www.waterresources.sacounty.net/Pages/ContourMaps.aspx>



and Fall), depth to groundwater at the subject property is approximately 70 to 80 feet below ground surface (bgs) considering seasonal fluctuations. The regional groundwater flow direction is northeast, toward a cone of depression.

Groundwater data⁸ reviewed on the California State Water Resources Control Board's Geo Tracker Ambient Monitoring and Assessment (GAMA) website⁹ indicate the depth to water at a Leaking Underground Storage Tank cleanup site approximately 0.5 miles northeast of the subject property was approximately 60 to 70 feet below ground surface during a monitoring event in 2017.

4.0 USER PROVIDED DATA

4.1 Title Records

Environmental Data Resources, Inc. (EDR) performed a Title Search to identify any Liens and AULs associated with the subject property APNs 150-0101-004 and 150-0101-040. EDR identified one Quitclaim deed filed with the Sacramento County Recorder on March 14, 2013 with Affidavit of Death of Trustee and Certificate of Death for Caterina Lavagnino attached regarding APNs 150-0101-040, 150-0101-004, and 150-0101-041.

In addition, Petralogix submitted a records request with the City of Galt to identify any Liens or AULs, associated with the subject property APNs 150-0101-004 and 150-0101-040.

4.2 Environmental Liens or Activity and Use Limitations

EDR performed a Lien and AUL search for the subject property APNs 150-0101-004 and 150-0101-040. No environmental liens or AULs were found for the subject property. In addition, Petralogix reviewed the California EPA Department of Toxic Substances Control (DTSC) databases of land use restricted sites: "Site Mitigation and Restoration Program Brownfields and Environmental Restoration Program (Cleanup Program) Facility Sites with Land Use Restrictions" and "Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction."¹⁰ The subject property was not listed on either database.

4.3 Specialized Knowledge and Awareness

Derek Spalding (The True Life Companies) indicated no specialized knowledge or experience that is important or relevant to assessing or identifying recognized environmental conditions in connection with the subject property, other than the use of the site as a walnut tree orchard prior to being fallow land.

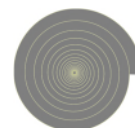
4.4 Commonly Known or Reasonably Ascertainable Data

Derek Spalding (The True Life Companies) indicated no knowledge of commonly known or reasonably ascertainable information related to the subject property that was relevant to this study or review, other than the potential past use of the site as a walnut tree orchard.

⁸ Express Lane Chevron 301 Pine Street, Galt. LUST Cleanup Site (T606700822) Verification Monitoring as of February 21, 2017.

⁹ <https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/Default.asp>

¹⁰ <https://www.envirostor.dtsc.ca.gov/public/>



4.5 Valuation Decrease for Environmental Matters

Derek Spalding (The True Life Companies) indicated no knowledge of valuation reduction of the subject property due to any environmental issues, or otherwise.

4.6 Owner, Property Manager, and Occupant Data

Information provided by the owner of the subject property is discussed in more detail in Section 7.1 of this report.

4.7 Purpose for Performing Phase I ESA

Derek Spalding (The True Life Companies) indicated that the Phase I ESA was requested specifically because the site is in escrow for purchase with the intent of residential development of up to 60 residential lots.

5.0 RECORDS EXAMINATION

In preparing this report, Petralogix has engaged the services of Environmental Data Resources, Inc. (EDR) of Milford, Connecticut. EDR provided Petralogix with a list and profile of the recorded sites within the project study area that have been identified by regulatory agencies of significance.

EDR's report #5802452.2s is included as **Appendix D**. The date of the latest agency version of each database searched by EDR and the date EDR acquired the latest update are noted in the EDR report as part of the record for this Phase I ESA.

The EDR governmental database search included a list of "orphan sites." Orphan sites are locations which have a physical existence, but whose exact location is "fuzzy" and therefore, requires additional review to determine relevance to the site in question. These sites were not depicted on the EDR radius map of identified sites. No "orphan sites" were identified by EDR.

5.1 Standard Environmental Records

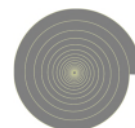
A variety of standard environmental record sources have been reviewed based on the data provided by EDR in order to complete this report. Information on what sources were reviewed and search distances associated with those sources is listed in table form in **Appendix C**.

5.2 Supplementary Environmental Records

In addition to the standard environmental record sources, additional environmental record sources have been reviewed as well. Those sources are listed on the last page of **Appendix C**.

Orphan Sites

An orphan site can be described as a toxic waste area where the polluter could not be identified, or the polluter refused to take action or pay for the cleanup. It therefore is of great significance for due diligence review.



5.3 Environmental Record Discoveries

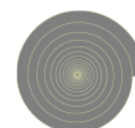
5.3.1 Subject Property

The subject property is listed not on any of the databases that EDR searched.

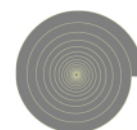
5.3.2 Surrounding Sites

Surrounding sites and adjacent properties were listed on some of the databases searched via EDR. These sites are listed below and discussed in detail.

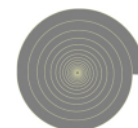
Facility Name	Location (miles)	Source	Comments
Sego Milk Plant 621 3 rd Street	~381 feet west- northwest Down-gradient	Sacramento Co. ML	This site is listed on the Sacramento Co. ML database, Billing Code UST: 1; WG Bill Code 1. This is not considered a REC to the subject property.
Quick Stop Markets Inc., #117 602 4 th Street	~490 feet northwest Down-gradient	RCRA NonGen/NLR, CERS HAZ WASTE, HIST UST, CERS TANKS, Sacramento Co. ML, CERS, EDR Hist Auto, UST	<p>This site is classified on the RCRA NonGen/NLR database as a "Non-Generator" of hazardous waste; description: "Handler: Non-Generators do not presently generate hazardous waste;" no violations found. However, according to the CERS HAZ WASTE database, the site is listed as a Hazardous Waste Generator. Based on the site's status as a Non-Generator and the absence of violations, this does not constitute a REC to the subject property.</p> <p>The site is listed on the HIST UST database as having one 10,000-gallon UST used to store "REGULAR" motor vehicle fuel, one 10,000-gallon UST used to store "UNLEADED" motor vehicle fuel, and one 8,000-gallon UST used to store "PREMIUM" motor vehicle fuel. According to the HIST UST database all three tanks were installed in 1982. This site is listed on the CERS TANKS database, CERS Description: "Underground Storage Tank." This site is listed on the Sacramento Co. ML database for two tanks. According to the CERS database, the site is has had multiple violations regarding records disclosure/maintenance as well as compliance violations. Corrective action was suggested for the records violations; the compliance violations have been brought back into compliance. Based on the return to compliance from the multiple violations, this does not constitute a REC to the subject property.</p> <p>This site is listed on the EDR Hist Auto database as a liquor store. According to the UST database, the permitting agency for the site is the Sacramento County Environmental Management Department. This does not constitute a REC to the site.</p>



Facility Name	Location (miles)	Source	Comments
Galt-Arno Cemetery District 14180 Joy Drive	~890 feet south-southeast Up-gradient	SWEEPS UST, HIST UST, Sacramento Co. ML	This site is listed on the SWEEPS UST and HIST UST databases as having one 550-gallon UST used to store "REG UNLEADED" motor vehicle fuel, active date of September 29, 1988. However, according to the Sacramento Co. ML database, the site is listed as having no tanks. This is not considered a REC to the site.
Frank's Giant Tire and Auto Bestair Mechanical 412 E Street	~932 feet north-northwest Down-gradient	Sacramento Co. ML	This site is on the Sacramento Co. ML database; WG Bill Code listed as "Oil Changed by Outside Company-No Fee." The facility status is listed as "Inactive." Based on its distance to the subject property and inactive status, this is not considered a REC to the site.
Golden Living Center 144 F Street	~1,023 feet west-northwest Down-gradient	Sacramento Co. ML	This site is listed on the Sacramento Co. ML Database, Billing Codes BP: A; WG Bill Code: A. This does not constitute a REC to the site.
Dycora Transitional Health Galt LLC 144 F Street	~1,023 feet west-northwest Down-gradient	CERS HAZ WASTE, CERS	This site is listed on the CERS HAZ WASTE database as a hazardous waste generator. According to the CERS database, the site is listed as having multiple compliance violations. These violations have been brought back into compliance. This is not considered a REC to the site.
Don's Dandy Mart 700 C Street	~1,023 feet north-northeast Down-gradient	LUST, HIST CORTESE, UST	This site is listed on the LUST, HIST CORTESE, and UST databases. According to the LUST database, the site is a former LUST case, with "Aquifer used from drinking water supply" potentially affected. According to the LUST database, the case was closed by the Sacramento Count LOP on April 29, 2002. Based on the distance from site and case closure, this does not constitute a REC to the subject property.
Bus Mat. Facility 1011 C Street	~2,265 feet north-northeast Down-gradient	LUST, HIST CORTESE, Sacramento Co. ML, CERS	This site is listed on the LUST, HIST CORTESE, Sacramento Co. ML, and CERS databases. According to the LUST database, the site is a former LUST case, with soil media potentially affected. According to the LUST database, the case was closed by the Sacramento Count LOP on April 29, 2002. This site is listed on the Sacramento Co. ML database; WG Bill Code listed as "Oil Changed by Outside Company-No Fee." The facility status is listed as "Inactive." The CERS database lists the site as a "Leaking Underground Storage Tank Cleanup Site." Based on the distance from site, case closure, and inactive status, this does not constitute a REC to the subject property.
Gidden Brothers 232 Lincoln	~2,412 feet north-northeast Down-gradient	LUST, HIST CORTESE, CERS	This site is listed on the LUST, HIST CORTESE, and CERS databases. According to the LUST database, the site is a former LUST case, with soil media potentially affected. According to the LUST database, the case closed by the Sacramento Count LOP on February 27, 1987. The CERS database lists the site as a "Leaking



Facility Name	Location (miles)	Source	Comments
			Underground Storage Tank Cleanup Site." Based on the distance from site and case closure, this does not constitute a REC to the subject property.
Lincoln & C Street	~2,457 feet north-northeast Down-gradient	LUST, Sacramento Co. ML, Cortese, HIST CORTESE, CERS	This site is listed on the LUST, Sacramento Co. ML, Cortese, HIST CORTESE, and CERS databases with potential affected media under investigation. According to the LUST database, the case was closed by the Sacramento Count LOP on September 3, 2019. This site is listed on the Sacramento Co. ML database with a cleanup status as "OPEN-ELIGIBLE FOR CLOSURE." The CERS database lists the site as a "Leaking Underground Storage Tank Cleanup Site." Based on the distance from site and eligibility for case closure, this does not constitute a REC to the subject property.
Pacific Recycling 814 A Street	~2,604 feet north-northeast Down-gradient	SWRCY	This site is listed on the SWRCY database as being associated with Aluminum, Glass, Plastic, and Bimetal, beginning on September 1, 2015. Based on the distance to the subject property, this does not constitute a REC to the site.
Ace Oil Company	~2,793 feet north-northwest Down-gradient	RCRA-SQG, RESPONSE, ENVIROSTOR, LUST, Sacramento Co. CS, FINDS, ECHO, HAZNET, HIST CORTESE, Sacramento Co. ML, CERS, HIST Cal-Sites, CA BOND EXP. PLAN, CERS	<p>According to the RCRA-SQG database, the site is listed as a small quantity generator of hazardous waste, no violations found.</p> <p>According to the RESPONSE and ENVIROSTOR databases, the site is listed as a State response site, led by SMBRP and DTSC – Site Cleanup Program. According to the RESPONSE and ENVIROSTOR databases, approximately 14,000 cubic yards of contaminated soil were excavated over a period of seven years for the confirmed presence Toluene Ethylbenzene Benzene Xylenes, completed on June 30, 1995.</p> <p>According to the LUST database, the site is a former LUST case, with soil media potentially affected. According to the LUST database, the case closed by the Department of Toxic Substances Control on February 23, 1995.</p> <p>According to the FINDS and ECHO databases', Three-Year Compliance History by Quarter, the site has had no violations from October 1, 2016 through September 30, 2019.</p> <p>The site is listed on the HAZNET database relating to the removal and disposal of contaminated soil from the site.</p> <p>The site is listed on the HIST CORTESE, Sacramento Co. ML, and CERS databases. According to Sacramento Co. ML database, the WG Bill Code is listed as "Oil Changed by Outside Company-No Fee." The facility status is listed as "Inactive." The CERS database lists</p>

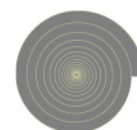


Facility Name	Location (miles)	Source	Comments
			<p>the site as a "Leaking Underground Storage Tank Cleanup Site."</p> <p>The site is listed on the HIST Cal-Sites and CA BOND EXP. PLAN databases in connection with the approximately 14,000 cubic yards of contaminated soil that was removed from the site. The lead agency for the site is the Department of Toxic Substances Control.</p> <p>The site is listed on the CERS database as being a State Response site.</p> <p>Based on the distance to the subject property, absence of violations, removal of contaminated soil, and case closure, this is not considered a REC to the subject property.</p>
Galt High School	<p>~3,294 feet north-northeast</p> <p>Cross-gradient</p>	<p>ENVIROSTOR, Sacramento Co. CS., SCH, SWEEPS UST, HIST UST, CERS</p>	<p>This site is listed on the ENVIROSTOR, Sacramento Co. CS, and SCH databases. According to the ENVIROSTOR and SCH databases, no potential Chemicals of Concern (COCs) affecting soil were confirmed on-site.</p> <p>The site is listed on the SWEEPS UST and HIST UST databases as having one 350-gallon USTs installed in 1972 used to store 'REG UNLEADED' motor vehicle fuel; one 1,000-gallon UST installed in 1970 used to store "DIESEL" motor vehicle fuel; and one 350-gallon UST installed in 1979 used to store "DIESEL" motor vehicle fuel.</p> <p>The site is listed on the CERS database as being a "School Investigation" site.</p> <p>Based on the distance to the subject property and absence of COCs, this does not constitute a REC to the subject property.</p>

No information material to RECs were identified based on the databases reviewed.

5.3.3 Orphan Sites

EDR identified no "orphan sites" in connection with the subject property.



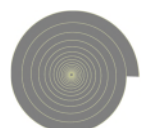
6.0 HISTORICAL USE DATA

6.1 Historical Aerial Photographs & Topographic Maps

Aerial photographs and topographic maps of the subject property provided by EDR were reviewed as part of this investigation and discussed below.

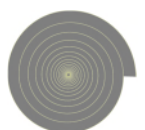
Aerial Photograph Description Table

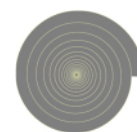
Date	Photo Description
1937	The subject property appears to be agricultural rows with what appears to be one structure outside adjacent the northeastern section of the subject property boundary. There appears to be a dirt access road trending west located in the southern section of the site. There appears to be a ditch trending west located along the southern boundary of the site. To the west, there appears to be railroad tracks trending north-northwest; to the east, there appears to be a road trending north before temporarily heading west and finally heading north-northwest. To the south, agricultural rows separate the subject property from what appears to be a cemetery. The land to the west and east of the subject property appears to be a patchwork of mixed agricultural use, including agricultural rows and orchards. To the north-northwest, agricultural land separates the subject property from what appears to be a network of roads with residential development, gradually increasing in intensity to the north. To the northeast, agricultural land separates the subject property from what appears to be a highway trending north except for a section that meanders temporarily to the northwest.
1940	The subject property appears to be agricultural rows with what appears to be one structure on the boundary of the northeastern section of the subject property boundary. There appears to be an orchard located in the northeastern section of the site, adjacent to the structure previously mentioned. There appears to be a dirt access road trending west located in the southern section of the site. There appears to be a ditch trending west located along the southern boundary of the site. The vicinity agricultural and residential development to the north-northwest appears to have increased. The land to the northeast, east, south, and west appears similar to the previous photo.
1957	The subject property appears similar to the previous photo except that the orchard mentioned (1940) appears to have been reduced to approximately one quarter of its former size. There are now trees planted along the northern perimeter of the site. Residential development appears to have significantly increased to the north, particularly to the north-northwest; otherwise, the surrounding land appears similar to the previous photo.
1963	The subject property appears similar to the previous photo except that the section of orchard mentioned in the previous photo (1957) appears to have been removed. To the north, residential development has increased to the point that residential housing appears adjacent to the northern section of the site,

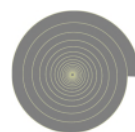


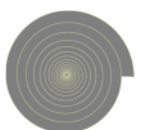
	extending to the immediate east-northeast; otherwise, the surrounding land appears similar to the previous photo.
1972 1975	The subject property appears similar to the previous photo except that the structure first mentioned in a previous photo (1937) appears to have been removed. In its place, another structure was constructed further northeast, outside and adjacent to the subject property. There now appear to be more trees planted in rows in the northwestern portion of the site which may be an orchard. The land to the north appears similar to the previous photo with the exception of a cluster of trees observed in the northwest corner. To the west, what appears to be a large public-use building is located approximately 860 feet west of the northwest corner of the subject property. To the east, agricultural land separates what appears to be a highway before a section of residential housing. The land to the south appears similar to the previous photo.
1984	The subject property appears to be agricultural land with what appears to be a structure located immediately outside the northeastern section of the subject property boundary. The dirt access road and ditch mentioned in a previous photo (1937) appear to have been removed. Other than a slight increase in residential development to the east, the surrounding land appears similar to the previous photo.
1993	The subject property appears to be agricultural rows with what appears to be a structure located immediately outside the northeastern section of the subject property boundary. The number of trees in the northwestern portion of the subject property appears reduced. The land to the north appears similar to the previous photo except that the oval-shaped feature mentioned in a previous photo (1937) appears to have been converted to a concrete parking lot. To the west and southwest, two patches of agricultural land sits among what appears to be a significant increase in residential development further west-southwest. Residential development appears to have increased on land to the east and southeast of the subject property. The land to the south-southeast of the subject property appears similar to the previous photo.
2006	The subject property appears similar to previous photo (1993). Other than a slight increase in residential development to the northeast, the land to the north and west of the subject property appears similar to the previous photo. To the southwest, residential development appears to have increased. The land to the east and southeast appears similar to the previous photo, except for an increase in residential development to the southeast.
2009 2012	The subject property and vicinity appear similar to the previous photo, except for a small network of roads that appear to have been added to the southern section of the southeastern corner of the photo.
2016	The subject property appears to be unused agricultural land with what appears to be a single-family residence located immediately outside the northeast boundary of the subject property. The vicinity appears similar to the previous photo, except for the addition of what appears to residential dwellings in the southern section of the southeastern corner of the photo; a small network of roads appears to have been added immediately north of this feature.

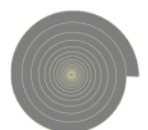
The EDR historic aerial photographs are included in the following pages.

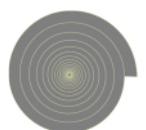


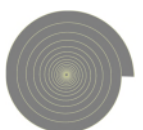


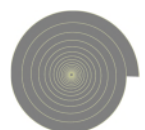


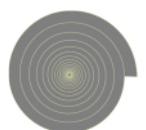


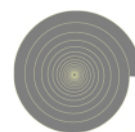


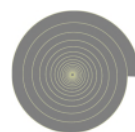


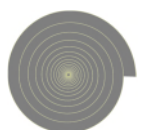


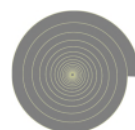










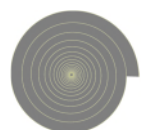


Topographic Maps

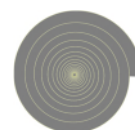
Date	Scale	Quadrangle	Map Description
1894	1:125,000	Lodi	The subject property is depicted as part of a small network of roads with land designated for buildings, including barns, warehouse, etc. Railroad tracks are depicted to the west of the subject property trending north-northwest, except where a section of track located approximately three quarters of a mile north-northwest of the subject property splits off, trending east-northeast. Two streams are depicted in the southwest corner of the map, meandering east-northeast and branching out and occasionally connecting to form other, smaller streams; one stream is depicted in the northwestern section of the map, meandering east. Light-duty roads are depicted radiating from the northwestern, southwestern, and southeastern sections of the network of roads previously mentioned; the roads radiating from the southeast and southwest connected by a road trending west. One more light-duty road is depicted radiating from the central section of the east side of the network of roads. The contour line east of the subject property indicates an elevation of fifty feet.
1910 1910	1:31,680 1:31,680	Galt Woodbridge	The subject property is depicted as empty land in a region named "Galt." A small network of roads with structures is depicted to the north and north-northwest of the subject property. Light-duty roads are depicted radiating from the northwestern, southwestern, and southeastern sections of the network of roads previously mentioned; the roads radiating from the southeast and southwest connected by a road trending west. Railroad tracks named "LINE SOUTHERN" are depicted to the west of the subject property trending north-northwest, except where a section of track named "S P" located approximately one mile north-northwest of the subject property splits off, trending east-northeast. Dry Creek is depicted among several other unnamed streams and creeks to the south of the subject property, meandering east-northeast. A dashed line named "BOUNDARY LINE" is depicted south of the subject property,



Date	Scale	Quadrangle	Map Description
			roughly tracing the path of Dry Creek. The contour lines indicate the elevation for the subject property to be between forty and fifty feet.
1939	1:62,500	Franklin	<p>The subject property is depicted as empty land with one structure located at the northeast corner of the site in a region named "Galt." A small network of roads with structures, including light-duty roads and a secondary highway is depicted to the north and north-northwest of the subject property. More roads are depicted radiating from the northwestern, southwestern, and southeastern sections of the network of roads previously mentioned; other light-duty roads trending east are located north and south of the subject property, intersecting with more north-trending roads to the east and west. Railroad tracks named "LINE" are depicted to the west of the subject property trending north-northwest, except where a section of track named "S P" located approximately one mile north-northwest of the subject property splits off, trending east-northeast. Dry Creek is depicted to the south of the subject property, meandering east-northeast. Liberty School is depicted approximately 1.5 miles south-southeast of the subject property. To the east, Highway 99/50 is depicted trending north-northwest. The contour line running through the northeast and southwest of the subject property indicates an elevation of forty-five feet.</p>
1941	1:62,500	Lodi	
1942	1:62,500	Lodi	
1947	1:50,000	Galt	
1947	1:50,000	Lodi	



Date	Scale	Quadrangle	Map Description
1953	1:24,000	Galt	<p>The subject property is depicted as empty land with one structure located at the northeast corner of the site in a region named "Galt;" the Galt City boundary line is depicted to the immediate north of the subject property. Agricultural fields are depicted to the north and northwest of the subject property. A small network of roads with structures, including light-duty roads and secondary highways are depicted to the north and north-northwest of the subject property. More roads are depicted radiating from the northwestern, southwestern, and southeastern sections of the network of roads previously mentioned; other light-duty roads trending east are located north and south of the subject property, intersecting with more north-trending roads to the east and west. Railroad tracks named "SOUTHERN" are depicted to the west of the subject property trending north-northwest, except where a section of tracks located approximately one mile north-northwest of the subject property splits off, trending east-northeast. Sacramento County Fair Ground are depicted to the east-north east of the subject property. Galt High School is depicted further north. Dry Creek is depicted to the south of the subject property among other streams and creeks, including Forest Lake, meandering east-northeast. A dashed line representing the Sacramento/San Joaquin County boundaries is depicted to the south of the subject property, roughly tracing the path of Dry Creek. To the east, Highway 99/50 is depicted trending north-northwest. The contour line running through the northeast and southwest of the subject property indicates an elevation of forty-five feet.</p>
1953	1:24,000	Lodi North	
1968	1:24,000	Galt	<p>The subject property is depicted as having orchard land use on the southern section of the site. No structures are depicted on the site. The surrounding land features are depicted similar to the previous map.</p>
1968	1:24,000	Lodi North	
1975	1:24,000	Galt	<p>The subject property is not depicted on this map. The surrounding land features are depicted similar to the previous map.</p>
1980	1:24,000	Galt	



Date	Scale	Quadrangle	Map Description
2012	1:24,000	Lodi North	The subject property is depicted as empty land in a region named "Galt." The railroad track mentioned in previous maps are no longer depicted. The subject property is surrounded by a network of roads to the north, northwest, and west; the land to the east and southeast is depicted with less road development. Dry Creek is depicted to the south of the subject property among other streams and creeks, including Forest Lake, meandering east-northeast. A dashed line representing the Sacramento/San Joaquin County boundaries is depicted to the south of the subject property, roughly tracing the path of Dry Creek. To the east, Highway 99 is depicted trending north-northwest.
2012	1:24,000	Galt	

Based on the historical aerial photographs and topographic maps, the subject property was undeveloped land from at least 1894 to 1937, when it began being used for agricultural purposes, beginning from at least 1937 until at least 2013. By 1940, what appears to be an orchard was located at the east-northeastern section of the site which is no longer visible beginning in 1963. The northern perimeter of the subject property appears to have trees which may be walnuts from at least 1940 to present, as well as what appears to be trees in rows indicative of a potential orchard in the northwestern corner of the site from at least 1972 to 1993. Based on historical aerial photographs and topographic maps, there was a structure located on the northeastern boundary of the subject property from at least 1937 until at least 1963. Surrounding land appears to have been primarily agricultural land developed into residential, commercial and public-quasi public lots over time. These photos and maps are included in **Appendix E**.

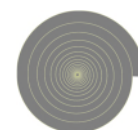
6.2 Sanborn Insurance Company Maps

An attempt was made by EDR to obtain Sanborn Insurance Company maps for the period covering a time period from 1915 through the present in order to determine what types of activities were conducted on the subject property and on adjoining properties. According to EDR, no Sanborn maps for the subject property were identified. The Sanborn report is included in **Appendix E**.

6.3 Local Street Directories

Haines Criss-Cross Directory¹¹ and EDR Digital Archive for Sacramento were reviewed, including issues dated approximately every five years from 1970 through 2014. There were no City Directory Listings for the subject property. City Directory listings are included in **Appendix E**.

¹¹ Provided by EDR.



7.0 SITE RECONNAISSANCE

A visual reconnaissance of the subject property was conducted on September 30, 2019, by Justin Anderson. A site map and photographs of the subject property are attached to this report in **Appendices A and B**.

7.1 Procedure and Restrictive Conditions

The periphery and interior of the subject property was inspected.

7.2 Petralogix Site Visit Worksheet

Observations made during the site visit are summarized in the following table:

Site Visit Observations	
Subject Property	
Describe the current use of the property.	Agricultural land with no structures.
Describe evidence of historic uses on the property.	Signs of agricultural rows covering the site; old rusted agricultural equipment located at the east-northeast corner of the site.
Is there a Potable Water Source?	None observed.
Is there a Sewage Disposal Source?	None observed.
Are there any onsite odors?	None observed.
Are there any pools of Liquid?	None observed.
Are there any electric or hydraulic equipment likely to contain PCBs?	One power line located at the southeastern corner of the site with three transformers attached, all appeared in good condition and had identification indicated that the contained no PCBs. No signs of rust or corrosion was observed.
Are there any storage tanks located onsite?	None observed.
Are there any drums or other containers located onsite?	None observed.
Observations – Structure Interior	
Are there any heating/cooling system?	Not applicable.
Are there any stains or corrosion?	Not applicable.
Are there any sumps or drains?	Not applicable.
Observations - Exterior	

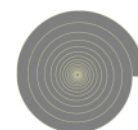


Site Visit Observations	
Are there any Ponds, Lagoons, and/or Pits?	None observed.
Is there any stained soil or pavement visible onsite?	A small quantity of asphalt pieces was identified in the central portion of the western section of the site.
Was there any solid waste storage or deposition onsite?	A small quantity of trash was found along the northwestern edge of the site where it approaches the railroad tracks to the west of the site.
Any noticeable wastewater discharge?	None observed.
Are there any wells or septic systems visible onsite?	None observed.
Observations - Vicinity Area	
Describe the topography of property and vicinity.	The subject property is relative flat with the land appearing to slightly slope to the south; the vicinity area appears relatively flat.
Describe the current use of adjoining properties.	Residential dwellings are located to the north of the site; residential dwellings and commercial buildings are located to the west; empty/vacant land with sparse residential dwellings are located to the east, empty/vacant farmland is located to the south, extending until it meets a cemetery further south.
Is there any evidence of past uses?	In addition to the presence of established neighborhoods, farming equipment (trucks, small tractors) was observed on some properties in the vicinity.
Describe the current land uses in area.	Residential, Commercial, Recreational, and Public-quasi public.

8.0 INTERVIEWS

8.1 Interview with Owner / Site Manager and Key Individuals

Mr. Roque Lavagnino, trustee of Caterina Lavagnino Family Trust, owner of the subject property, was interviewed via a questionnaire (**Appendix F**) regarding current and historical use of the subject property. Mr. Lavagnino indicated the parcels comprising the property were purchased in 1971 from Rocco Lavagnino (deceased). No other person was identified as having historic knowledge of the subject property. Mr. Lavagnino indicates that the current use of the property is a primary residence. Historical use of the subject property includes agricultural use for "Farming" from 1931-1995. Mr. Lavagnino indicates no knowledge of any former assessor's parcel number (APN) for the subject property; no knowledge of any business using any portion of the property; and no knowledge that the property or any adjoining property was ever used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility. Mr. Lavagnino indicates no



knowledge of the past or current existence of hazardous substances or petroleum products with respect to the property or any facility located on the property, and no knowledge of any electrical transformers or capacitors on the property which are known to contain polychlorinated biphenyls (PCBs), or which may have been manufactured before 1980 and whose PCB content is unknown. According to Mr. Lavagnino, water is provided by a public water system for "Home Only." He further indicates that water is not provided, stating "NONE BUT IRRIGATION LINES ARE ON FROM ADJOINING PROPERTY ON THE SOUTH." Mr. Lavagnino indicates that wastewater disposal is provided by a public sewer system. He further states that no water disposal is available for APN 150-0101-040-0000. No wastewater, liquid waste, or solid waste is reported to be generated and/or disposed of on the site. Mr. Lavagnino reports no activities on the subject property which would generate air pollutants, including fuel burning equipment.

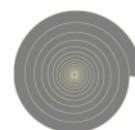
Mr. Lavagnino indicates that no structures (other than the primary residence previously mentioned) are located on the property. Mr. Lavagnino indicates knowledge of a barn that existed on the subject property that was removed in 1968. Mr. Lavagnino does not provide the location of the removed barn. Mr. Lavagnino indicates no knowledge of previous flooring, drains, or wells located at the facility that are(were) stained by substances other than water or are emitting (emitted) foul odors. According to Mr. Lavagnino, the structure removed in 1968 did not contain lead-based paint.

Mr. Lavagnino indicates no knowledge of any registered or unregistered gasoline, diesel, fuel oil or other chemical storage tanks located on the subject property. Mr. Lavagnino indicates that no pesticides, paints, or other chemicals are stored or used on the property in drums, sacks, or other containers greater than five gallon each of fifty gallons in aggregate.

Mr. Lavagnino indicates that the subject property is no longer used for agricultural purposes. According to Mr. Lavagnino, the subject property was used in the past for agricultural purposes. He indicates that pesticides, herbicides, or other chemicals were used on "walnut trees on perimeter of property (last time used was in early 1990)." Mr. Lavagnino indicates that no pesticides, herbicides, or other chemicals were mixed, formulated, rinsed, or disposed of on the subject property. Mr. Lavagnino indicates that no soil or groundwater analysis has been performed to detect pesticides, herbicides, or chemicals used at the site.

Mr. Lavagnino indicated no evidence of an environmental cleanup lien filed or recorded against the subject property; no evidence of activity and land use limitations filed or recorded in a registry; and no specialized knowledge or experience of a person seeking to qualify for the LLP (40CFR 312.28). Mr. Lavagnino indicated no knowledge of the existence of any other documents related to the subject property such as other ESA reports, Material safety data sheets, community right-to-know plans, hazardous waste generator notices or reports. Mr. Lavagnino also indicated no knowledge of any existence of any proceeding involving the subject property.

Mr. Derek Spalding (user) indicated no evidence of an environmental cleanup lien filed or recorded against the subject property; no evidence of activity and land use limitations filed or recorded in a registry; and no specialized knowledge or experience of a person seeking to qualify for the LLP (40CFR 312.28). Mr. Spalding indicates that the purchase price reasonably reflects the fair market value of the subject property. Per Mr. Spalding, the subject property consists of "fallow land" that once contained a "walnut tree orchard." Mr. Spalding indicates no knowledge of the presence of specific chemicals, chemical releases/spills, or environmental cleanups in relation to the subject property. According to Mr. Spalding, there are no obvious indicators that point to the presence or likely presence of contamination at the property. Mr. Spalding indicates that the reason for requesting this Phase I ESA is due to the property currently being held in escrow for purchase. Mr.



Spalding indicates that his relationship to the subject property as “Buyer;” the land as “Vacant.” Mr. Spalding indicates no knowledge or experience with the property that may be pertinent to this Phase I ESA. According to Mr. Spalding, the proposed future use of the subject property is “50-60 residential lots.” Mr. Spalding identifies “Future homebuilder” as an additional party who will rely on this Phase I ESA report. Mr. Spalding indicates no knowledge of the existence of any other documents related to the subject property such as other ESA reports, Material safety data sheets, community right-to-know plans, hazardous waste generator notices or reports. Mr. Spalding also indicated no knowledge of any existence of any proceeding involving the subject property.

8.2 Interviews with Local Government Offices

8.2.1 City of Galt Clerk’s Office

The City of Galt Clerk’s Office was contacted on September 24, 2019, to determine whether any records were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. The City of Galt responded, indicating that any records relating to underground or above ground storage tanks would be contained in the building permit history. According to Donna Settle, Clerk Administrator for the Office of the City Clerk for the City of Galt, no building permits were identified with the subject property.

8.2.2 Sacramento County Assessor

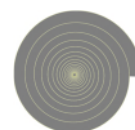
Petralogix conducted an online search with the Sacramento County Assessor, online permits portal on September 24, 2019 to determine whether any building permits were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. According to the Sacramento County Assessor, no building permits are on record for the subject property.

8.2.3 Sacramento County Environmental Management Department

The Sacramento County Environmental Management Department (SCEMD) was contacted on September 24, 2019 to determine whether any records were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. Multiple records were identified in connection with the subject property.

An Application for Approval – Water Well Construction dated February 26, 1962 was signed but Otto Gross for permission to drill an irrigation well; the owner of the property listed as Rocco Lavagnino. A permit dated March 6, 1962 for the construction of a well was granted to Rocco Lavagnino. A Water Well Driller’s Report dated April 2, 1962 indicates that a new cement-sealed well was drilled to a total depth of 348 feet, completed well depth of 340 feet. The depth at which water was first encountered was 54 feet. Two notices from Sacramento County Environmental Health Management dated August 19, 2010 and November 4, 2015 for the parcel adjacent to the southern boundary of the subject property regarding the possible presence, and request to inspect, an abandoned or inactive water well. No well was observed on the subject property during the site visit (Section 7.0).

The SCEHMD records are included in Appendix G.



8.2.4 Cosumnes Fire District

Petralogix submitted a record request to the Cosumnes Fire District on September 24, 2019 to determine whether any records were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. According to the Cosumnes Fire District Administrative Specialist, Kavita Takhar, the district does not retain records before 2006. No records were identified for the subject property from 2006 to the present.

8.2.5 Sacramento County Agriculture Commissioner of Weights and Measures

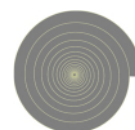
Petralogix submitted a search request to Sacramento County Agriculture Commissioner of Weights and Measures on September 24, 2019 to determine whether any records were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. According to a telephone conversation with Chrisandra Flores with the Sacramento County Agriculture Commissioner of Weights and Measures as well as information provided via Excel Spreadsheet, 7.5 gallons of "ROUNDUP POWERMAX HER" was applied to the ground on July 18, 2011 on thirty acres of land covering APNs 150-0101-004, 150-0101-040 and the neighboring parcels to the south: 150-0101-038 and 150-0101-041 respectively. According to the information provided by Sacramento County Agriculture Commissioner of Weights and Measures, the site ID is listed as "ROCCO;" the permittee is listed as Tony Mello; the crop of choice is listed as "CORN FOR/FOD." The EPA regulation number for this application is 524-549-AA.

8.2.6 Sacramento Metropolitan Air Quality Management District

Petralogix submitted a search request to Sacramento Metropolitan Air Quality Management District on September 24, 2019 to determine whether any records were on file at that agency material to RECs in connection with the subject property APNs 150-0101-004 and 150-0101-040. According to the response from Sacramento Metropolitan Air Quality Management District representative Deana Carter dated September 25, 2019, they had no records of any use of pesticides, herbicides, or any other chemicals of concern which could result in a REC.

9.0 **MOLD ASSESSMENT SCREENING**

No mold was observed during the site visit.



10.0 LEAD SCREENING EVALUATION

The former structure observed in the historical photographs and identified by the property owner that was removed in 1968 was built and demolished prior to the effective ban of lead paints and products. We are not certified lead experts and lead inspection of building materials, and intact structures are not a required part of a Phase I ESA evaluation under the ASTM Standard.

The former structure observed in the historical photographs was at the boundary of the northeast portion of the subject property. The potential for lead-based paints and products leaching into the soil near the previous location of demolished structure and within a portion of the subject property is considered moderate to high. Due to the demolished historic building, lead may be present in the soil where the former building was previously located. The former demolished structure is therefore considered a REC.

11.0 ASBESTOS SCREENING EVALUATION

The former structure observed in the historical photographs identified by the property owner was built and demolished prior to the effective ban of most asbestos containing building materials. We are not certified asbestos experts and asbestos inspection of building materials, and intact structures are not a required part of a Phase I ESA evaluation under the ASTM Standard.

The former structure observed in the historical photographs was at the boundary of the northeast portion of the subject property. The potential for asbestos containing building material leaching (or being physically mixed) into the soil near the previous location of the demolished structure and within a portion of the subject property is considered moderate to high. Due to the demolished building, asbestos may be present in the soil where the former building was previously located. The former demolished structure is therefore considered a REC.

12.0 RADON GAS ASSESSMENT

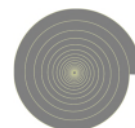
Radon gas emissions from the natural breakdown of elements in soil is a concern in many areas around the country. In particular, Radon gas can buildup in confined spaces such as tunnels and basements. A survey of the subject property was not conducted, but a review based on government data was performed. According to the US EPA Radon Zone Map¹², the subject property is located in Radon Zone 3. This zone covers counties with predicted average indoor radon screening levels less than 2 pCi/L. Based on this low potential, Radon is not a concern for the subject property.

13.0 VEC & VAPOR INTRUSION SCREENING

The EDR VEC App was used by our firm to perform a Tier 1 Screening for Vapor. This App provides integrated data, analytical tools, and professional reporting searches to help review available environmental records (**Appendx D**). Based on our review, the subject property does not have listings that may have the potential to cause vapor intrusion/encroachment risk.

In addition, a search area of one-third of a mile was utilized in order to assess potential listings within the region which may have the potential to cause vapor intrusion/encroachment risk. Based on our review, there are no listings that may have the potential to cause vapor intrusion/encroachment risk.

¹² <https://www.epa.gov/radon/>, accessed on October 9, 2019



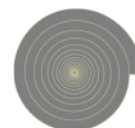
14.0 DISCOVERIES & FINDINGS

- Based on aerial photograph and topographic map interpretations, and an owner interview, the site was used for agriculture from at least 1937 through 2013. Historic row crops are observed within the main portions of the subject property. In addition, walnut orchards were located along the northeastern and potentially the northwestern perimeter(s) of the subject property from at least 1940 to 1957 (northeastern location) and in the northwestern portion from at least 1972 to the early 1990's based on historical aerial photographs and owner interview.
- Based on information provided from an interview with the property owner via questionnaire, pesticides, herbicides, or other chemicals were sprayed on walnut trees on the perimeter of the subject property. According to the property owner, this activity ended in 1990. Based on information provided by Sacramento County Agriculture Commissioner and Weights and Measures, thirty acres of land including the subject property, had 7.5 gallons of "ROUNDUP POWERMAX HER" applied to the ground on July 18, 2011.
- Based on aerial photograph and topographic map interpretations, and an owner interview, one structure (likely a barn) was located at the northeast corner of the site, on what appears to be the approximate subject property boundary. This structure existed from at least 1937 to 1963 based on aerial photographs; per the owner interview, the structure was demolished in 1968.
- Based on information provided by Sacramento County Environmental Management Department (EMD), a well was constructed on the property in 1962. According to EMD, the well was deemed a possible abandoned well in 2010 and 2015. The well was not observed during the site reconnaissance.
- During site reconnaissance, small amounts of trash observed along the northwestern border of the site and what appeared to be old farming equipment was observed located in the northeastern section of the site.
- During site reconnaissance, one power line located at the southeastern corner of the site with three transformers attached, all appeared in good condition and had identification indicated that the contained no PCBs. No signs of rust or corrosion was observed.

15.0 PROFESSIONAL OPINIONS AND FINAL CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 for the subject property. Any exceptions to, or deletions from, this practice are described in the Limitations Section of this report. This assessment has identified the following recognized environmental conditions (RECs) in connection with the subject property:

- Agricultural use for the site has occurred from at least 1937 through at least 1993 and likely continued until at least 2013, with the main portion of the site appearing to be used for row crops with northeast and northwest perimeter areas utilized for walnut orchard farming. Based on information provided by the property owner via questionnaire, pesticides, herbicides, or other chemicals were sprayed on walnut trees along the perimeter of the subject property. It is possible that residual levels of persistent agricultural chemicals remain in the soil, the possible former agricultural practices represent a REC to the site.



- There is one former structure (likely a barn) which was located on the northeastern subject property boundary from at least 1937 and reportedly demolished in 1968. The former structure was built and demolished prior the effect ban of asbestos containing building materials and lead paints and products. Therefore, the potential for lead-based paints and asbestsos located in the former structure locations is considered moderate to high. In addition, the former structure was likely a barn that may have been utilized to store pesticides and petroleum products for farm equipment. The former structure is considered a REC to the site.

This assessment has identified the following *de minimis* conditions in connection with the subject property:

- Small amounts of trash observed along the northwestern border of the site.
- Small amount of old, rusted farming equipment located in the northeast section of the site.

16.0 RECOMMENDATIONS

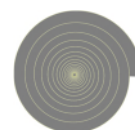
Further investigation should be performed to evaluate whether environmental media has been impacted from historic agricultural use. Further investigation should be performed to evaluate whether environmental media has been impacted by the former historic structure built and demolished prior to 1970.

17.0 SPECIFIC DEVIATIONS

No deviations have been taken from this standard.

18.0 ADDITIONAL SERVICES

No additional services were provided.



19.0 QUALIFICATIONS OF PETRALOGIX ENVIRONMENTAL PROFESSIONALS

Daniel Kramer, PG, CEG, PGp

Professional Experience:

Neil O. Anderson and Associates	2003 – 2005
Kleinfelder, Inc.	2005 – 2006
Neil O. Anderson and Associates	2006 – 2014
Petralogix Engineering, Inc.	2014 – Present

Education:

B.S., Geology, University of the Pacific, Galt, CA

Registrations:

California Professional Geologist, PG-8657
California Certified Engineering Geologist, CEG-2588
California Professional Geophysicist, PGp-1078
Oregon Registered Geologist, E2334

Professional Memberships:

Association of Engineering Geologist (AEG)
American Society of Civil Engineers (ASCE)

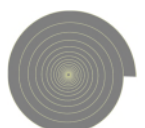
Justin Anderson, Staff Scientist

Education:

B.A., Geography, California State University-Sacramento, Sacramento, CA

Professional Experience:

Petralogix Engineering, Inc.	May 2019 – Present
------------------------------	--------------------



APPENDIX F

ENVIRONMENTAL NOISE ASSESSMENT



Environmental Noise Assessment

Caterina Estates

City of Galt, California

May 12, 2020

Project # 200313

Prepared for:



Raney Planning and Management, Inc.

1501 Sports Drive
Sacramento, CA 95834

Prepared by:

Saxelby Acoustics LLC



Luke Saxelby, INCE Bd. Cert.

Principal Consultant

Board Certified, Institute of Noise Control Engineering (INCE)

(916) 760-8821
www.SaxNoise.com | Luke@SaxNoise.com
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

Table of Contents

INTRODUCTION	1
ENVIRONMENTAL SETTING.....	1
<i>BACKGROUND INFORMATION ON NOISE.....</i>	<i>1</i>
EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS.....	6
<i>EXISTING NOISE RECEPTORS</i>	<i>6</i>
<i>EXISTING GENERAL AMBIENT NOISE LEVELS</i>	<i>6</i>
<i>RAILROAD NOISE.....</i>	<i>7</i>
CONSTRUCTION NOISE ENVIRONMENT	9
CONSTRUCTION VIBRATION ENVIRONMENT.....	10
REGULATORY CONTEXT.....	10
<i>FEDERAL.....</i>	<i>10</i>
<i>STATE</i>	<i>10</i>
<i>LOCAL.....</i>	<i>10</i>
IMPACTS AND MITIGATION MEASURES	15
<i>THRESHOLDS OF SIGNIFICANCE.....</i>	<i>15</i>
<i>PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES</i>	<i>16</i>
REFERENCES	20

Appendices

Appendix A: Acoustical Terminology
Appendix B: Field Noise Measurement Data

List of Figures

Figure 1: Site Plan	2
Figure 2: Noise Measurement Sites and Receptor Locations	3
Figure 3: Future Railroad Noise Levels (L_{dn}).....	8
Figure 4: Land Use Compatibility Chart	12

List of Tables

Table 1: Typical Noise Levels	4
Table 2: Summary of Existing Background Noise Measurement Data	7
Table 3: Construction Equipment Noise.....	9
Table 4: Vibration Levels for Various Construction Equipment.....	10
Table 5: Noise Level Performance Standards for Residential Areas Affected by Non-Transportation Noise.....	11
Table 6: Effects of Vibration on People and Buildings.....	14

INTRODUCTION

The Caterina Estates project consists of the development of a 67-lot single-family subdivision on a 12.75-acre lot previously containing a single residence. The project is located south of H Street and west of Joy Drive in the City of Galt, California.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

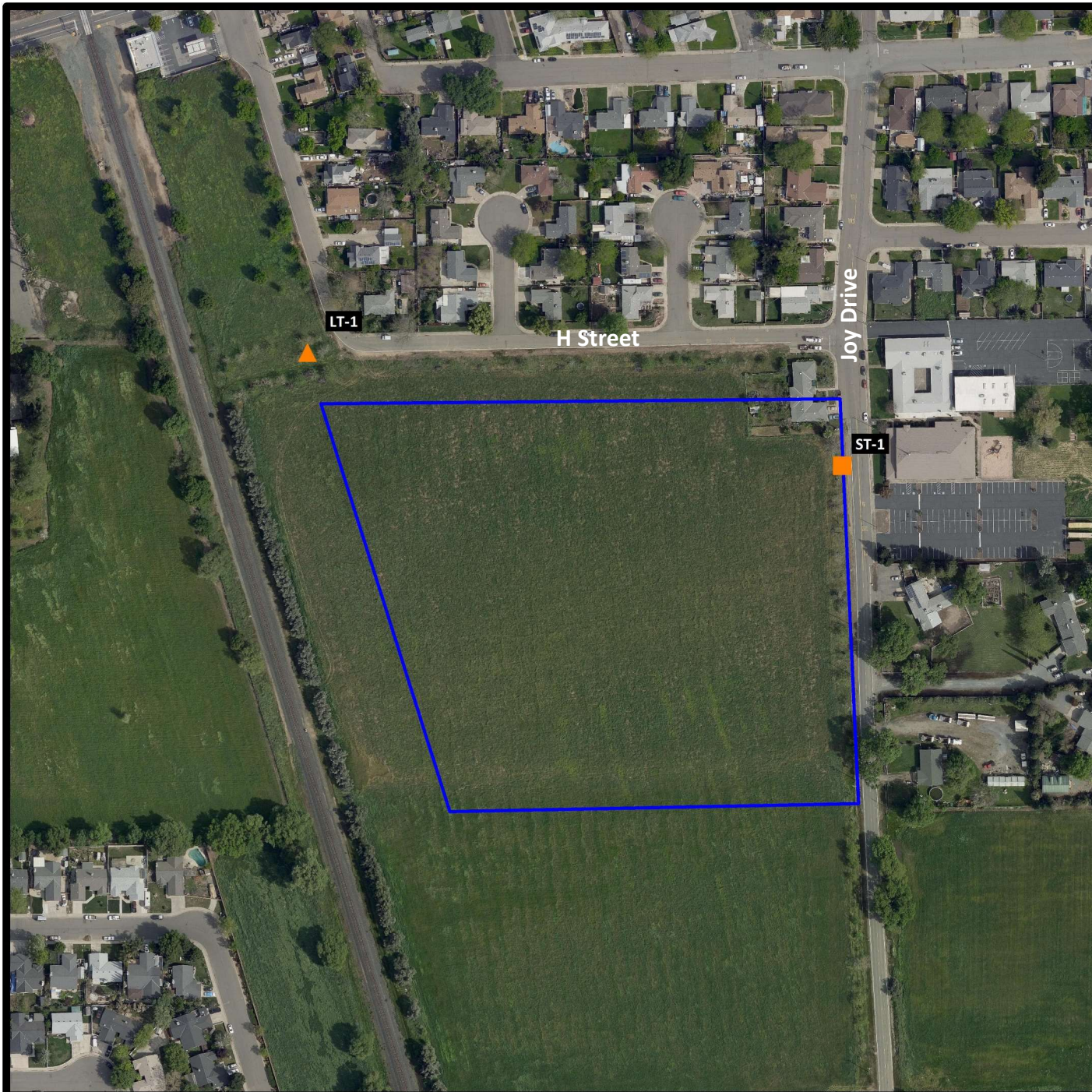
Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

Project Site Plan





Caterina Estates

City of Galt, California

Figure 2

Noise Measurement Sites

Legend

-  Project Site
-  Noise Measurement - Long Term
-  Noise Measurement - Short Term



Projection: State Plane (California Zone 2) / NAD83 / meters
Rev. Date: 04/21/2020



The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses located northwest and east of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by rail activity on the adjacent Union Pacific Railroad line located along the west side of the project site.

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted a continuous (24-hr.) noise level measurement at one location on the project and a short-term noise level measurement at one location on the project.

Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max} , represents the highest noise level measured. The average value, denoted L_{eq} , represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50} , represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 831 and 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a B&K Model 4230 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	Average Measured Hourly Noise Levels, dBA						
		CNEL/L _{dn}	Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
			L _{eq}	L ₅₀	L _{max}	L _{eq}	L ₅₀	L _{max}
LT-1	4/09/20 - 4/10/20	69	63	45	83	62	41	72
ST-1	4/09/20 - 10:00 a.m.	N/A	55	48	75	N/A	N/A	N/A

Source: Saxelby Acoustics – 2020

RAILROAD NOISE

To quantify noise exposure from existing train operations, a continuous (24-hour) noise level measurement survey was conducted along the existing Union Pacific Railroad tracks, located to the west of the project site. Based upon the noise measurement data, approximately 6 freight trains traveled this line during nighttime (10:00 p.m. – 7:00 a.m.) with 15 daytime (7:00 a.m. – 10:00 p.m.) trains.

Noise measurement equipment consisted of a Larson Davis Laboratories (LDL) model 820 precision integrating sound level meter. The meter was calibrated using a CAL200 acoustical calibrator before and after testing. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Based upon the 24-hour noise measurement data, Saxelby Acoustics used the SoundPLAN noise model to calculate existing railroad noise levels across the proposed project site. Railroad noise levels were increased assuming a 1% increase in trips per year to account for future transportation noise conditions. The results of this analysis along with traffic noise levels are shown graphically on **Figure 3**.

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	Average Measured Hourly Noise Levels, dBA						
		CNEL/L _{dn}	Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
			L _{eq}	L ₅₀	L _{max}	L _{eq}	L ₅₀	L _{max}
LT-1	4/09/20 - 4/10/20	69	63	45	83	62	41	72
ST-1	4/09/20 - 10:00 a.m.	N/A	55	48	75	N/A	N/A	N/A

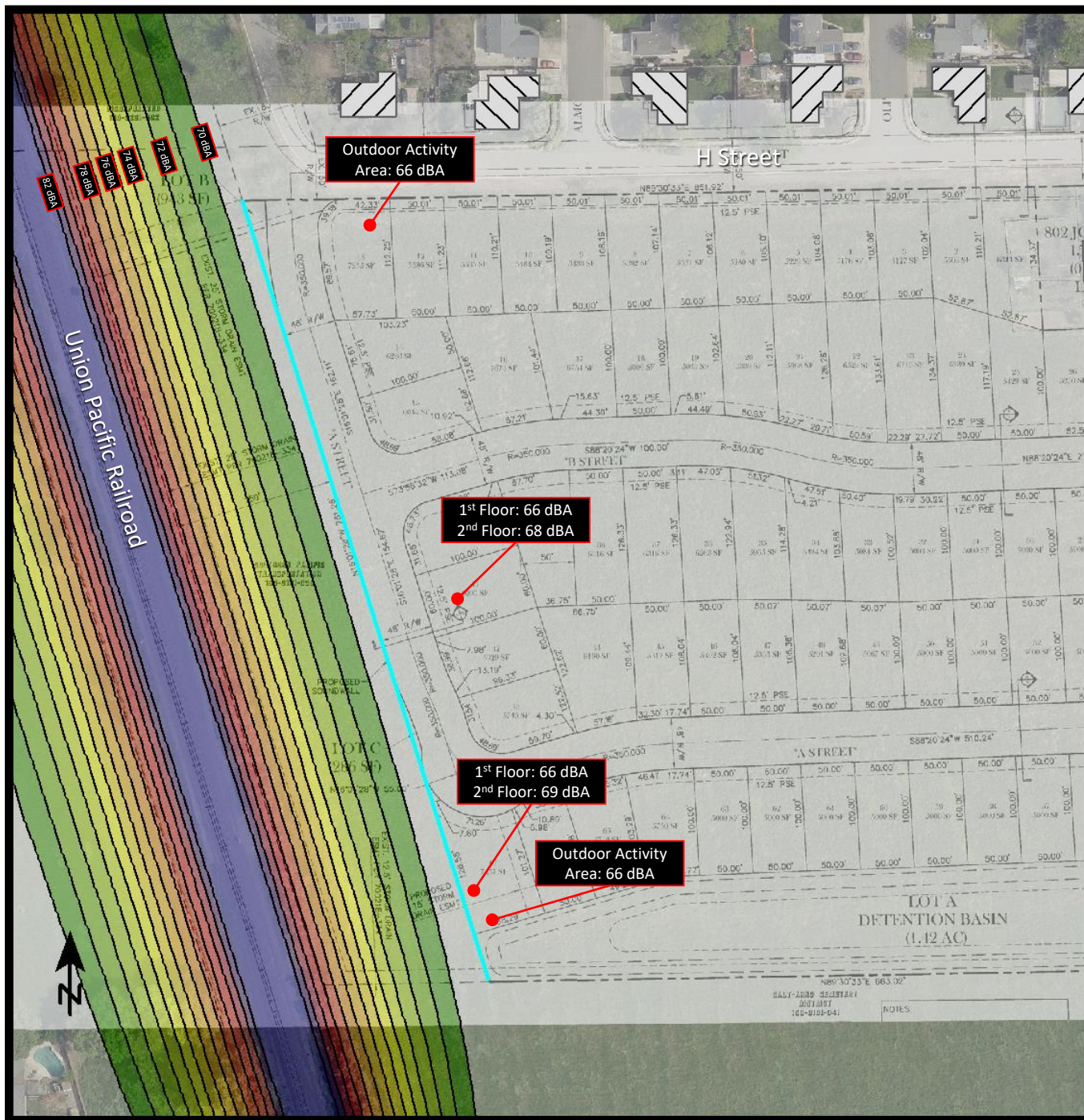
Source: Saxelby Acoustics – 2020

RAILROAD NOISE

To quantify noise exposure from existing train operations, a continuous (24-hour) noise level measurement survey was conducted along the existing Union Pacific Railroad tracks, located to the west of the project site. Based upon the noise measurement data, approximately 6 freight trains traveled this line during nighttime (10:00 p.m. – 7:00 a.m.) with 15 daytime (7:00 a.m. – 10:00 p.m.) trains.

Noise measurement equipment consisted of a Larson Davis Laboratories (LDL) model 820 precision integrating sound level meter. The meter was calibrated using a CAL200 acoustical calibrator before and after testing. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Based upon the 24-hour noise measurement data, Saxelby Acoustics used the SoundPLAN noise model to calculate existing railroad noise levels across the proposed project site. 1 dB was added to existing noise levels to account for potential future increases in railroad activity. The results of this analysis are shown graphically on **Figure 3**.



Caterina Estates

City of Galt, California

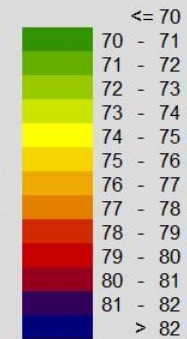
Figure 3

Future (2041) Transportation Noise
Contours (dBA L_{dn})

Signs and symbols

— Wall

Levels in dB(A)



1 : 1635



CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, including roads, water and sewer lines, and related infrastructure, noise from construction activities would temporarily add to the noise environment in the project vicinity. As shown in **Table 3**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 3: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: *Roadway Construction Noise Model User's Guide*. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 4** shows the typical vibration levels produced by construction equipment.

TABLE 4: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines*. Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

There are no state regulations related to noise that apply to the Proposed Project.

LOCAL

City of Galt General Plan

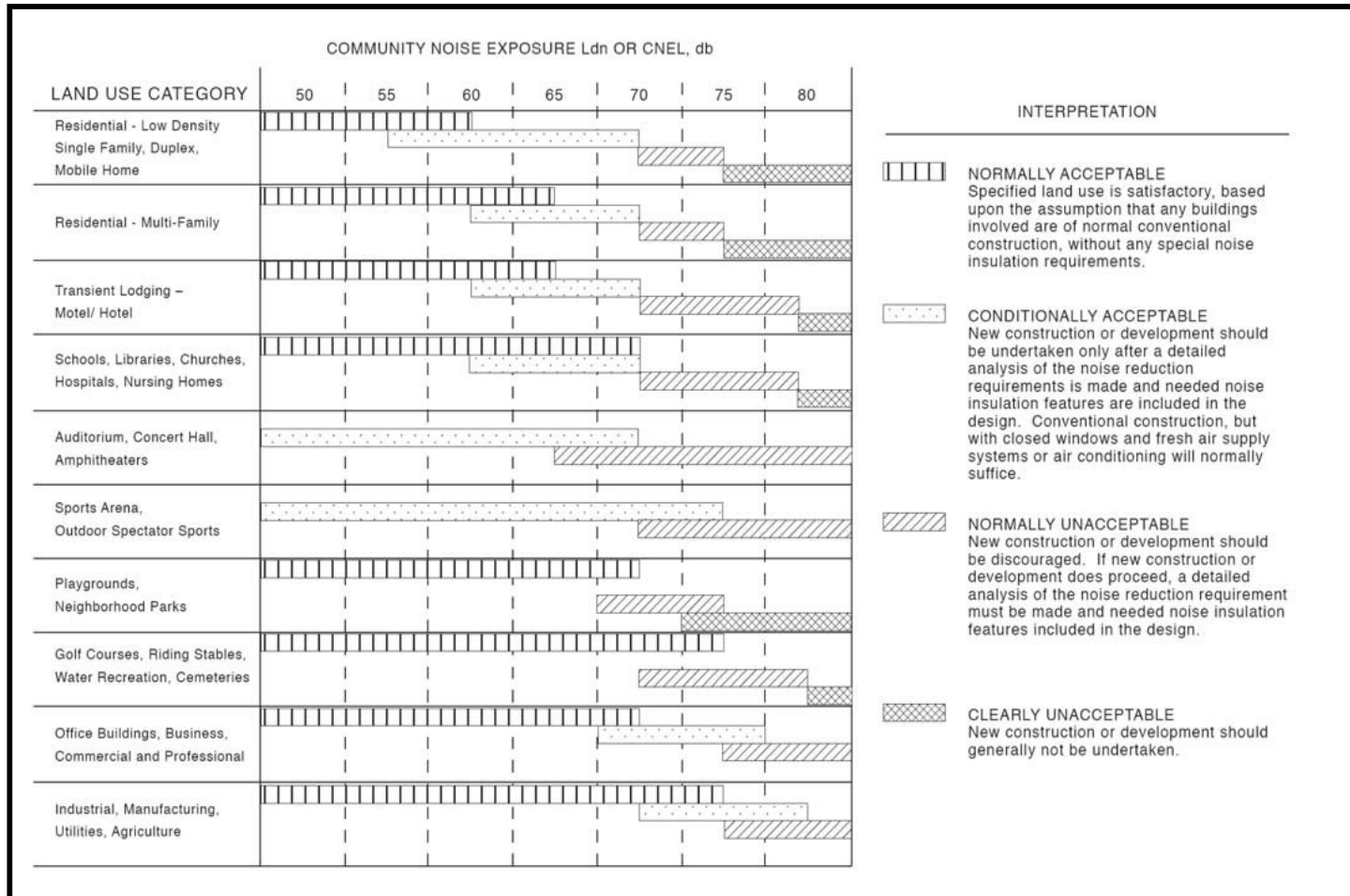
The 2030 Galt General Plan Noise Element outlines criteria for “non-transportation” or “locally regulated” noise sources. The noise level performance standards for non-transportation noise in Galt are shown in **Table 5**.

TABLE 5: NOISE LEVEL PERFORMANCE STANDARDS FOR RESIDENTIAL AREAS AFFECTED BY NON-TRANSPORTATION NOISE

Noise Level Descriptor	Exterior Noise Level Standards, dBA	
	Daytime (7 AM-10 PM)	Nighttime (10 PM-7 AM)
Hourly Leq, dB	50	45
Maximum Level, dB	70	65
<p>Note: These standards apply to new or existing residential areas affected by new or existing non-transportation sources.</p> <p>Each of the noise level standards specified above shall be reduced by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.</p> <p>Source: 2030 Galt General Plan EIR, March 2009.</p>		

The 2030 Galt General Plan Noise Element utilizes the State Office of Noise Control (ONC) *Guidelines for the Preparation and Content of Noise Elements of the General Plan*. The ONC guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The ONC guidelines contain a land use compatibility table that describes the compatibility of different land uses with a range of environmental noise levels in terms of L_{dn} . These guidelines are shown in **Figure 4**.

Figure 4: Land Use Compatibility Chart



Sources: State of California General Plan Guidelines, Office of Planning and Research, 1998; and ESA, 2008.

Based upon **Figure 4**, residential uses are considered normally acceptable in ambient noise environments up to 60 dBA L_{dn} , and conditionally acceptable in noise environments up to 70 dBA L_{dn} . The City of Galt maintains an interior noise level criterion of 45 dBA L_{dn} for residential uses. The intent of this standard is to provide a suitable environment for indoor communication and sleep.

Criteria for Acceptable Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 6**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 6 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.2 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of “architectural” damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations*. Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Generate excessive groundborne vibration or groundborne noise levels?
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?

The 2030 Galt General Plan considers the following significance criteria for noise impacts:

- If the noise level resulting from project operations would exceed the “normally acceptable” range (as shown in **Figure 4**) for a given land use where the existing noise level exceeds the normally acceptable range, a 3 dBA or greater increase due to a project is considered significant;
- If the noise level resulting from project operations would exceed the “normally acceptable” range (as shown in **Figure 4**) for a given land use where the existing noise level is within the normally acceptable range, a 5 dBA or greater increase due to a project is considered significant; or
- If the noise level resulting from project operations would be within the “normally acceptable” range (as shown in **Figure 4**) for a given land use, a 10 dBA or greater increase due to the project is considered significant.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

IMPACT 1: WOULD THE PROJECT GENERATE A SUBSTANTIAL TEMPORARY OR PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE VICINITY OF THE PROJECT IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?

TRANSPORTATION NOISE AT NEW SENSITIVE RECEPTORS – EXTERIOR AREAS

As shown on **Figure 3**, the project site is predicted to be exposed to exterior noise levels up to approximately 69 dBA L_{dn} at a height of 5 feet. The Galt Community Noise Exposure land use compatibility chart shown in **Figure 4** shows that noise levels of up to 60 dBA L_{dn} are acceptable for single-family residential uses. Project noise levels of 69 dBA fall within the “Conditionally Acceptable” range of 60-70 dBA L_{dn} . An 8 foot sound wall is proposed along the western boundary of the project site between the Union Pacific Railroad tracks and proposed residences (shown in **Figure 3**). The proposed sound wall reduces noise levels from railroad passbys by up to 3 dB in the outdoor activity areas of residences closest to the wall.

TRANSPORTATION NOISE AT NEW SENSITIVE RECEPTORS – INTERIOR AREAS

Based upon **Figure 3**, the proposed project would be exposed to exterior noise levels of up to 66 dBA L_{dn} at the ground floor building facades closest to the Union Pacific Railroad tracks. Second floor locations would be exposed to noise levels up to 69 dBA L_{dn} and would not receive substantial shielding from the 8-foot tall sound wall.

Modern building construction methods typically yield an exterior-to-interior noise level reduction of 25 dBA. Therefore, where exterior noise levels are 70 dBA L_{dn} , or less, no additional interior noise control measures are typically required. For this project, exterior noise levels are predicted to be up to 69 dBA L_{dn} , resulting in an interior noise level of 44 dBA L_{dn} based on typical building construction. This would comply with the City’s 45 dBA L_{dn} interior noise level standard.

Therefore, this is a **less-than-significant** impact and no mitigation is required.

TRAFFIC NOISE INCREASES AT OFF-SITE RECEPTORS

The proposed project is consistent with the City’s General Plan and no traffic study was required for the project. Therefore, no substantial increases in traffic noise are predicted.

This is a **less-than-significant** impact and no mitigation is required.

OPERATIONAL NOISE INCREASES

The proposed project would include typical residential noise which would be compatible with the adjacent existing residential uses.

This is a **less-than-significant** impact and no mitigation is required.

CONSTRUCTION NOISE

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in **Table 3**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Most of the building construction would occur at distances of 50 feet or greater from the nearest residences. Construction noise associated with streets would be similar to noise that would be associated with public works projects, such as a roadway widening or paving projects.

Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Construction activities are conditionally exempt from the Noise Ordinance during certain hours. Construction activities are exempt from the noise standard from 6 AM to 8 PM Monday through Friday, and from 7 AM to 8 PM on Saturdays and Sundays.

Although construction activities are temporary in nature and would likely occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered **potentially significant**.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

- 1(a) *Construction activities shall comply with the City of Galt Noise Ordinance and shall be limited to the hours set forth below:*

Monday-Friday 6:00 AM to 8:00 PM
Saturday and Sunday 7:00 AM to 8:00 PM

These criteria shall be included in the grading plan submitted by the applicant/developer for review and approval of the Public Works Department prior to issuance of grading permits. Exceptions to allow expanded construction activities shall be reviewed on a case-by-case basis as determined by the Chief Building Official and/or City Engineer.

- 1(b) *Construction activities shall adhere to the requirements of the City of Galt with respect to hours of operation, muffling of internal combustion engines, and other factors that affect construction noise generation and its effects on noise-sensitive land uses. Prior to issuance of grading permits, these criteria shall be included in the grading plan submitted by the applicant/developer for the review and approval of the Public Works Department.*

- 1(c) *During construction, the applicant/developer shall designate a disturbance coordinator and conspicuously post this person's number around the project site and in adjacent public spaces. The disturbance coordinator will receive all public complaints about construction noise disturbances and will be responsible for determining the cause of the complaint, and implement feasible measures to be taken to alleviate the problem. The disturbance coordinator shall report all complaints and corrective measures taken to the Community Development Director.*

IMPACT 2: WOULD THE PROJECT GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 4** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a **less-than-significant** impact and no mitigation is required.

IMPACT 3: 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?

There are no airports in the project vicinity. Therefore, this impact is not applicable to the proposed project.

REFERENCES

- American National Standards Institute. (1998). *[Standard] ANSI S1.43-1997 (R2007): Specifications for integrating-averaging sound level meters*. New York: Acoustical Society of America.
- American Standard Testing Methods, *Standard Guide for Measurement of Outdoor A-Weighted Sound Levels, American Standard Testing Methods (ASTM) E1014-08*, 2008.
- ASTM E1014-12. *Standard Guide for Measurement of Outdoor A-Weighted Sound Levels*. ASTM International. West Conshohocken, PA. 2012.
- ASTM E1780-12. *Standard Guide for Measuring Outdoor Sound Received from a Nearby Fixed Source*. ASTM International. West Conshohocken, PA. 2012.
- Barry, T M. (1978). *FHWA highway traffic noise prediction model (FHWA-RD-77-108)*. Washington, DC: U.S. Department of transportation, Federal highway administration, Office of research, Office of environmental policy.
- California Department of Transportation (Caltrans), *Technical Noise Supplement, Traffic Noise Analysis Protocol*, September 2013.
- Egan, M. D. (1988). *Architectural acoustics*. United States of America: McGraw-Hill Book Company.
- Federal Highway Administration. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01. January 2006.
- Hanson, Carl E. (Carl Elmer). (2006). *Transit noise and vibration impact assessment*. Washington, DC: U.S. Department of Transportation, Federal Transit Administration, Office of Planning and Environment.
- International Electrotechnical Commission. Technical committee 29: Electroacoustics. International Organization of Legal Metrology. (2013). *Electroacoustics: Sound level meters*.
- International Organization for Standardization. (1996). *Acoustic - ISO 9613-2: Attenuation of sound during propagation outdoors. Part 2: General methods of calculation*. Geneva: I.S.O.
- Miller, L. N., Bolt, Beranek, & and Newman, Inc. (1981). *Noise control for buildings and manufacturing plants*. Cambridge, MA: Bolt, Beranek and Newman, Inc.
- SoundPLAN. SoundPLAN GmbH. Backnang, Germany. <http://www.soundplan.eu/english/>

Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B: Continuous and Short-Term Ambient Noise Measurement Results



Appendix B1: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Thursday, April 9, 2020	10:00	49	69	47	45
Thursday, April 9, 2020	11:00	51	71	46	44
Thursday, April 9, 2020	12:00	46	60	45	42
Thursday, April 9, 2020	13:00	64	89	43	41
Thursday, April 9, 2020	14:00	62	86	44	41
Thursday, April 9, 2020	15:00	65	87	50	45
Thursday, April 9, 2020	16:00	63	89	48	44
Thursday, April 9, 2020	17:00	64	86	45	43
Thursday, April 9, 2020	18:00	70	88	46	42
Thursday, April 9, 2020	19:00	65	87	44	42
Thursday, April 9, 2020	20:00	57	84	44	42
Thursday, April 9, 2020	21:00	63	88	42	40
Thursday, April 9, 2020	22:00	62	88	44	42
Thursday, April 9, 2020	23:00	42	55	41	39
Friday, April 10, 2020	0:00	43	60	42	39
Friday, April 10, 2020	1:00	42	50	41	38
Friday, April 10, 2020	2:00	42	53	41	37
Friday, April 10, 2020	3:00	65	85	38	36
Friday, April 10, 2020	4:00	66	87	40	38
Friday, April 10, 2020	5:00	65	86	40	37
Friday, April 10, 2020	6:00	66	85	44	40
Friday, April 10, 2020	7:00	62	84	46	44
Friday, April 10, 2020	8:00	60	85	45	39
Friday, April 10, 2020	9:00	64	87	41	37

Statistics	Leq	Lmax	L50	L90
Day Average	63	83	45	42
Night Average	62	72	41	39
Day Low	46	60	41	37
Day High	70	89	50	45
Night Low	42	50	38	36
Night High	66	88	44	42
Ldn	69	Day %		67
CNEL	69	Night %		33

Site: LT-1

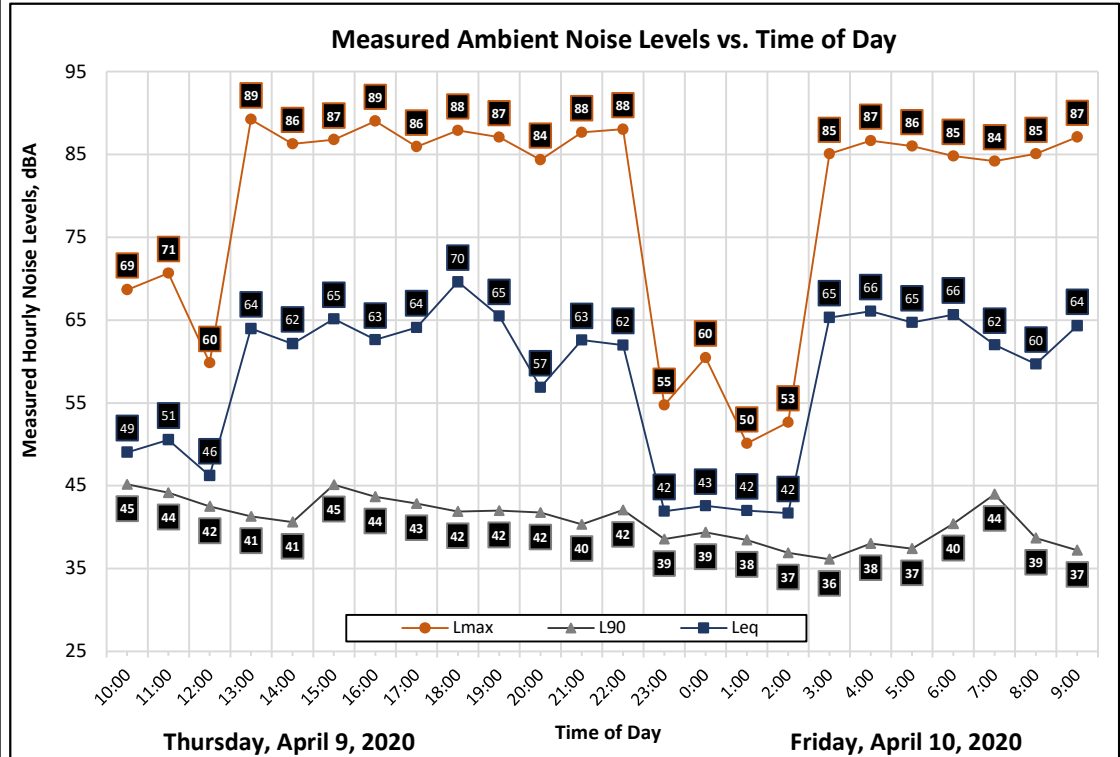
Project: Caterina Estates

Meter: LDL 820-2

Location: Northern Project Boundary

Calibrator: CAL200

Coordinates: 38.247428°, -121.303961°



Appendix B2 : Short Term Noise Monitoring Results

Site: ST-1

Project: Caterina Estates

Location: Northeastern Project Boundary

Coordinates: 38.246897°, -121.300900°

Meter: LDL 831-1

Calibrator: CAL200

Start: 2020-04-09 10:02:21

Stop: 2020-04-09 10:12:21

SLM: Model 831

Serial: 2893

Measurement Results, dBA

Duration: 0:10

L_{eq} : 55

L_{max} : 75

L_{min} : 45

L_{50} : 48

L_{90} : 47

Notes

Primary noise source from minimal traffic on Joy Drive and Highway 99.

