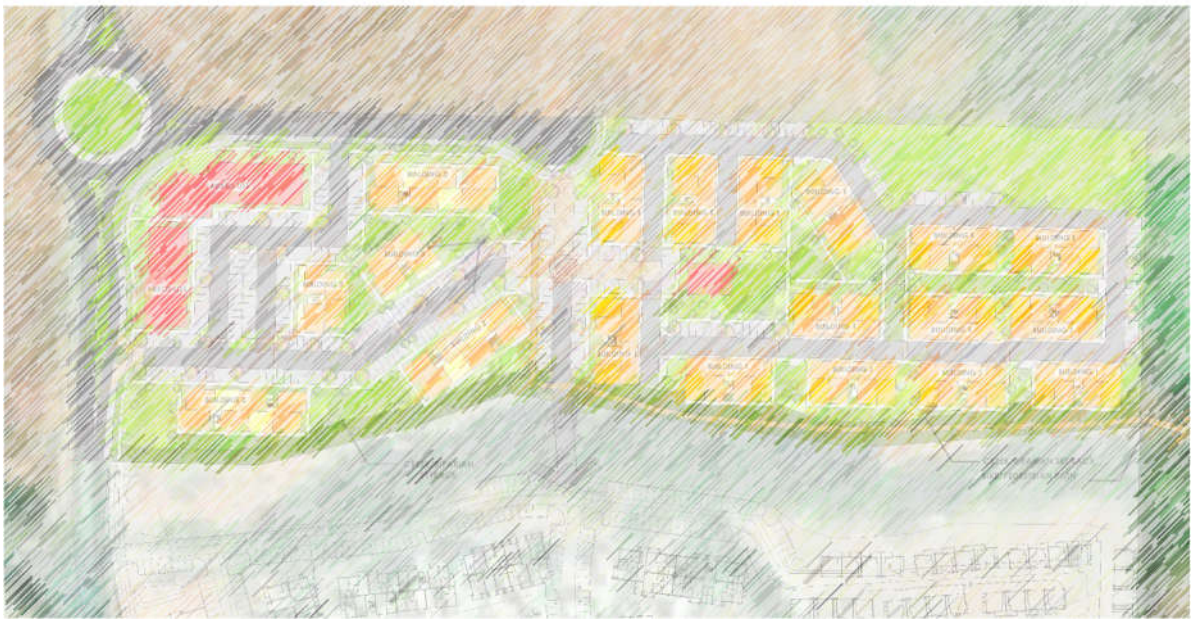

600 Tank Farm Road
Residential Mixed-Use Project

Initial Study

prepared by

City of San Luis Obispo
Community Development Department
919 Palm Street
San Luis Obispo, California 93401
Contact: Kyle Bell, Associate Planner

prepared with the assistance of

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

November 2020

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Initial Study

1. Project Title

600 Tank Farm Road Residential Mixed-Use Project

2. Project Sponsor's Name and Address

Project Sponsor

Covelop Holding, Inc.
1135 Santa Rosa Street, #210
San Luis Obispo, California 93401

Project Sponsor's Representative

Stephen J. Peck, AICP
Peck Planning and Development, LLC
2455 Greenwood Avenue
Morro Bay, California 93442

3. Lead Agency

City of San Luis Obispo
Community Development Department
919 Palm Street
San Luis Obispo, California 93401

Contact Person:

Kyle Bell, Associate Planner
Kbell@slocity.org
(805) 781-7524

4. Project Location

The project site is located at 600 Tank Farm Road, 130 feet northeast of the intersection of Tank Farm Road and Santa Fe Road, in the southern portion of the City of San Luis Obispo. The project site is comprised of two parcels (Assessor Parcel Numbers [APN] 053-421-002 and 053-421-006) totaling approximately 11.7 acres, as well as proposed off-site transportation improvement areas south and west of the parcel boundary totaling approximately 1.0 acre. The total project site area is 12.7 acres. Figure 1 shows the regional location of the project site, while Figure 2 shows the project site within the local context.

Figure 1 Regional Project Location

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Project Location

N

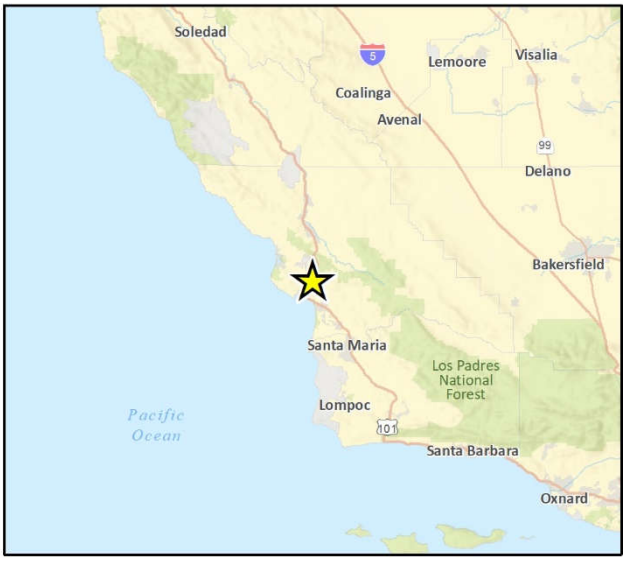

Figure 2 Project Site Boundary

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Fig 2-2 Project Site Boundary

The project site slopes from the northwest to southeast, with site elevations at 210 feet mean sea level (msl) in the northwest corner of the property and 150 feet msl at the southeast corner of the property. APNs 053-421-002 and 053-421-006 are bound by Tank Farm Road to the south, Acacia Creek to the east, Damon Garcia-Sports Fields to the north, and undeveloped Chevron property to the west. The San Luis Obispo City Limit line follows the southern and western boundary of the subject parcels and parallels the southern side of Tank Farm Road south of the project site. The northern boundary of the San Luis Obispo County Regional Airport is located approximately 1,400 feet south of the project site, with the nearest airport use being the northwestern end of Runway 11-29.

5. Existing Site Characteristics

General Plan Designation and Zoning

The project site is located within the Airport Area Specific Plan (AASP) and is currently designated Business Park (BP) with a small portion of the property within the Conservation Open Space (C/OS) zone delineating a portion of Acacia Creek which is primarily located on the adjacent property to the east. As identified in the AASP Land Use Program and Development Capacities Table 4-1, the Specific Plan assumes that estimated buildout in the BP designation would be based on a 0.20 floor area ratio (FAR). Therefore, the existing development potential of the 11.1-acre site is approximately 96,700 square feet of business park development.

Surrounding Land Uses

The project site is bordered by Tank Farm Road to the south, Acacia Creek to the east, Damon Garcia-Sports Fields to the north, and undeveloped Chevron property to the west. The San Luis Obispo City Limit line follows the southern and western boundary of the project site and parallels the southern side of Tank Farm Road south of the project site (refer to Figure 3). The Damon Garcia-Sports Fields property north of the project site is designated Public Facilities (PF). Acacia Creek east of the project site is designated Conservation Open Space (C/OS) and the mobile home park east of the creek is designated Service Commercial with the Specific Plan overlay (C-S-SP). The undeveloped Chevron property west of the project site boundary is designated Commercial Service and Industrial by San Luis Obispo County. The undeveloped property south of Tank Farm Road is designated Recreation by San Luis Obispo County.

Properties west of the project site located at 650 Tank Farm Road and 660 Tank Farm Road include approved entitlements for development of residential mixed-use and assisted living facilities, depicted on Figure 3.

6. Project Characteristics

The proposed project involves zoning-level entitlements: a General Plan Map Amendment, a rezone of the property, a Specific Plan Amendment to the AASP, a Minor Use Permit for a mixed-use project, Conceptual Site Plan, Major Development Review, a development Agreement, and environmental clearance and permitting for necessary off-site improvements. Approval of these entitlements would allow a final Development Plan (consistent with the requirements of the granted entitlements), including grading permits, improvement plans and building permits to be handled by the City as ministerial approvals.

Figure 3 Surrounding Land Uses

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The General Plan Map Amendment is necessary to change the project site's land use designation in the City's Land Use Element in order to reflect proposed development. The Specific Plan Amendment would change the site's land use designation accordingly and would also make associated text amendments to the AASP to allow for the proposed project.

The requested entitlements would allow for 280 total residential units, which is the equivalent of 256 "Density Units" as defined by the City of San Luis Zoning Ordinance (Density Units are the number of dwellings per net acre, based on dwelling size and number of bedrooms, i.e., studio unit under 600 square feet equals 0.5 Density Units, while a two bedroom unit equals 1.0 Density Units). In addition, the project would provide a roundabout at the intersection of Tank Farm Road and Santa Fe Road and interim improvements for Santa Fe Road including two travel lanes and Class IV bike paths.

Conceptual Site Plan

Residential and Mixed-Use Rezone

The project entitlements change the land use designation from Business Park to Service Commercial, which would allow a mixed-use project providing up to 280 residential units and commercial-service/office uses defined in AASP Table 4.3. Figure 4 shows the proposed conceptual site plan for the project.

The project site would be developed at a density of 23.5 Density Units per acre, with shared public and private open spaces, common yards, and a recreation center with a community building. The proposed residential development would include a mix of one-bedroom, two-bedroom, and three-bedroom units. Balconies and outdoor activity areas would be located on the north and east faces of the buildings to minimize exposure to vehicle noise from Tank Farm Road and aircraft flyovers from the San Luis Obispo County Regional Airport located south of the project site. The proposed zoning would allow for up to 12,500 square feet of commercial-service/office space, which would be located in Buildings 21 and 22 shown in Figure 4. Table 1 provides the proposed project characteristics, including the mix of residential unit types and building area for the primary components of the project.

Figure 4 Conceptual Site Plan

Source: RRM Design Group, 2020.

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Table 1 Project Characteristics

Unit Occupancy Type	Size (sf)	Units	Residential Area (sf)	Non-Residential Area (sf)	Acres (net)	Units/Acre
R3 Occupancy (1-, 2- and 3-beds)	750-1,450	140	154,000	n/a	6.5	21.7
R4 Occupancy (studio, 1-, and 2-bed)	600-925	100	85,700	n/a	2.9	34.7
Mixed Use (studio and 1-bed)	450-625	40	21,500	12,500	1.5	26.3
Total	**450-1,450**	**280**	**261,200**	**12,500**	**10.9**	**25.8**

sf = square feet

Other Project Components

The project includes a 2,250-square foot clubhouse building with a 2,800-square foot patio area. The clubhouse building would provide meeting areas, an indoor game area, a common lounge, administrative office area, and a community kitchen. The building would also serve as a temporary sales office and an administrative building during project sales and construction.

City development regulations specify a setback for Acacia Creek of 35 feet, Figure 6 shows the location of the top of bank for Acacia Creek near the project site. The Zoning Regulations section 17.70.030 require a 35-foot setback from the top of bank for new structures. The proposed project is requesting a minimum setback of approximately 10 feet from the average top of bank for a bicycle/pedestrian path to connect to Damon Garcia Sports Fields (and an average bike path of 20 feet) and a minor exception for a maximum 15-foot encroachment into the setback for portions of Buildings 6, 7 and 13 from the average top of bank. Zoning Regulations section 17.70.030 stipulate that an exception to the creek setback requirements may be considered where substantiated evidence is available that will result in better implementation of other Zoning Regulations or General Plan policies while allowing reasonable use of the site. The Biological Resources Assessment (BRA) prepared for the project by Kevin Merk Associates, LLC (Appendix A) concludes the encroachment area will not threaten sensitive species or the riparian corridor. In order to further the purposes of Zoning Regulations section 17.70.030, the project proposes an increase in the riparian setback elsewhere along the corridor, with a riparian setback that averages approximately 40 feet. Proposed building and landscape setbacks along Tank Farm Road range from 10 to 15 feet (including the public sidewalk in a pedestrian easement), and 5 to 15 feet along Santa Fe Road.

The project's required creek setbacks, common areas and open space in the northwest corner of the project site would result in 20 percent of the site being onsite "green" common open space, including play areas, tot lots, and landscape parkways. The project would require removal of twelve (12) non-native ornamental trees on the project site. No native trees are proposed to be removed.

Bike and pedestrian trips would be supported by a connection to the 650 Tank Farm Road property and extension of the onsite bike path to the bike path at the Damon Garcia-Sports Fields to the north. A new bridge connecting the project site to the 650 Tank Farm Road property is planned to be installed by the developer of that property (refer to Figure 4). The planned bridge connecting the project site to the 650 Tank Farm Road property would provide a secondary emergency access route, pedestrian access and bicycle access. The planned bridge connecting 600 Tank Farm and 650 Tank Farm will not be for general vehicle traffic.

Off-Site Transportation Improvements

The project would implement several transportation features under a reimbursement agreement with the City, including providing a roundabout at the intersection of Tank Farm Road and Santa Fe Road and interim improvements for Santa Fe Road including two travel lanes and Class IV bike paths. These improvements are included in the City's list of Transportation Capital Projects in the General Plan Circulation Element (Santa Fe Road Extension) and are shown in the AASP. Final improvements for bike paths, curbing, sidewalk, and parkway strip would be installed on the project's frontages. Planned off-site transportation improvements are shown in Figure 5, which provides a conceptual illustration of the Santa Fe Road/Tank Farm Road Roundabout.

A Transportation Impact Study (TIS) is also being completed by Central Coast Transportation Consulting in support of the City's General Plan Circulation Element consistency evaluation. The TIS will be included in the Environmental Impact Report (EIR) as an appendix to inform the City's final determination of the off-site transportation improvements that will be required to support the project for conformance with local policies outside of CEQA, the potential impacts associated with these improvements will be analyzed in the EIR as needed.

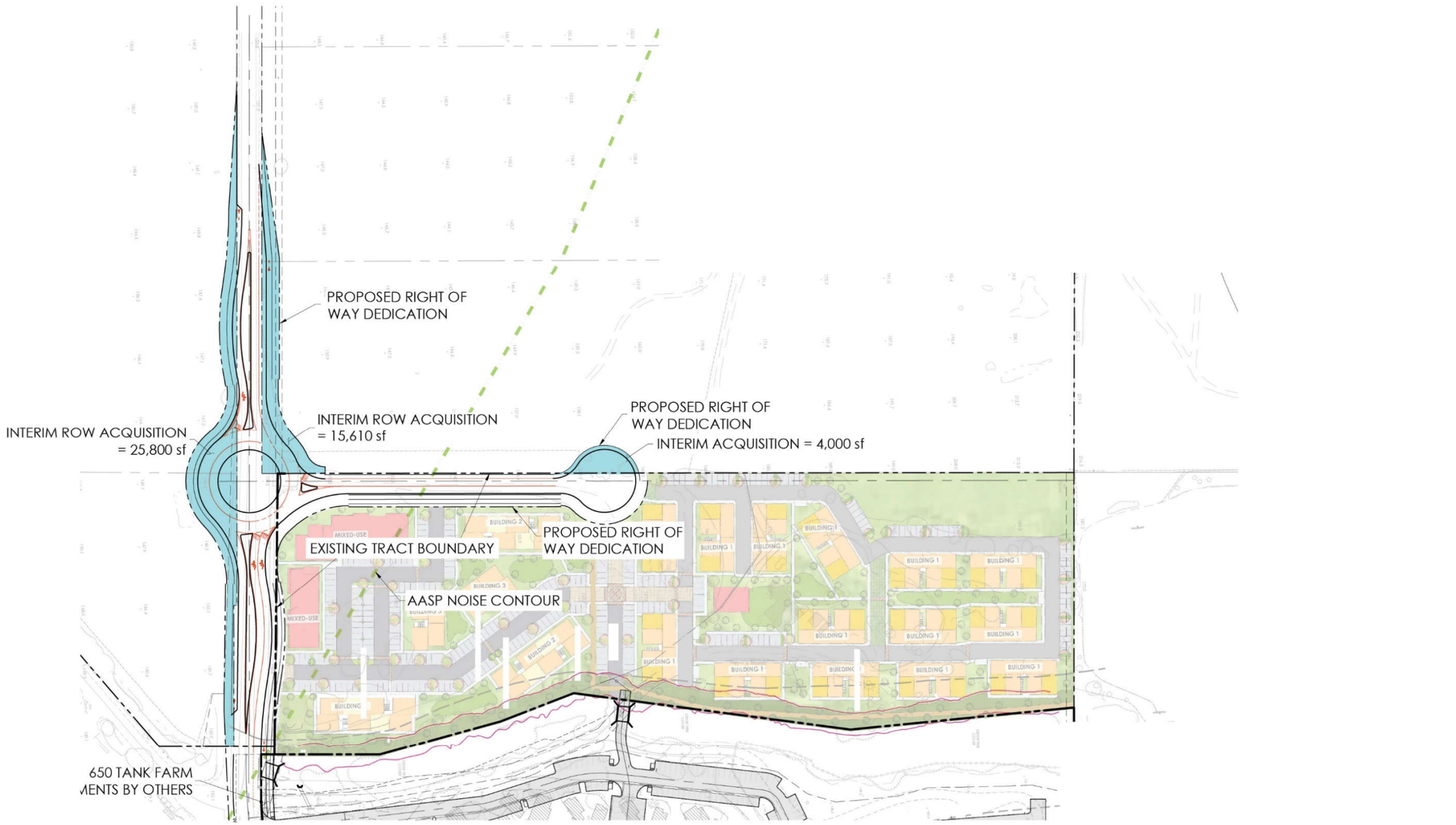
Grading/Drainage

The site would be stepped in four 5-foot sections/benches, with an upper bench of approximately 168-160 feet msl in the northern portion of the property, a middle bench of approximately 160 feet msl around the central portion of the property, and two lower benches of approximately 152-156 feet msl in the southern portion of the property. Figure 6 shows the conceptual site sections. The proposed grading, totaling 35,000-40,000 cubic feet, would be balanced on the project site (no soil import to the site or export from the site is proposed). The grading would contour the project site to drain from west to east toward localized surface bioswales adjacent to Acacia Creek, which would drain toward an existing retention basin in the southeast corner of the site. This basin would discharge into Acacia Creek at the pre-development rate as required by the City's Drainage Master Plan, as required by the City's storm water regulations. There is also an existing drainage pipe under Tank Farm Road that permits site drainage to the south.

Phasing

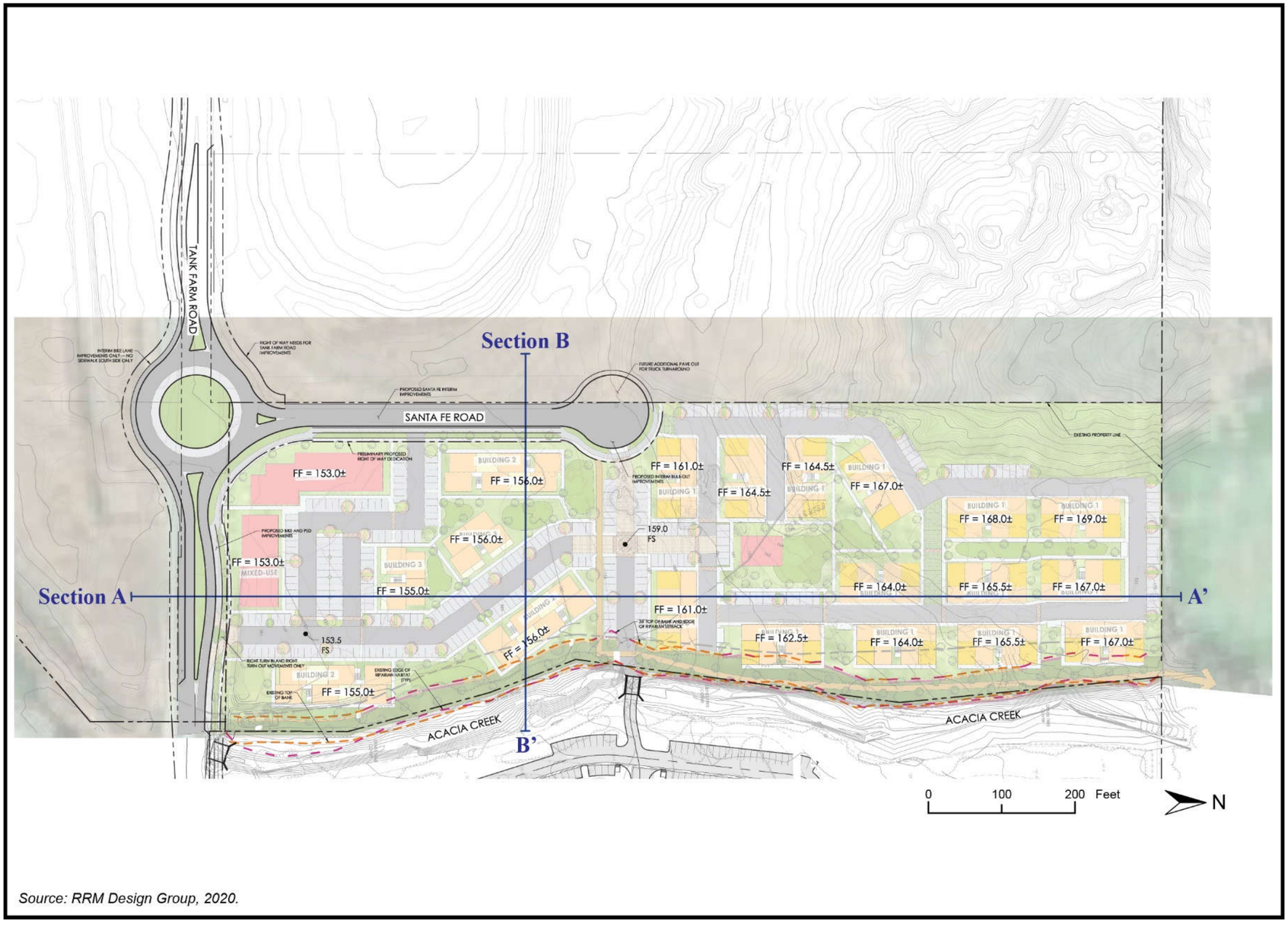
The project is planned to be constructed in two phases. Phase 1 would include 80 townhome and 60 stacked flat (single-family condominium) dwellings units on the central portion of the project site, the completion of Santa Fe along the project frontage, completion of the Class I bike path from Tank Farm to Damon Garcia Sports Park, and the completion of the frontage improvements along Tank Farm road. Phase 2 would include 60 townhome units, 40 stacked flat units, the 40 mixed-use units and 12,500 square feet of commercial-service/office space, and remaining project improvements. The intersection control improvements will be phased as necessary according to the traffic analysis for the project. The conceptual phasing plan is shown in Figure 7.

Figure 5 Conceptual Illustration of the Santa Fe Road/Tank Farm Road Roundabout



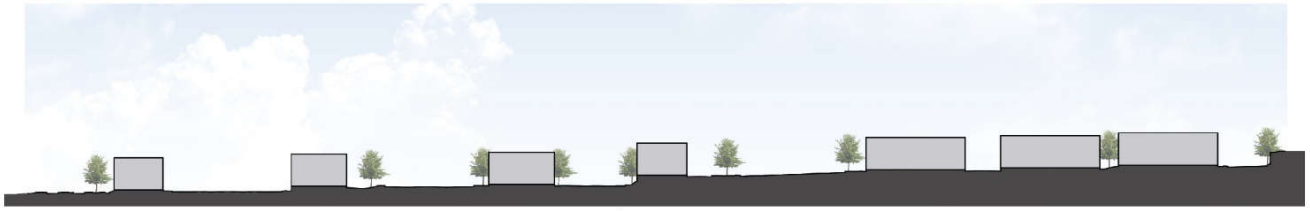
Source: RRM Design Group, 2020.

Figure 6a Conceptual Site Grading – Sections/Benches

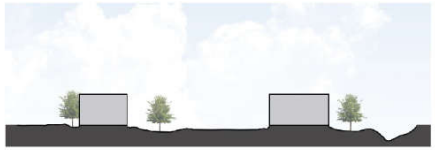


Source: RRM Design Group, 2020.

Figure 6b Conceptual Site Grading – Sections/Benches



SECTION A-A' ILLUSTRATION



SECTION B-B' ILLUSTRATION

0 100 200 Feet N

Source: RRM Design Group, 2020.

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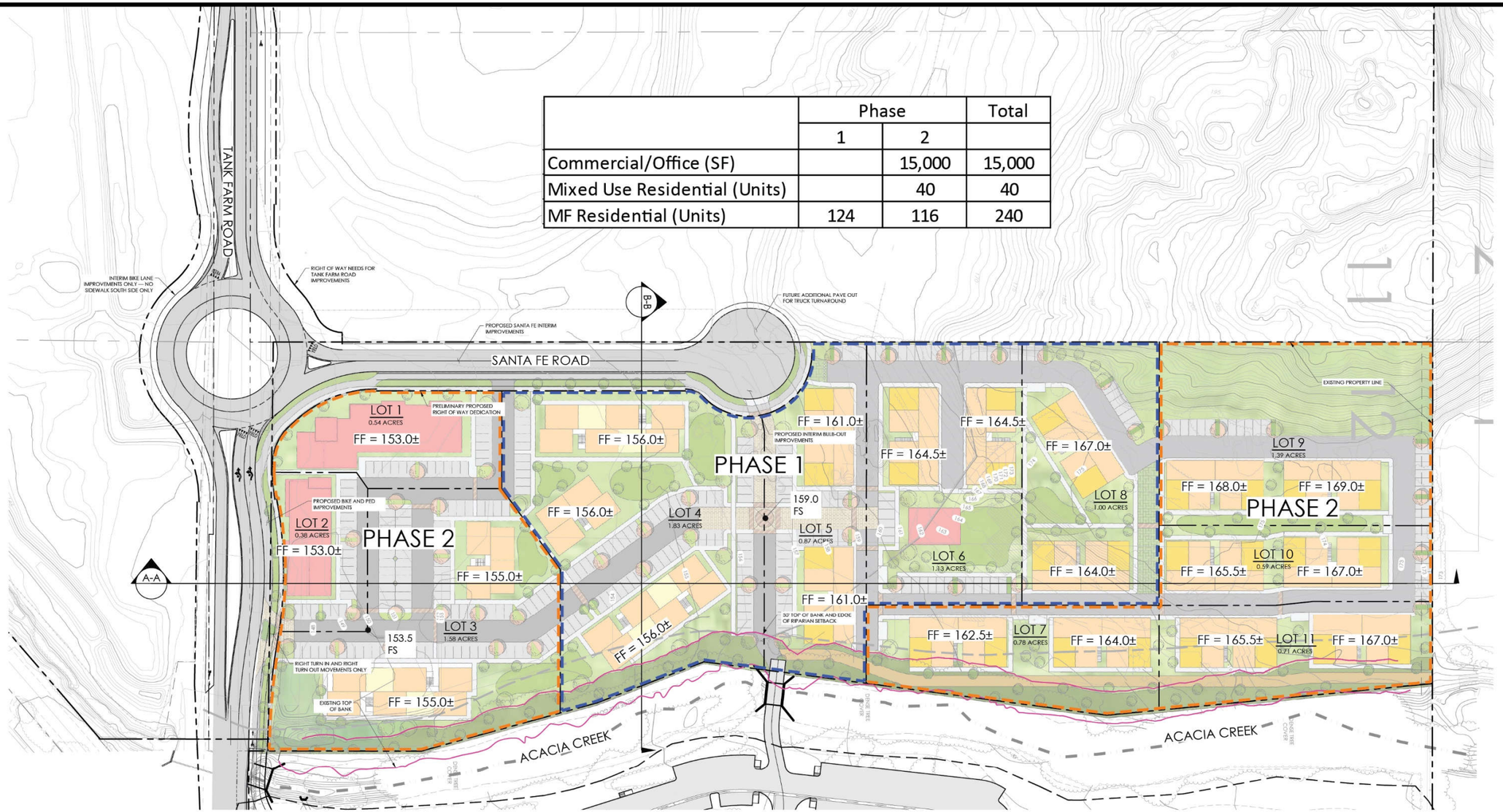
Figure 7 Conceptual Phasing Plan

	Phase		Total
	1	2	
Commercial/Office (SF)		15,000	15,000
Mixed Use Residential (Units)		40	40
MF Residential (Units)	124	116	240



PHASING TABLE

PHASE 1 (LOTS 4-6, 8)

PHASE 2 (LOTS 1-3, 7, 9-11)

0 75 150 Feet N

Source: RRM Design Group, 2020.

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7. Project Objectives

The primary objectives for the project are as follows:

1. Development of an economically feasible specific plan that is consistent with, and implements, policies within the City's LUCE and AASP.
2. Establishment of a complete internally and externally "linked" mixed use community with amenities such as neighborhood parks and commercial goods and services that can serve the neighborhood.
3. Provision of a variety of housing opportunities for a wide range of socioeconomic groups and affordability levels, and at average unit sizes that are below current City averages.
4. Development of a Project with the maximum number of units permitted by the underlying zoning, approximately 280 residential units, with approximately 247,000 square feet of total residential floor space and 12,500 square feet of commercial floor space.
5. Development of the Acacia Creek frontage that provides that area as a Project amenity without jeopardizing the creeks biological resources or riparian qualities.
6. Infrastructure obligations that do not exceed the level of impact fees generated on-site over the buildout of the project; that is, infrastructure obligations should be sized such that off-site impact fees are not necessary to reimburse the developer in accordance with a Development Agreement.
7. Provision of a well-connected internal network private parks, bicycle paths, pedestrian sidewalks, open space buffers, and spaces for recreational activities, including development of a Class 1 bike path between Tank Farm Road and Damon Garcia Sports Park within the 35' creek setback, and Class IV bike lanes consistent with the draft Active Transportation Plan.
8. Development of the adjacent roadway network that does not overbuild the roads above the long-term traffic projections, and with preference for non-vehicular traffic modes.
9. Marketing and orientation of the project to the surrounding employers to reduce vehicle miles travelled and to maximize the use of non-vehicular traffic modes.
10. Development of a project that complies with the safety, noise and overflight policies of the City's Airport Overlay Zone and the San Luis Obispo County Airport Land Use Plan.

8. Required Approvals

The City of San Luis Obispo is the lead agency for the project. As described above, the proposed project requests the following City entitlements: a General Plan Map Amendment, a rezone of the property, a Specific Plan Amendment to the AASP, Conceptual Site Plan, Minor Use Permit, Major Development Review, a Development Agreement and environmental clearance for necessary off-site improvements. Approval of these entitlements would allow a final development plan (consistent with the requirements of the granted entitlements), including grading permits, improvement plans, and building permits to be handled by the City as ministerial approvals.

The project will be reviewed by the Airport Land Use Commission (ALUC) to determine if it is consistent with the adopted San Luis Obispo County Airport Land Use Plan (ALUP). Development of the project site under the proposed project would be required to comply with the Regional Water

Quality Control Board (RWQCB) Post Construction Storm Water Requirements for redeveloped sites. Future development of the project site, including widening of Tank Farm Road along the project's frontage east of the project site may require work within Acacia Creek. As such, future development under the proposed project may require permitting per Section 401/404 of the Clean Water Act from the U.S. Army Corps of Engineers and the RWQCB, and under Section 1600 et seq. of the California Fish and Game Code from the California Department of Fish and Wildlife. A portion of the off-site improvements are located on adjacent property that has a certified EIR. The Final EIR prepared for the Chevron Tank Farm Remediation and Development Project (State Clearinghouse No. 2009031001) would be used to identify the impacts and required mitigation measures at these off-site improvement locations. The responsibility for the implementation of these mitigation measures from the Chevron Tank Farm Remediation and Development Project will be determined as part of the EIR.

Environmental Factors Potentially Affected

The following discussion provides responses to each of the questions set forth in the CEQA Guidelines Appendix G Environmental Checklist Form. The responses below indicate those issues that are expected to be addressed in an environmental impact report (EIR) and demonstrate why other issues would not result in potentially significant environmental impacts and thus do not need to be addressed further in an EIR. The questions with responses that indicate a "Potentially Significant Impact" do not presume that a significant environmental impact would result from the project. Rather, such responses indicate those issues that will be addressed in an EIR with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

□ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

□ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

□ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

□ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

TCorey	11/20/2020
Signature	Date
Tyler Corey	Principal Planner
Printed Name	Title

Environmental Checklist

1 Aesthetics

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

Setting

The City's General Plan Conservation and Open Space Element and Circulation Element assign scenic value ratings of 'moderate' and 'high' to several roadways in the City, based on the availability of views of scenic resources from these public viewpoints. According to the City's General Plan Conservation and Open Space Element, the segment of U.S. Highway 101 (U.S. 101) through the City of San Luis Obispo is identified as having moderate and high scenic value (City of San Luis Obispo 2014a). According to Figure 11, Scenic Roadways and Vistas, in the Conservation and Open Space Element, Tank Farm Road adjacent to the project site has a "high scenic value" (City of San Luis Obispo 2014a). The Conservation and Open Space Element does not identify any "cones of view" or other important scenic vistas in the project site vicinity.

Discussion

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

c. Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The project site is located in a partially-developed area in the southern area of the City of San Luis Obispo, at the intersection of Tank Farm Road and Santa Fe Road on the north side of Tank Farm Road. The project's proposed frontage would be along the moderate/high scenic value portion of Tank Farm Road, west of the intersection with Broad Street. Therefore, this discussion considers moderate/high scenic value views from Tank Farm Road.

Existing public views of the project site from Tank Farm Road currently consist of vegetation within the Acacia Creek corridor east of the project site and vehicle parking and construction material storage on the project site. Background views of the surrounding area from Tank Farm Road include urban development to the east, hillsides to the north and east (when traveling east on Tank Farm Road), and hillsides to the west (when traveling west on Tank Farm Road).

The project would modify the foreground and middle ground views from Tank Farm Road by constructing new structures up to three stories in height (less than 36 feet), with frontage on Tank Farm Road. The structure most visible along Tank Farm Road and in the immediate foreground would be the mixed-use building, which would become the primary view of the project site from Tank Farm Road. The mixed-use building in the foreground, as well as the residential buildings in the background, would partially block views of the background hillsides from Tank Farm Road immediately south and west of the project site. Views from Tank Farm Road to the hillsides west of the project site are partially blocked by existing vegetation along Acacia Creek, and the project would not impact view of these hillsides due to the roadway angle near the project site and the existing vegetation.

Although new structures would block views of hillsides from the portion of Tank Farm Road immediately south of the project site, these hillsides are not within designated scenic vistas and there are no identified scenic "cones of view" through the project site according to General Plan Figure 11, *Scenic Roadways and Vistas* (City of San Luis Obispo 2014a). Therefore, the project would not degrade or block any designated high scenic views or otherwise degrade the existing quality of the site or surroundings. In addition, the project would incorporate on-site landscaping and vegetation consistent with background views of open space land uses. The project would be visually consistent with existing and planned development on the north side of Tank Farm Road and development along Broad Street to the east of the project site.

The visual character of the site as viewed from Tank Farm Road would be modified by the removal of existing vehicle parking and construction material storage and replacement with buildings up to three stories in height (less than 36 feet). The project would involve the removal of small stands and individuals of non-native trees and shrubs on the project site, but would not involve removal of trees in the riparian corridor of Acacia Creek, which are the primarily visual component of views of the site from the south (note that the potential biological impacts associated with tree removal will be discussed in the EIR being prepared for the project; refer to Section 4, *Biological Resources*). Tree removal would be required to comply with the City's Tree Ordinance, which establishes requirements for compensatory planting and preservation priorities for retaining native trees. The project would incorporate on-site landscaping along the perimeter of the site and would leave the

northwest portion of the site as open space, which would supplement hillside views to the northeast.

The project would be required to adhere to applicable policies and programs in the City's General Plan Conservation and Open Space and Circulation Elements, including the City's Community Design Guidelines as well as AASP Community Design standards. Development on the project site would be reviewed by the Tree Committee (TC) and the Architectural Review Committee (ARC) , both of which would make recommendations to ensure compliance with City requirements that could be included as possible conditions of approval when the project is finally considered for approval by the Planning Commission and City Council. Therefore, the project would not have a significant adverse effect on a scenic vista, or substantially degrade the existing visual character or quality of the site and its surroundings.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located along Tank Farm Road, approximately 1.5 miles from U.S. 101, which is the nearest state highway to the site. The section of U.S. 101 through the City of San Luis Obispo is classified as an Eligible State Scenic Highway but is not officially designated (Caltrans 2015). However, due to the distance between U.S. 101 and the project site, there are no available views of the project site from U.S. 101.

NO IMPACT

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

Existing sources of nighttime lighting in the vicinity of the site include lighting at the existing mobile home residential uses to the east, streetlights along Tank Farm Road, spillover lighting from surrounding development (primarily from Damon Garcia-Sports Fields to the north and the commercial properties to the south and east), light from the headlights of vehicles traveling along Tank Farm Road, and light from the San Luis Obispo County Regional Airport to the south. Development of the project site would result in an increase in ambient nighttime lighting through the addition of parking lot and security/safety lighting, and exterior fixtures associated with residential and mixed-use structures. The site would also experience an increase of headlights and vehicle glare from vehicles accessing the site.

The project would be required to conform to the City's Night Sky Preservation Ordinance (Zoning Regulations Chapter 17.23), which sets operation standards and requirements for lighting installations. These include limits on outdoor lighting that is misdirected, excess, or unnecessary, and meeting the minimum requirements of the California Code of Regulations for Outdoor Lighting and Signs (CCR Title 24, Chapter 6). The project would also be required to comply with City General Plan policies pertaining to lighting and glare (Policy 9.2.3 Outdoor Lighting), as well as the City's Community Design Guidelines. Prior to development of the site under the proposed project, the applicant would also be required to provide an overall lighting plan that demonstrates that the project complies with the requirements of Zoning Regulations section 17.18.030, which prohibits lighting or illuminated devices that would create glare which results in a hazard or nuisance on other properties. The lighting plan for any subsequent development under the project would be required to be reviewed and approved by the Architectural Review Committee (ARC) prior to issuance of

building permits. Compliance with applicable City policies and regulations would ensure that impacts associated with the creation of new sources of exterior lighting and glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

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

Setting

The project site is currently designated Business Park (BP) and is undeveloped but is used for vehicle parking and construction material storage. The Department of Conservation's Farmland Mapping and Monitoring Program classifies the project site as Urban and Built Up Land (DOC 2016).

Discussion

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

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

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

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

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

The project site is not located on land currently used for agriculture and does not contain any forest land or resources. There is no agriculturally-zoned land, land enrolled in a Williamson Act Contract, or timber or forest lands on the project site, and the site is not a part of any timber harvesting plans or zones. The Farmland Mapping and Monitoring Program (FMMP) designates the project site as "Other Land." Therefore, the project would not convert agricultural land to non-agricultural use, conflict with existing zoning for agricultural use, convert forest land to non-forest use, or conflict with existing zoning for forest land.

NO IMPACT

3 Air Quality

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

Discussion

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The SLOAPCD CEQA Air Quality Handbook (2012) identifies typical land uses that have the potential to result in odorous emissions and provides recommendations for siting new sensitive land uses in close proximity to these uses. The project would rezone the site for mixed residential and non-residential (commercial-service/office space) uses, which are not identified by SLOAPCD as uses that typically create objectionable odors. In addition, the project site is surrounded by service commercial/business park land uses to the south, existing and approved new residences to the east, the Damon Garcia-Sports Fields to the north, and the undeveloped Chevron property to the west. None of these land uses include operations listed in the CEQA Air Quality Handbook as potential

odor-contributing sources. Therefore, development under the proposed rezone would not result in objectionable odors that would affect a substantial number of people.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

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

Discussion

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

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

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

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

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

A Biological Resources Assessment (BRA) has been completed by Kevin Merk Associates, LLC (Appendix A). These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The project site is not located in any adopted Habitat Conservation Plans or Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact.

NO IMPACT

5 Cultural Resources

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

Discussion

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

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

A Cultural Resource Study for 600 Tank Farm Road has been completed by Applied EarthWorks, Inc. This report is not included in the technical appendix due to the confidential locational information of archaeological resources included therein. These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

Ground disturbing construction activities have the potential to encounter or disturb undiscovered human remains. If human remains are found, the State of California Health and Safety Code Section 7050.5 requires that no further disturbance occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner would be notified immediately. If the human remains are determined to be prehistoric, the coroner would notify the Native American Heritage Commission (NAHC), which would determine and notify a most likely descendant (MLD). The MLD would complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. The project would adhere to the statutory requirements of the State Health and Safety Code and Public Resources Code, which would ensure proper procedures are implemented if human remains are uncovered. Compliance with applicable State and local regulations regarding handling of human remains would ensure that this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

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

Discussion

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

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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7 Geology and Soils

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	□	■	□	□

Setting

San Luis Obispo is located in a geologically-complex and seismically-active region. Seismic conditions have the potential to result in significant harm to both people and property. The Safety Element of the City General Plan considers the effects of earthquakes, including the rupture of the ground surface along a fault and the ground shaking that occurs from fault movement, as well as liquefaction, settlement, erosion, landslides, and other geologic hazards (City of San Luis Obispo 2014b). This analysis is based on a Soils Engineering Report prepared by GeoSolutions, Inc. in March 2020 (refer to Appendix B).

Surface Rupture and Ground Shaking

Surface rupture refers to the top of the ground moving unevenly along a fault. It typically occurs within an area of linear traces along previous ruptures, which mark a fault zone, and often in concert with movement on adjacent or intersecting faults. Ground shaking refers to the vibration that occurs in response to displacement along a fault. Typically, ground shaking has a side-to-side component as well as a vertical component, with the actual movement depending on the type of fault, a site's distance from the fault, and the rock and soil conditions at the site.

Figure 3 in the City's General Plan Safety Element shows active or potentially active fault lines in the City. The nearest active fault is the Los Osos Fault, which runs northwest/southeast outside of the City limits and does not pass through the project site. The Los Osos Fault has been classified as active within the last 11,000 years. Other faults in the vicinity of San Luis Obispo are the West Huasna, Oceanic, and Edna faults (City of San Luis Obispo 2014b). Other faults are capable of producing strong ground motion in San Luis Obispo include the Point San Luis, Black Mountain, Rinconada, Wilmar, Pecho, Hosgri, La Panza, and San Andreas faults. The San Andreas Fault and the offshore Hosgri Fault present the most likely source of ground shaking for San Luis Obispo (City of San Luis Obispo 2014b).

Settlement and Liquefaction

Settlement occurs when the ground supporting part of a structure or facility lowers more than the rest or becomes softer, usually because ground shaking reduces the voids between soil particles (often with groundwater rising in the process). Liquefaction is the sudden loss of the soil's supporting strength due to groundwater filling and lubricating the spaces between soil particles as a result of ground shaking. Soils in the San Luis Obispo area with high risk for liquefaction are typically sandy and in creek floodplains or close to lakes. The likelihood of liquefaction increases with the strength and duration of an earthquake. The project site is identified in the Safety Element of the San Luis Obispo General Plan as being located in an area of very high liquefaction potential (City of San Luis Obispo 2014b). However, few properties in the City have identified a substantial

liquefaction risk once a soils engineer has conducted borings to evaluate the risk based on neighboring reports and underlying mapping.

Slope Stability and Landslides

Slope instability can occur as a gradual spreading of soil, a relatively sudden slippage, a rockfall, or in other forms. Causes include steep slopes, inherently weak soils, saturated soils, and earthquakes. Improper grading and man-made drainage contribute to slope instability. Slope instability may result in gradual or sudden damage to buildings, roads, and utility lines. The project site is relatively flat and does not contain slopes or hillsides.

Expansive Soils

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moistures that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils. According to the Soils Engineering Report, soils on the project site include potentially expansive material.

Paleontological Sensitivity

Paleontological resources include fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve scientific understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. According to the Soils Engineering Report, the project area includes two geologic units mapped at the surface: Quaternary (Holocene) alluvium (Qa) and rock components mapped as serpentinite (Appendix B). Quaternary (Holocene) alluvial deposits are generally too young to contain fossilized material and are assigned a low paleontological sensitivity. However, based on regional geologic mapping these Holocene sediments may grade into older buried Pleistocene alluvium in which scientifically significant fossils have a higher potential to occur. Pleistocene-aged sediments that have high paleontological sensitivity can occur as few as six feet below ground surface regionally.

Discussion

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The nearest active fault is the Los Osos Fault, which runs northwest/southeast outside of the City limits and does not pass through the project site (City of San Luis Obispo 2014b). There are no Alquist-Priolo Earthquake Fault zones on-site or in the project vicinity (DOC 2019). Therefore, the proposed residential and mixed-use buildings would not be placed on an Alquist-Priolo Earthquake Fault zone and would not result in hazards relate to fault rupture.

While there are no active faults mapped on the project site, seismic events caused by active and potentially active faults in the region could result in seismic ground shaking on-site. The City is within Seismic Zone 4. A seismic hazard cannot be completely avoided in these regions; however, effects can be minimized by implementing requirements specified in the California Building Code (CBC). The CBC (incorporates the Uniform Building Code) and the California Division of Mines and Geology Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117 (revised 2008), includes design and construction requirements related to fire safety, life safety, and structural safety. Compliance with existing building standards would minimize potential safety hazards from seismic ground shaking, and ensure impacts associated with the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

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

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

The project site is identified in the Safety Element of the San Luis Obispo General Plan as being located in an area of very high liquefaction potential (City of San Luis Obispo 2014b). Policy 4.7 of the Safety Element of the City General Plan states that development may be located in areas of high liquefaction potential only if a site-specific investigation by a qualified professional determines that the proposed development would not be at risk from settlement and liquefaction. According to the Soils Engineering Report prepared for the project site, due to the consistency and relative density of the in-situ soils, the potential for seismic liquefaction of soils at the project site is low (Appendix B).

The Soils Engineering Report identifies potential geological concerns at the project site, including potential groundwater seepage, presence of loose surface and subsurface materials, shallow bedrock, and expansive material. The Soils Engineering Report provides design recommendations, including building pad, foundation, and flatwork recommendations, which would be incorporated into the final project design through required Conditions of Approval and/or permit conditions. Development on the project site under the proposed project would be required to comply with the CBC, the City of San Luis Obispo Municipal Code, and applicable General Plan policies, which require documentation of soil characteristics for designing structurally sound buildings to ensure new structures are built to resist liquefaction risks and unstable expansive soils. The final project design would be required to comply with applicable CBC and Municipal Code requirements, and to implement required Conditions of Approval and permit conditions, which would ensure potential impacts associated with unstable soils would remain less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is generally flat, without slopes, hills, or mountains that would expose people or structures to risks regarding landslides. As identified in the Safety Element of the City General Plan, the project is not located in an area identified with landslide hazards.

NO IMPACT

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

The site is previously developed, generally flat, and located in a partially-developed area of the City. The most significant source of potential erosion of on-site would be during initial site ground disturbance/construction and from storm water runoff. Storm water runoff is discussed in Section 10, Hydrology and Water Quality. The project applicant would be required to develop a Storm Water Control Plan which would describe design requirements to address the collection of storm water and the direction of run off flow to on and off site drainages. In addition, the project applicant would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which would describe best management practices to minimize on- and off-site erosion and sediment run off during construction. Preparation of the required Storm Water Control Plan and SWPPP would ensure the project would not result in substantial temporary or long-term erosion or loss of topsoil.

LESS THAN SIGNIFICANT IMPACT

e. Would the project 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?

The project would connect to the City sanitary sewer system and would not require the use of septic tanks or other alternative wastewater disposal systems. There would be no impact regarding soil capability.

NO IMPACT

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

According to the Soils Engineering Report, the project site contains Quaternary (Holocene) alluvial deposits mapped at the surface, which are generally too young to contain fossilized material, and are assigned a low paleontological sensitivity (Appendix B). However, based on regional geologic mapping these Holocene sediments may grade into older buried Pleistocene alluvium in which scientifically significant fossils have a higher potential to occur. Pleistocene-aged sediments have high paleontological sensitivity at as few as six feet below ground surface regionally. Data on the specific depth at which the Holocene unit mapped at the surface of the project transitions into older Pleistocene deposits that have the potential for fossilized material is not available. Therefore, there is the potential for project construction and implementation to impact paleontological resources.

The following required mitigation measures would address the potentially significant impacts relating to the discovery of paleontological resources during project implementation and ground-disturbing activities. These measures would apply to all phases of project construction that would disturb the buried Pleistocene alluvium (approximately six feet below ground surface) and would ensure that any significant fossils present on-site are preserved through the recovery, identification,

and curation of previously unrecovered fossils. Implementation of Mitigation Measure GEO-1(a) through GEO-1(c) would reduce potential impacts to paleontological resources to a less than significant level.

Mitigation Measures

GEO-1(a) Paleontological Monitoring

Prior to issuance of grading permits and the commencement of ground disturbing activities on the project site that are greater than six feet in depth, a qualified professional paleontologist shall be retained to conduct paleontological monitoring during such ground disturbing activities. The Qualified Paleontologist shall have knowledge of the local paleontology and shall be familiar with paleontological procedures and techniques.

Prior to the commencement of construction activities, an orientation meeting shall be conducted by the Qualified Paleontologist, general contractor, subcontractor, and construction workers associated with earth disturbing activities. The orientation meeting shall describe the potential of exposing paleontological resources, the types of materials may be encountered, and directions on the steps that shall be taken if such a find is encountered.

Ground disturbing construction activities (including grading, trenching, drilling with an auger greater than 3 feet in diameter, and other excavation) within previously undisturbed sediments at depths greater than six feet shall be monitored on a full-time basis. Monitoring shall be supervised by the Qualified Paleontologist and shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the SVP (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources.

If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend reducing monitoring to periodic spot-checking or cease entirely. Full-time monitoring shall be reinstated if any new ground disturbances are required at a depth of six feet or greater, and reduction or suspension would need to be reconsidered by the Qualified Paleontologist. Ground-disturbing activity that does not exceed six feet in depth within Quaternary alluvium would not require paleontological monitoring.

GEO-1(b) Fossil Discovery, Preparation, and Curation

In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert construction equipment around the find until it is assessed for scientific significance and collected. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Curation fees are assessed by the repository and are the responsibility of the project owner.

GEO-1(c) Paleontological Monitoring Plan

Prior to the start of ground-disturbing activities, a Paleontological Monitoring Plan shall be prepared and submitted to the City for review and approval. The Plan shall be prepared by a Qualified Paleontologist and shall address the following:

- Procedures for Paleontological Monitoring;
- Procedures for the paleontologist to make and implement recommendations as to whether or not monitoring should be required on a full-time basis;
- Procedures for the paleontological monitor to temporarily redirect construction away from an area if paleontological resources are encountered during grading or excavation in order to assess the significance of the find; and
- Procedures for the handling of collected resources, including preparation to the point of identification.

GEO-1(d) Final Paleontological Mitigation Report

At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to the City and the designated museum repository.

PLAN REQUIREMENTS, TIMING, AND MONITORING

The project applicant shall retain the qualified paleontologist prior to the issuance of grading permits. Prior to the issuance of grading permits, the City shall approve the Paleontological Monitoring Plan and confirm that the training of construction personnel has occurred. During initial ground disturbance, the project applicant shall ensure that the qualified paleontologist is on-site and monitoring during these activities. The Final Paleontological Monitoring Report shall be submitted to the City of San Luis Obispo once ground-disturbing activities have been completed.

MONITORING

Prior to issuance of grading permits, the City shall confirm the qualifications of and approve the applicant's choice of the qualified paleontologist and the recommendations in the Paleontological Monitoring Plan. The City shall review construction plans and periodically inspect project construction to ensure compliance with these measures. The City shall review and approve the Final Paleontological Monitoring Report.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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8 Greenhouse Gas Emissions

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

Discussion

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	□	□	■	□
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	□	□	■	□
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	□	□	□	■
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	□	□	□
e. For a project located in 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?	■	□	□	□
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	□	□	■	□
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	□	□	■	□

Discussion

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

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

The project includes the construction and operation of new mixed-use and residential development. Small quantities of potentially hazardous materials such as fuels, lubricants, and solvents would be used during construction of the project. California Health and Safety Code, Division 20, Chapter 6.5, and California Code of Regulations Title 22 – Hazardous Waste Management states that waste that is toxic, corrosive, flammable, or reactive when tested in accordance with the California Code of Regulations, Title 22, Article 11, Section 66693, must be handled, stored, transported, and disposed of in accordance with these regulations, which are more stringent than federal regulations.

The transport of materials during the construction of the project could pose a threat to residents and people in the area. An accident involving such trucks could potentially expose nearby people to health hazards. However, U.S. EPA and U.S. Department of Transportation laws and regulations have been promulgated to track and manage the safe interstate transportation of hazardous materials and waste. U.S. EPA administers permitting, tracking, reporting, and operations requirements established by the Resource Conservation and Recovery Act (RCRA). U.S. Department of Transportation regulates the transportation of hazardous materials through implementation of the Hazardous Materials Transportation Act. This act administers container design, labelling, and driver training requirements. State and local agencies enforce the application of these acts and provide coordination of safety and mitigation responses in the case that accidents involving hazardous materials occur. Enforcement of these regulations and rapid response by local agencies would ensure that hazards to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are less than significant.

Residential uses would not involve the use or storage of large quantities of hazardous materials. Allowable non-residential uses in the commercial-service/office space designation include laundry and dry-cleaning facilities, medical laboratory facilities, photo and film processing, which may involve the use or storage of hazardous materials. The use of such materials is regulated by federal, State, and local laws, with which the project would be required to comply. Zoning Regulations section 17.70.130.D.4 (Limitations on Use) prohibits specific uses within any mixed-use development where there is a possibility of affecting the health or safety of mixed-use development residents due to the potential for the use to create dust, glare, heat, noise, noxious gases, odor, smoke, traffic, vibration, or other impacts, or would be hazardous because of materials, processes, products, or wastes. In addition, the project would be required to adhere to the policies in the City of San Luis Obispo Safety Element, which discuss safety and reducing the risks of hazardous material exposure. Program 9.6 of the City's Safety Element states that the City shall ensure that transportation of hazardous materials follows Caltrans-approved routes, and that all necessary safety precautions are taken to prevent hazardous material spills.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest school to the site is the Montessori School at Unity, located approximately 1.5 miles to the northeast. There are no schools within 0.25 mile of the project site, and Zoning Regulations section 17.70.130.D.4 (Limitations on Use) prohibits specific uses within any mixed-use development where there is a possibility of affecting the health or safety of mixed-use development residents due to the potential for the use to create dust, glare, heat, noise, noxious gases, odor, smoke, traffic, vibration, or other impacts, or would be hazardous because of materials, processes, products, or wastes.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material 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?

A Phase I Environmental Site Assessment report (Phase I ESA) is being prepared by GeoSolutions, Inc. This topic will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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?

A Federal Aviation Administration Application has been completed by Peck Planning and Development (Appendix C). This topic will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

LESS THAN SIGNIFICANT IMPACT

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

Construction of new residential and mixed-use structures on the project site would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan, as no such plans apply to the project site. The project would be required to comply with San Luis Obispo Fire Department specifications and Chapter 5 of the California Fire Code, which would ensure that the project does not interfere with emergency response or evacuation procedures.

LESS THAN SIGNIFICANT IMPACT

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

As identified in the Safety Element of the City General Plan, the site is not located in a moderate, high, or very high fire hazard severity zone. The project site and surrounding parcels do not contain wildlands, forests, or dense vegetation that would expose the project to wildfire risk. In addition, the project would be required to adhere to the 2013 CBC Chapter 7A Partial Requirements which requires certain construction materials and methods to minimize wildfire exposure hazards. These

include Class A fire rated roof assemblies, flame and ember intrusion resistant vents, and non-combustible building side materials.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	□	□	■	□

Setting

Drainage Patterns

The project site is located in the San Luis Obispo Creek Watershed, which drains an area of approximately 84 square miles, including the City of San Luis Obispo and its surrounding hills, mountains, and valleys. According to the San Luis Obispo Waterway Management Plan, average seasonal precipitation in the City of San Luis Obispo is approximately 21 inches. Because the City is part of a coastal watershed, it is subject to wide ranges in precipitation from droughts to heavy storms (City of San Luis Obispo 2003).

Acacia Creek is an ephemeral stream that borders the eastern boundary of the project site and serves as a tributary to the East Fork of San Luis Obispo Creek.

Water Quality

Acacia Creek is not on the 2016 Clean Water Act Section 303(d) list of impaired waters for pathogens (State Water Resources Control Board 2020). Groundwater quality in the San Luis Obispo Groundwater Basin has been reduced in part due to the degradation of surface waters in San Luis Obispo Creek. Groundwater in the unconfined aquifers within the basin contains high levels of nitrates, iron, manganese, and organic compounds.

Discussion

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

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

Construction

The protection of water quality is under the jurisdiction of the RWQCB. As discussed above, the project is located adjacent to Acacia Creek. Construction activities, such as grading and soil movement, could impact water quality in the Creek from stormwater runoff or erosion. The project would be required to comply with all state and federal requirements pertaining to the preservation of water quality. A National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities is required when a project involves clearing, grading, disturbances to the ground (such as stockpiling), or excavation that would result in soil disturbances of one or more acres of total land area. Coverage under the General Permit must also be obtained prior to construction and the preferred project is subject to these requirements.

Under the conditions of the General Permit, the developer would be required to eliminate or reduce non-storm water discharges to waters of the nation, develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the project construction activities, and perform inspections of the storm water pollution prevention measures and control practices to ensure conformance with the site SWPPP. The General Permit prohibits the discharge of materials other than storm water discharges and prohibits all discharges that contain a hazardous substance in excess of reportable quantities established at 40 CFR 117.3 or 40 CFR 302.4. The General Permit also specifies that construction activities must meet all applicable provisions of Sections 30 and 402 of the Clean Water Act. Conformance with Section 402 of the Clean Water Act would ensure that the preferred project does not impact the adjacent Acacia Creek or violate any water quality standards or waste discharge requirements.

Operation

Elevations on the project site range from approximately 142 to 170 feet above mean sea level, generally sloping downwards towards Tank Farm Road. Due to the proximity and topography between the site and the nearest largest bodies of water, tsunami and seiche impacts would be less than significant. As identified in the City's Safety Element, the City is not located in a dam inundation area or Tsunami Inundation Zone. A portion of the project site is potentially susceptible to a 1 percent annual chance flood. However, the flood zone areas are confined to the eastern project site boundary along Acacia Creek, which is primarily limited to vegetation and walking trails. There would be no on-site uses which would lead to a significant release of pollutants in a flood event.

The project would be required to comply with the City's and RWQCB's Post-Construction Storm Water Management Requirements for Development Projects in the Central Coast Region (Resolution R3-2013-0032) , which requires Central Coast municipalities to implement Post Construction Requirements to comply with the Statewide Phase II Municipal General Permit. The General Permit requires MS4s to develop and implement Best Management Practices (described in the City Municipal Code Section 12.08 – Stormwater Quality Ordinance) to reduce the discharge of pollutants and protect water quality. Required Best Management Practices (BMPs) control the volume, rate, and potential pollutant load of stormwater runoff from newly developed properties. These requirements are incorporated in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. To demonstrate compliance, a Storm Water Control Plan consistent with the City's NPDES Phase II Program would be required for the project.

Based on compliance with these existing State and local regulations, the project would not violate any water quality standards or waste discharge requirements, or substantially degrade surface or groundwater quality, and potential water quality impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is currently developed with vehicle parking and construction material storage. The City of San Luis Obispo no longer draws groundwater for potable purposes as of 2015. Potable water for future residential and non-residential uses developed under the proposed project would be served by the existing City's sewer and water systems. The project includes open space permeable vegetated areas, bioswales, and would use an existing on-site retention basin, which would aid in

groundwater recharge. Approximately 20 percent of the site would be vegetated open space areas. Therefore, the project would not substantially deplete groundwater supplies and would not interfere with groundwater recharge.

LESS THAN SIGNIFICANT IMPACT

c.i-iv. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 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 impede or redirect flood flows?

This topic will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

The San Luis Obispo Groundwater Basin has been identified as a high priority basin under the Sustainable Groundwater Management Act (DWR 2019). A Groundwater Sustainability Plan is currently being developed for the Basin. As discussed in the response to checklist question b above, the City of San Luis Obispo no longer draws groundwater for potable purposes as of 2015 and the project includes open space permeable vegetated areas, bioswales, and an existing on-site retention basin, which would aid in groundwater recharge. Therefore, the project would not deplete groundwater supplies or interfere substantially with groundwater recharge. The project would include storm water treatment and storage facilities and would comply with the City's and RWQCB's Post-Construction Storm Water Management Requirements for Development Projects. The project would not conflict with the Central Coastal Basin, a sustainable groundwater management plan, or other local or regional plans or policies intended to manage water quality or groundwater supplies.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

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

Setting

According to the City's 2020 Draft Housing Element, the City's current population is approximately 46,802. The incorporated City encompasses roughly 13 square miles. Primary land uses in the City include residential development at a low to moderate density, professional services, government facilities, and general retail. The core of the City constitutes a compact urban form, including a downtown area and distinct surrounding neighborhoods. The City is surrounded by a greenbelt, which defines a separation of urban uses within the City and rural uses outside of the City. The project site is located within the AASP and is currently designated BP with a small portion of the property within the C/OS zone delineating a portion of Acacia Creek.

Discussion

a. Would the project physically divide an established community?

The project site is currently used for vehicle parking and construction material storage, which would be replaced by the proposed residential mixed-use development. Therefore, no residents would be displaced with the redevelopment of the site. The project would implement several transportation features under a reimbursement agreement with the City, including providing a roundabout at the intersection of Tank Farm Road and Santa Fe Road. The transportation improvements would not separate or impact connections to different areas of the city. The development would not impact access to other adjacent properties or other areas of the city. In addition, the proposed service commercial zoning would be consistent with the surrounding land uses to the east and south. No project components would divide an established community, or place pressure on adjacent properties to induce future development.

NO IMPACT

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

The County of San Luis Obispo is currently updating the Airport Land Use Plan. The draft version of the 2020 Airport Land Use Plan is currently available for public review. This topic will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

12 Mineral Resources

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

Setting

Consistent with the requirements of the California's Surface Mining and Reclamation Act of 1975 (SMARA), the State Geologist has classified land based on the known or inferred mineral resource potential. The Mineral Land Classification process identifies lands that contain economically significant mineral deposits and primarily classifies land as Mineral Resource Zones (MRZ) 1-4. The Division of Mines and Geology's Guidelines for Classification and Designation of Mineral Lands, defines MRZs as:

- MRZ-1: Areas of No Mineral Resource Significance
- MRZ-2: Areas of Identified Mineral Resource Significance
- MRZ-3: Areas of Undetermined Mineral Resource Significance
- MRZ-4: Areas of Unknown Mineral Resource Significance/No Known Mineral Occurrence

According to the City's Conservation and Open Space Element, quarries and mines in the San Luis Obispo area previously produced basaltic stone, "red rock," and cinnabar. The extraction of mineral resources is not permitted within City limits (pursuant to Zoning Regulations section 17.08.070) and there are no active mines located within the project area.

Discussion

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

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

The project site is not within a designated mineral resource zone (Busch and Miller 2011). In addition, based on a review of the Department of Conservation's Division of Oil, Gas, and Geothermal Resources Well Finder, there are no oil or gas wells or fields on the project site (DOC 2019). The off-site locations include locations on undeveloped Chevron property to the west, but do not include any locations currently used for oil or gas wells or fields. The project does not propose the exploration or harvesting of oil or gas resources. Because there are no identified significant mineral resources in the project site vicinity, and the project does not propose exploration or mining, there would be no impact on available mineral resources.

NO IMPACT

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	■	□	□	□
b. Generation of excessive groundborne vibration or groundborne noise levels?	■	□	□	□
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?	□	□	■	□

Setting

This discussion is based in part on an Acoustical Analysis prepared by 45dB Acoustics in March 2020 (Appendix D).

Noise Background

Noise in this study is defined as the unwanted sound that disturbs sensitive receptors. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes are typically not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

The time period in which noise occurs is important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 PM to 7 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour

average noise level with a 5 dBA penalty for noise occurring from 7 PM to 10 PM and a 10 dBA penalty for noise occurring from 10 PM to 7 AM. Noise levels described by Ldn and CNEL typically do not differ by more than 1 dBA. In practice, CNEL and Ldn are often used interchangeably.

Regulatory Setting

CITY OF SAN LUIS OBISPO GENERAL PLAN AND STATE OF CALIFORNIA NOISE STANDARDS

The Noise Element and Noise Guidebook (1996) of the City of San Luis Obispo General Plan uses modified land use compatibility standards recommended by the California Department of Health Services. The noise criteria for the City and the State of California for current and projected conditions state that the noise intrusive to interior habitable space of residential units from exterior sources should not exceed 45 dBA CNEL. The General Plan Noise Element restricts noise in outdoor living areas due to transportation noise sources to 60 dB CNEL.

Discussion

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

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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 project site is within the City of San Luis Obispo AASP and also in the Planning Area of the ALUP for the San Luis Obispo County Regional Airport. Runway 11-29 of the San Luis Obispo regional airport (SBP) is located approximately 1,500 feet to the southwest of the project site. Existing noise levels on the project site were measured and future noise levels on the project site were estimated using predictive modeling in an Acoustical Analysis prepared by 45dB Acoustics in March 2020.

As identified in the ALUP and in the San Luis Obispo General Plan Noise Element, the project site is within the 55-61 dBA CNEL range of the airport sound level contours. However, more recent contours reported by RS&H (2015) are approximately 5 dB lower and agree with the existing sound level measurements collected by 45dB Acoustics. Existing traffic noise levels (primarily associated with traffic on Tank Farm Road) are approximately 68 dBA CNEL at the proposed mixed-use buildings facing Tank Farm Road, and approximately 54 dBA CNEL at the proposed residential building elevations closest to Tank Farm Road. Airport noise levels at the project site are lower than existing road traffic noise levels (see Appendix D). Therefore, airport noise would not be the primary contributor to existing on-site noise levels, and the project would not expose people residing or working in the project area to excessive noise levels from aircraft or other airport uses.

LESS THAN SIGNIFICANT IMPACT

14 Population and Housing

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

Setting

According to the City's 2020 Draft Housing Element, the City's current population is approximately 46,802 and is projected to grow to 50,659 by 2035 (City of San Luis Obispo 2020). As of 2019, the City had approximately 21,403 housing units with an average household size of 2.44 persons per household.

Discussion

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

Development under the proposed project would add up to 280 new housing units to the City. Using the City's average household size of 2.44, the project could result in approximately 683 new residents to the City. However, this is a conservative estimate as many of the units would be studio or one-bedroom and would be expected to result in fewer persons per household than the City average. Land Use Element Policy 1.11.2, *Residential Growth Rate*, states that the City shall manage the growth of the city's housing supply so that it does not exceed one percent per year on average based on thresholds established in Land Use Element Table 3. The thresholds are the approximate number of dwellings and residents which would result from the one percent maximum average annual growth rate over the planning period, which extends to 2035. According to Land Use Element Table 3, the anticipated number of housing units in the City in 2035 would be 25,762. According to the 2020 Draft Housing Element, the City's population is projected to grow to 50,659 by 2035 (City of San Luis Obispo 2020).

The proposed project would result in an additional 280 more housing units than currently anticipated by the AASP because of the proposed land use change. However, the project would be subject to the one percent population growth policy identified in the Land Use Element, Table 3,

which states that the one percent growth rate can be averaged over five-year increments. According to the LUCE Update EIR, anticipated buildout of the adopted Land Use Element would only result in approximately 25,601 dwelling units, which would be less than the maximum number of residential units based on the one percent residential growth estimate (City of San Luis Obispo 2014a). Therefore, cumulatively, residential buildout in the City up to the year 2035 would not exceed 25,762 units (or 50,659 people). Therefore, while the project would induce growth within the City over existing land use, and specifically the area subject to the AASP, the effect would be less than significant because this development, and future development, are subject to the annual one percent growth over five-year increments limitation.

The project would also include 12,500 square-feet of "Town Center" commercial-service/office space. Based on employment generation rates for retail uses from the San Luis Obispo Air Pollution Control District's (SLOAPCD) *CEQA Air Quality Handbook* (SLOAPCD 2012), the potential new commercial floor area under the proposed project would result in a net increase of approximately 17 new employees (1.39 employees per 1,000 feet). Although the project would generate new employees, these employees would be expected to come from the existing population in the City or region and would not contribute to new population growth.

The project would not extend roads or other infrastructure beyond those necessary to accommodate the project. The proposed off-site transportation improvements along Tank Farm Road, at the intersection of Tank Farm Road and Santa Fe Road, and at the Santa Fe Road extension are included in the City's list of Transportation Capital Projects in the General Plan Circulation Element and are identified in the AASP. Overall, the proposed project would not result in the removal of an impediment to growth.

LESS THAN SIGNIFICANT IMPACT

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

The project site does not contain housing units or persons on-site. Therefore, the project would not displace existing people or housing.

NO IMPACT

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	□	□	■	□
2 Police protection?	□	□	■	□
3 Schools?	□	□	■	□
4 Parks?	□	□	■	□
5 Other public facilities?	□	□	■	□

Setting

Fire protection services are provided by the San Luis Obispo City Fire Department (SLOFD). Services provided by SLOFD include fire response, emergency medical response, hazardous materials response, public assistance, and non-emergency services such as fire and life safety inspections, building inspections, fire code investigations, and public education (San Luis Obispo 2020a).

The San Luis Obispo Police Department (SLOPD) provides police protection for the City. SLOPD is divided into two Bureaus: Operations and Administrative Services. The Operations Bureau includes the Patrol Services Division, the Traffic Safety Unit, Situation Oriented Response Team, and Neighborhood Services. The Administrative Services Bureau includes the Administrative Services Division, Investigative Division, Communications Division, and Records Unit (San Luis Obispo 2020a).

The project site is within the San Luis Coastal Unified School District (SLCUSD). SLCUSD operates 10 elementary schools, two middle schools, three high schools, and an adult school.

Discussion

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project site is within the existing service area of the SLOFD. The closest fire station to the project site is City Fire Station 3, located at 1280 Laurel Lane, approximately two miles northeast of the project site. The City also has a mutual aid agreement with CALFIRE which allows for additional fire or emergency assistance when needed. CALFIRE Fire Station 21 is located approximated one mile southeast of the project site. New development would be subject to the SLOFD standards and California Fire Code in all proposed buildings, including installation of fire hydrants, building sprinklers, provision of adequate water supply and pressure, placement of fire extinguishers, provision of adequate fire access to buildings, and other requirements.

The proposed project is located in the southern City limits and would increase demand on SLOFD resources to outer areas of the City. As discussed in Section 14, *Population and Housing*, the project would add 280 housing units. The proposed residential and mixed-uses would increase the City's population by up to 683 new residents, which would marginally increase demand on SLOFD resources.

The City's 2016 Fire Master Plan (FMP) plans for the construction of a new fire station in the southern area of the City to enhance suburban response times to all outer areas, including the AASP. Implementation of the project would not directly require the construction of a new fire station in the southern area of the City, as that demand already exists. The City's Capital Facilities Fee Program includes a Fire Impact Fee to pay for acquisition and construction of a Fire Station No. 5 in the southern area of the City; however, the potential environmental impacts of constructing such a facility are speculative, because the final location and design of such a facility are uncertain. An independent environmental review would be conducted for any future fire station development. Future development under the proposed rezone would be required to pay the required Fire Impact Fees and contribute its fair share to the costs of funding City fire services in the southern area of the City prior to issuance of building permits. Therefore, the project would not result in adverse environmental impacts associated with the provision of new or physically altered fire protection facilities.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project site is within the existing service area of the SLOPD. The closest police station to the project site is located at 1042 Walnut Street, approximately 2.5 miles northwest of the project site. The project site is currently served by existing police services, and no new police facilities would be required to provide service. However, the proposed residential and mixed-uses would increase the City's population by up to 683 new residents, which would marginally increase the demand for police services to the site. The project would be required to pay Police Impact Fees under the City's

Capital Facilities Fee Program, which fund construction of new police facilities and purchase of new vehicles and equipment to maintain patrol service level standards as the City grows. The Capital Facilities Fee Program anticipates the future construction of a new Police Department Headquarters; however, the potential environmental impacts of constructing such a facility are speculative, because the final location and design of such a facility are uncertain. An independent environmental review would be conducted for any future police facility development at the time such facility is proposed. Future development under the proposed rezone would be required to pay the required Capital Facilities Fees and contribute its fair share to the cost of funding City police services prior to issuance of building permits. Therefore, the project would not result in adverse environmental impacts associated with the provision of new or physically altered police protection facilities.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project site is located in the existing services area of the City's schools, parks, and other public facilities. The project would introduce new students to San Luis Coastal Unified School District (SLCUSD). Consistent with the requirements of Senate Bill 50, the project would be required to pay a school impact fee (Government Code Section 65970) to SLCUSD. SB 50 fees would be directed towards the maintenance of adequate school service levels, including increases in capacity. In addition, as discussed in Section 16, Recreation, Sections 16.40.040 through 16.040.100 of the City Municipal Code require project applicants to pay parkland in-lieu fees to offset potential impacts on park facilities.

As discussed in Section 14, Population and Housing, future development under the proposed project would include construction of new residential uses, which could increase the population of San Luis Obispo by approximately 683 persons. However, this increase would not cause the City to exceed their one percent population growth policy and create unanticipated demand on other public service facilities. Since the project would not require the need of new or expanded school, park, or other public service facilities, the project would not result in adverse physical impacts.

LESS THAN SIGNIFICANT IMPACT

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16 Recreation

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

Setting

There are 28 city parks in the City of San Luis Obispo, including seven community parks, ten neighborhood parks, and eleven mini parks (City of San Luis Obispo 2019). Collectively, these parks include approximately 152 acres of parkland, of which 34 acres are neighborhood parks. In addition to parks, the City owns or manages approximately 7,000 acres of open space within and adjacent to San Luis Obispo. This open space provides recreational opportunities such as fishing, hiking, and biking trails.

Existing recreational facilities near the project site include the Damon-Garcia Sports Complex directly north and northeast of the project site, which would be accessible through pathways from the project site. In addition, E.A. French Park is approximately one mile east of the site driving or 0.8 mile walking. The Damon-Garcia Sports Complex is a 16-acre facility featuring approximately 10.2 acres of turf. The primary purpose of the facility is to provide playing space for competitive play, and reservations are required. The complex features four full-size soccer fields which, during the peak soccer season, can be modified into a total of seven smaller fields. Three fields are also set up for rugby play. E.A. French Park is a neighborhood park with amenities/activities such as an outdoor barbeque area, basketball court, picnic tables, tennis courts, playgrounds, and open space.

Discussion

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

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

As discussed in Section 14, Population and Housing, the project would allow construction of up to 280 new residential units, which could increase the population of San Luis Obispo by approximately 683 persons. The project includes recreational opportunities in the northwest corner of the project site for residents, including a clubhouse building with a patio area, common areas, and open space. However, new residents would also use existing City recreational facilities and areas, including the nearby Damon-Garcia Sports Complex, which is available by reservation, and E.A. French Park, which is open to the public from dawn until dusk.

As required by Sections 16.40.040 through 16.040.100 of the City Municipal Code, project applicants are required to pay parkland in-lieu fees to help finance additional park space, maintenance or equipment in the vicinity, offsetting potential impacts on City recreational facilities. The payment of required parkland in-lieu fees would ensure potential park impacts would remain less than significant under CEQA. Therefore, the proposed project would not result in the deterioration of existing neighborhood or regional parks and would not result in the need for new recreational facilities, the development of which could cause an adverse environmental impact associated with the construction or expansion of recreational facilities.

LESS THAN SIGNIFICANT IMPACT

17 Transportation

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

Setting

This discussion is based in part on a CEQA Transportation Impact Analysis prepared by Central Coast Transportation Consulting in October 2020 (Appendix E). The CEQA Transportation Impact Analysis evaluated potential transportation impacts associated with consistency with applicable local policies, project-generated VMT, traffic circulation and safety.

State Senate Bill 743, codified in Public Resources Code section 21099, required changes to the CEQA Guidelines regarding the analysis of transportation impacts. Pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (Id., subd. (b)(1); see generally, adopted CEQA Guidelines, §15064.3, subd. (b) [Criteria for Analyzing Transportation Impacts].) To that end, in developing the criteria, Office of Planning and Research (OPR) has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts.

The OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT. Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends quantified thresholds for these land uses for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types. In June 2020, the San Luis Obispo City Council adopted local VMT thresholds to be applied in analyzing transportation impacts of land use and transportation projects under CEQA.

A Transportation Impact Study (TIS) is also being completed by Central Coast Transportation Consulting to help inform the City's General Plan Circulation Element consistency evaluation. The TIS will incorporate the findings of the CEQA Transportation Impact Analysis as well as other non-CEQA transportation issues.

Local Roadway Network

The existing roadways adjacent to the project site are described below. Bicycle facilities in the study area consist of Class I, II, and III bikeways. A Class I bikeway (bike path) provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. A Class II bikeway (bike lane) provides a striped lane for one-way bicycle travel on the side of the street adjacent to vehicle traffic. A Class III bikeway (bike route) consists of a roadway that is shared between bicycle and vehicle traffic. A Class IV bikeway (protected bike lane) may be constructed as a street-level or elevated sidewalk-level bicycle facility with a physical barrier separating cyclists from motor vehicle traffic.

- Tank Farm Road is a parkway arterial with two to four travel lanes, Class II bike lanes, no on-street parking, and intermittent sidewalks. East of Righetti Ranch Road, Tank Farm intersects with and then becomes Orcutt Road. The City's 2013 Bicycle Transportation Plan includes Class I paths on both the north and south sides of Tank Farm Road from Horizon Lane to Santa Fe Road and continuing along Acacia Creek north to the Damon-Garcia Sports Fields.
- Santa Fe Road south of Tank Farm Road is currently a local roadway with two travel lanes, no existing bikeways, no on-street parking, and no sidewalks. Santa Fe Road is proposed to be realigned as a commercial collector with Class II bikeways and extended from Tank Farm Road north to Prado Road. There is a proposed Class I bikeway south of Tank Farm Road.
- Within the project vicinity, Broad Street is a highway/regional route with two to five travel lanes, Class II bike lanes, and no on-street parking. Heading south Broad Street becomes Edna Road (State Route [SR] 227). Sidewalks currently exist along the majority of Broad Street within the project vicinity, although gaps currently exist on the east side of the street north of Farmhouse Lane and on the west side both north and south of the Damon Garcia Sports Fields. These sidewalk gaps are planned to be completed as part of other recently approved development projects.
- Mindbody is a local roadway that provides access to the Mindbody commercial parking lot. There is a planned roadway connection forming a new north leg of the Tank Farm Road/Mindbody intersection, which will provide north-south connectivity between Tank Farm Road and Industrial Way.
- Industrial Way is a commercial collector with two travel lanes, Class III bikeways, sidewalks, and on-street parking. There are proposed Class II bikeways east of Broad Street.

Transit

SLO Transit operates transit service in the City of San Luis Obispo. SLO Transit Route 1A is a weekday and weekend bus service that travels from the Downtown Transit Center to the San Luis Obispo Regional Airport via Broad Street, Marsh Street, Johnson Avenue, Laurel Lane, Orcutt Road, and Tank Farm Road in a clockwise direction with 60-minute headways. The closest existing stops to the project site are approximately one-half mile away on Broad Street near Tank Farm Road and near Industrial Way.

SLO Transit Route 1B is a weekday bus service similar to Route 1A but traveling in a counterclockwise direction. The closest stops to the project site are also located approximately one-half mile away on Broad Street near Tank Farm Road and near Industrial Way. Connections to San

Luis Obispo Regional Transit Authority (SLORTA) routes and other SLO Transit routes are available at the Downtown Transit Center.

Discussion

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

The project would implement planned transportation improvements in the City's Circulation Element by widening a portion of Tank Farm Road, constructing a section of the Santa Fe Road extension north of Tank Farm Road, and providing associated bicycle and pedestrian connections on Tank Farm Road, Santa Fe Road and along Acacia Creek connecting to the Damon Garcia Sports Fields.

Under existing conditions, Tank Farm Road east of the project site has one westbound auto lane, two eastbound auto lanes, and Class II bike lanes. The south side has intermittent sidewalks, and the north side has no sidewalks. West of the project site there is currently one auto lane per direction, Class II bike lanes, and no sidewalks. The City's Circulation Element envisions two lanes per direction, a center turn lane/median, and a Class I bike path on each side of Tank Farm Road as long-term improvements.

Consistent with the City's Circulation Element, the project proposes to widen the westbound direction of Tank Farm Road along the project frontage to include a center turn lane and two westbound auto lanes, sidewalks, and a separated Class I bike path or IV bike lane. The project would construct a roundabout on Tank Farm Road at the realigned Santa Fe Road intersection as well as an on-site Class I bike path from the Santa Fe Road extension to the Damon-Garcia Sports Fields (refer to Figure 5).

The AASP identifies an interim plan for Santa Fe Road north of Tank Farm Road as a two-lane roadway, and a long-term ultimate plan for a four-lane cross section. The project would construct the interim configuration of the Santa Fe Road extension north of Tank Farm Road with one auto lane per direction, a center turn lane/median, northbound vertically separated Class IV bikeway, a southbound Class II bikeway, and a sidewalk on the east side fronting the project site. Sidewalks and Class IV bike lanes on the west side of the street would be completed as a requirement of future development. The roadway would terminate with a temporary cul-de-sac. In the future, this terminus would be converted to a roundabout to provide a connection to the next phases of the Santa Fe Road extension north to Prado Road.

The project proposes full access driveways on the Santa Fe Road extension and a right-in-right-out driveway on Tank Farm Road. New driveways, on-site and off-site roadways would be constructed per City Engineering Standards and Access Management Policies. Additional pedestrian and bicycle access would be provided via the Damon-Garcia Sports Fields connection. The closest transit stops would be located on Broad Street near Industrial Way. Consistent with the City's Circulation Element, after neighboring projects to the east are developed, additional pedestrian and bicycle access would be available via a bridge connection with the 650 Tank Farm Road property. Since sidewalks along the north side of Tank Farm Road will also be constructed with neighboring projects, a second pedestrian access route would ultimately be available via Tank Farm Road and the transit stops on Broad Street near Tank Farm Road would also serve the project. Therefore, the proposed project would not conflict with applicable transportation plans including the City's Circulation Element, and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The CEQA Transportation Impact Analysis (Appendix E) includes a discussion of the project's effect on regional vehicle miles traveled (VMT) consistent with the requirements of CEQA Guidelines section 15064.3(b). Consistent with the methodologies described in the City's 2020 Transportation Impact Study Guidelines (TISG), the City's Travel Demand Model (TDM) was used to estimate VMT with and without the project. The City's TDM is a travel demand forecasting model that utilizes existing and future land use information, demographic data, existing traffic volume data, and transportation network information to model existing and future travel behavior within the City and greater San Luis Obispo County region. The model is calibrated and validated based on existing traffic volume and origin-destination trip data and is used for projected changes in traffic volume and VMT data associated with proposed changes in land use and transportation systems.

In June 2020, the San Luis Obispo City Council adopted local VMT thresholds to be applied in analyzing transportation impacts of land use and transportation projects under CEQA. The TISG summarizes these thresholds and provides more detailed direction for evaluating a variety of project types. Table 2 summarizes the City's VMT impact thresholds, which were derived from the TDM to be 15 percent below baseline (existing baseline model scenario from the 2020 TDM) regional VMT.

Table 2 Vehicle Miles Traveled Thresholds of Significance

Project Type	Threshold
Residential	14.25 home-based VMT per capita[1]
Office/Industrial	12.45 home-based work VMT per employee[1]
Retail/Hotel/School/Redevelopment	Net increase in regional (County) VMT
Mixed-Use	Use dominant use or individual thresholds above as appropriate
Transportation Projects	Measurable and substantial increase in VMT

[1] Threshold calculated as 15 percent below baseline regional (County) VMT.

Source: SLO City TIS Guidelines 2020.

Table 3 shows the project's trip generation estimate.

Table 3 Weekday Trip Generation Estimate

Land Use	Size	Daily Total
Multifamily Housing[1]	280 DU	1,524
General Office[2]	6,250 SF	72
Medical Office[3]	6,250 SF	153
Gross Vehicle Trips		**1,749**
Total Person Trips[4]		**1,953**
External Person Trips[5]		**1,932**
Site Mode Split for External Person Trips[6]		
Vehicle	82.8%	1,592
Bicycle	10.3%	198
Pedestrian	5.8%	112
Transit	1.2%	23
Site Vehicle Occupancy[7]	1.61	
External Vehicle Trips		**990**

DU = Dwelling Units; SF = Square Feet; ITE = Institute of Transportation Engineers.

[1] ITE Land Use Code #221, Multifamily Housing (Mid-Rise). Fitted curve equations used.

[2] ITE Land Use Code #710, General Office Building. Fitted curve equations (Daily and PM) and average rate (AM) used.

[3] ITE Land Use Code #720, Medical-Dental Office Building. Fitted curve equations used.

[4] Based on mode share occupancy data obtained from Trip Generation Handbook.

[5] Based on AM and PM internal capture percentages from TripGen 10 software; Daily internal trips assumed five times PM internal trips.

[6] Mode split based on City's Travel Demand Model with site calibration based on existing counts.

[7] Vehicle occupancy based on City's Travel Demand Model.

Source: ITE Trip Generation Manual, 10th Ed. and Trip Generation Handbook, 3rd Ed. 2017; GHD 2020; CCTC 2020.

As shown in Table 3, the residential component of the project generates 87 percent of the daily gross vehicular trips and is therefore the dominant use, so the impact determination is based on the residential VMT threshold shown previously in Table 2.

Table 4 presents the regional VMT with and without the project, which was derived using the City's TDM, comparing existing scenario model projections for conditions with and without the proposed project.

Table 4 Vehicle Miles Traveled Summary

Scenario	Total Regional VMT[1]	Total Regional Residential VMT[1]	Project-Generated VMT per Capita
Baseline	8,488,043	4,267,998	–
Baseline + Project	8,481,574	4,260,917	7.7
Change from Baseline	-6,469	-7,081	–

[1] VMT values reflect total (all trip types) and residential (only home-based trips) daily miles driven within the SLO County region, as derived using the City's Travel Demand Forecasting Model (existing conditions model scenario).

Source: CCTC 2020.

As shown in Table 4, addition of the project is projected to result in an overall decrease in overall regional VMT (all trip types) and regional residential VMT (home-based trips only).

Residential VMT

The project is located in an area identified in the City's TISG screening maps as having existing residential VMT per capita below 85 percent of the regional average, the City's impact threshold for residential projects. Project-generated traffic would produce 7.7 residential VMT per capita, below the City's residential VMT impact threshold of 14.25 VMT per capita. The residential component of the project, which would produce 87 percent of the daily gross vehicular trips and is therefore the dominant use, would have a less than significant impact on VMT.

The City has a current jobs-to-housing ratio of roughly 2.5:1, which is considered relatively "jobs heavy" but not surprising because of the City's function as the primary employment center in the region, and results in longer commute trips—mostly by single-occupant automobile—for employees commuting into the City from outside communities. As reflected in the TDM model forecasts presented in Table 4, by increasing the number of housing units within the City, regional VMT is projected decrease as more residents of the region are able to live within closer proximity of job centers and where there is greater access to a well-connected transit, pedestrian and bicycle network.

Induced Demand

Induced demand occurs when new roadway capacity induces additional vehicular travel. The Technical Advisory on Evaluating Transportation Impacts in CEQA prepared by the State Office of Planning and Research (OPR) notes that "if a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce" (OPR 2018). The City's TISG note that no standardized thresholds have been defined for induced travel impacts of capacity-increasing transportation projects and recommends a case-by-case evaluation. Potential roadway widenings and their effect on VMT are discussed below.

TANK FARM ROAD

The project proposes to widen the westbound direction of Tank Farm Road along the project frontage to include a center turn lane and two westbound auto lanes, sidewalks, and a separated Class I or IV bike lane. The widening would transition to tie back to the adjoining segment with a single westbound lane. The VMT results in Table 4 reflect the addition of the project including the proposed frontage widening and indicate that overall, the project would result in a net decrease in regional VMT. This widening along the project frontage would improve conditions for bicyclists and pedestrians and would have less than significant effect on VMT based on the City's VMT thresholds for transportation projects (Table 2).

SANTA FE ROAD

The City's Circulation Element plans a new commercial collector segment of Santa Fe Road north of Tank Farm Road, which will ultimately connect to the future Prado Road extension. The project proposes to provide project access by constructing the first segment north of Tank Farm Road in a two-lane configuration that is consistent with the interim configuration identified in the AASP, with modifications to enhance the bikeway by upgrading from Class II (standard bike lanes to Class IV (protected bike lanes).

OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA notes that the addition of roadway capacity on local or collector streets is not expected to result in a substantial or measurable increase in vehicle travel provided the project also substantially improves conditions for pedestrians and bicyclists. The Santa Fe Road extension would provide bicycle and pedestrian facilities where none currently exist. In addition, the VMT results in Table 4 reflect the addition of the Santa Fe Road extension to be constructed as part of the project and indicates that overall, the project would result in a net decrease in regional VMT. For these reasons, the extension of Santa Fe Road to the north is not expected to substantially increase VMT based on the City's VMT thresholds and OPR guidance.

Overall, the project would produce VMT levels below the City's threshold and would be consistent with CEQA Guidelines section 15064.3(b).

LESS THAN SIGNIFICANT IMPACT

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

The CEQA Transportation Impact Analysis (Appendix E) includes a discussion of hazardous conditions in the project vicinity that could be exacerbated by the project. Based on the City's 2016 and 2017 Traffic Safety and Operations Reports, the two most-recent editions, the Broad Street/Industrial Way intersection is identified as having a higher-than-average collision rate with an observed pattern of rear end collisions along Broad Street. Recommendations from the 2017 Report include installing an additional signal head and a warning beacon, both for the southbound approach. The project is expected to add 45 vehicle trips to this intersection during the PM peak hour, an increase of 1.4%. Because the traffic added by the project to this intersection represents a marginal increase in the total traffic volume entering this intersection, the project would not substantially increase hazards or exacerbate the current pattern of collisions at this location.

Final plans for future development on the project site would be subject to review and approval by the City of San Luis Obispo, and final plans for internal circulation would be required to adhere to applicable guidelines in the City's Engineering Standards and Access Management Policies. Since the proposed project would not result in on-site transportation-related hazards, and final plans for internal circulation would require approval of City staff, including the Fire Department, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

The CEQA Transportation Impact Analysis (Appendix E) includes a discussion of on-site circulation and site access for the conceptual site plan. The project proposes three driveways: two with full access on Santa Fe Road and one for right-in-right-out on Tank Farm Road. An additional access point from Santa Fe Road is proposed with bollards. The developer of the neighboring 650 Tank Farm Road property is expected to install a new bridge with bollards between the sites which would provide an additional emergency access route.

Final plans for future development on the project site would be subject to review and approval by the City of San Luis Obispo, and final plans for internal circulation and access would be required to adhere to the policies listed in the City's Engineering Standards, Subdivision Regulations, and City Fire Department's 2015 Developer's Guide. Internal circulation, including ingress and egress would be required to accommodate emergency vehicles, consistent with applicable Fire Department

standards. Since the proposed project would not result in on-site hazards or inadequate emergency access, and final plans for site access and internal circulation would require approval of City staff, including the Fire Department, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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:				
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), or	■	□	□	□
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.	■	□	□	□

Discussion

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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19 Utilities and Service Systems

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

Setting

Wastewater

The City's wastewater collection system and Water Resource Recovery Facility (WRRF) is managed by the Utilities Department. The wastewater collection system consists of approximately 141 miles of gravity sewer lines, three miles of force main, and nine sewer lift stations. Wastewater is conveyed to the WRRF, located on Prado Road near U.S. 101.

The WRRF treats about 4.5 million gallons per day (mgd) during dry weather conditions. The current treatment capacity of the WRRF during dry weather conditions is 5.1 mgd. Average dry-weather

treatment flows have been stable over the past several years due to a balance between increased population and improved water conservation. In 2019, average flows to the WRRF were approximately 3.87 mgd.

Water

The City Utilities Department provides water service throughout the City. The City obtains water from five sources: Salinas Reservoir (Santa Margarita Lake), Whale Rock Reservoir, Nacimiento Reservoir, and recycled water from the City's Water Resource Recovery Facility. Although groundwater is listed as a potential water source, the City of San Luis Obispo transitioned from utilizing groundwater for potable purposes with the last withdrawal occurring in 2015. The groundwater wells remain in operable stand by position, but no groundwater is currently pumped (City of San Luis Obispo 2020c).

Storm Water

The City's storm water drainage system is a separate system that collects surface runoff and conveys it to community retention basins, and eventually out to the ocean. The project site is located in the San Luis Obispo Creek Watershed, between Orcutt Creek and Acacia Creek. Orcutt Creek joins Acacia Creek south of the project site. Acacia Creek serves as a tributary to the East Fork of San Luis Obispo Creek. San Luis Obispo Creek is the main tributary in the City, discharging into the Pacific Ocean at Avila Bay.

Solid Waste

State Assembly Bill (AB) 939 requires that all communities in the State of California shall recycle at least 50% of the solid waste from the waste stream. With the passage of AB 341 the State has adopted a goal of recycling 75% by the year 2020. To meet these goals, the City has contracted with San Luis Garbage Company to offer the City's businesses and residents commingled single-stream recycling.

SB 1016 simplifies the waste reduction measurement process, by moving from diversion estimates to measuring disposal per capita. The purpose of the per capita disposal measurement system (Chapter 343, Statutes of 2008 [Wiggins, SB 1016]) is to simplify the process of goal measurement as established by AB 939. SB 1016 accomplishes this by changing to a disposal-based indicator (the per-capita disposal rate) which uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities (CalRecycle 2020a).

AB 1826 requires businesses to recycle their organic waste, depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (multifamily dwellings are not required to have a food waste diversion program) (CalRecycle 2020b).

Adopted in 2016 and to be implemented in 2020, SB 1383 requires all residential and commercial properties to provide organics and recycling services.

The San Luis Obispo County Integrated Waste Management Authority estimates that the daily per-capita solid waste disposal rate from all sources in the State of California is approximately 4 to 5 pounds. In the City, between 2007 and 2010, the population-related solid waste disposal rate ranged between 4.4 and 5.4 pounds per person, and the employment solid waste disposal rate ranged between 11.7 and 13.8 pounds per person (City of San Luis Obispo 2014a). The regional

waste collection facility is Cold Canyon Landfill, located approximately six miles south of the City on Highway 227. The Cold Canyon Landfill operates with a remaining capacity of 13,000,000 cubic yards (based on 2020 data) and annual throughput of 1,650 tons per day (CalRecycle 2020c). The landfill is expected to reach capacity in 2040.

Discussion

a. Would the project 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?

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

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

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

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

Solid waste would be generated during construction and removal of the existing on-site construction material storage. In accordance with 2019 California Green Building Standards, , potential future development under the proposed project would be required to divert a minimum of 65 percent of construction waste from landfills, which would reduce potential impacts to the Cold Canyon Landfill. The projected amount of waste generated from operation of the project is shown below in Table 5.

Table 5 Estimated Solid Waste Generation

Land Use	Size	Generation Factor[1]	Daily Total (lbs/day)	Annual Total (tons/year)
Residential Units (Multifamily)	280 du	8.6 lbs/du/day	2,408	439
Non-Residential Space[2]	2,500 sf	7.25 lbs/1,000 sf/day	91	17
Total			**2,499**	**456**

Notes: lbs = pounds; sf = square feet; du = dwelling unit

[1] CalRecycle Waste Generation Rates, available at https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

[2] Assumes a 50% split between Commercial Retail (commercial-service/office space) and Office

As shown in Table 5, potential future development under the proposed project would generate approximately 2,499 pounds of solid waste per day. The project's incremental increase in solid waste (1.25 tons per day) would be within the maximum daily permitted capacities of Cold Canyon Landfill (1,650 tons per day). In addition, Cold Canyon Landfill has a remaining capacity of 13,000,000 cubic yards out of their maximum permitted capacity of 24,000,000 (CalRecycle 2020c). The proposed project would not generate solid waste which would cause Cold Canyon Landfill to exceed its remaining capacity. Therefore, the project would be served by entities with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would not result in a substantial physical deterioration of public solid waste facilities.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

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

Discussion

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As identified in the Safety Element of the City General Plan, the site is not located in a moderate, high, or very high fire hazard severity zone. The project site and surrounding parcels do not contain wildlands, forests, or dense vegetation that would expose people or structures to wildfire risk. In addition, the project would be required to adhere to the 2013 CBC Chapter 7A Partial Requirements which requires certain construction materials and methods to minimize wildfire exposure hazards. These include Class A fire rated roof assemblies, flame and ember intrusion resistant vents, and non-combustible building side materials.

LESS THAN SIGNIFICANT IMPACT

21 Mandatory Findings of Significance

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

Discussion

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

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

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

These topics will be addressed in the EIR being prepared for the project with conclusions related to the significance of impacts reached as part of the analysis within the EIR.

POTENTIALLY SIGNIFICANT IMPACT

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Appendix A

Biological Resources Assessment, Kevin Merk Associates, LLC, August 2020

600 TANK FARM ROAD, SAN LUIS OBISPO, SAN LUIS OBISPO COUNTY, CALIFORNIA

(Assessor's Parcel Numbers 053-421-002 & -006)

BIOLOGICAL RESOURCES ASSESSMENT

Prepared for:

Covelop, Inc.
1135 Santa Rosa Street, Suite 210
San Luis Obispo, California 93401

Prepared by:

Kevin Merk Associates, LLC
P.O. Box 318
San Luis Obispo, California 93406

August 14, 2020

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EXECUTIVE SUMMARY

Kevin Merk Associates, LLC (KMA) conducted this biological resources assessment (BRA) for a proposed residential and mixed-use development project on two parcels totaling approximately 11.67 acres at 600 Tank Farm Road, San Luis Obispo, San Luis Obispo County, California (Assessor's Parcel Numbers 053-421-002 and 053-421-006; "subject property"). The proposed project involves the construction of 19 residential buildings, two mixed-use buildings, and one community building. The residential structures would be composed of 280 units that are 3-stories tall. The project incorporates lawns, landscaping and sidewalks between the buildings, and the construction of a pedestrian and bicycle pathway connecting to the Damon-Garcia Sports Fields. Improvements to Tank Farm Road may also be required for project development, and a roundabout and road widening would occur at the site entrance. The subject property would also require rezoning to Service-Commercial (CS) from the existing Business Park within the Airport Area Specific Plan (BP-SP) overlay zone.

The purpose of this assessment was to assist Covelop with technical biological resources information to support the environmental review process by the City of San Luis Obispo (City). This report evaluates the potential for the subject property to support special-status biological resources, and whether these resources could be adversely affected by the proposed project. The investigation also included focused rare plant surveys for special-status plant species, involving multiple surveys conducted in the winter, spring and summer or 2020. A desktop review of available background information on special-status biological resources in the project vicinity was also used for this analysis.

The property is situated within a light industrial area, on the eastern edge of the former Union Oil Company San Luis Obispo Tank Farm and surrounded by a rapidly growing commercial area. The site has undergone earth moving disturbance associated with Tank Farm activities in the past, including the construction of containment basins to prevent pollution from entering Acacia Creek adjacent to the property's eastern boundary. Currently, the site is composed mainly of bare ground that is compacted from past grading, remnant patches of asphalt, and base rock, and has perimeters of weedy, non-native vegetation in ruderal (disturbed) areas. A few structures are present, along with a gravel parking area in the southern part of the site. Scattered patches of native vegetation disturbed by mowing and other management activities are also present. Acacia Creek is located outside the property's eastern boundary, and the western top of creek bank was identified during field work. A windrow of large blue gum eucalyptus (*Eucalyptus globulus*) trees planted offsite partially overhang the southern project site and riparian habitat is present offsite along the Acacia Creek corridor in the northern portion. In addition, non-native ornamental species have been planted in a few locations throughout the site.

Six plant communities or land use types were identified within the study area, and include: 1) Ruderal; 2) Eucalyptus; 3) Wetland; 4) Ornamental; 5) Annual Grassland; and, 6) Coastal Scrub. The Wetland habitat type has formed in an old constructed stormwater basin, and is considered to be a sensitive natural community by California Department of Fish and Wildlife (CDFW) since the habitat has become naturalized onsite. Further, wetlands are protected by policies in the City of San Luis Obispo's General Plan as well as guidance in the Airport Area Specific Plan. The wetland may also be a jurisdictional feature regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act, Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act, and CDFW pursuant to California Fish and Game Code.

The background review determined that six special-status plant species recorded from the vicinity of the site had potential to occur within the property, and seasonally timed rare plant surveys were conducted to determine their presence or absence. Three of these species were found onsite during the focused rare plant surveys, and include: Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*; California Rare Plant Rank [CRPR] 4.2), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*; CRPR 1B.1) and mouse-gray dudleya (*Dudleya abramsii* ssp. *murina*; CRPR 1B.3). The focused rare plant surveys conducted for this investigation were floristic in nature and covered all parts of the subject property to ensure thorough coverage during the winter, spring and summer; therefore, no further surveys are recommended. The project will impact Cambria morning-glory and Congdon's tarplant occurrences. Compensatory mitigation involving seed or whole plant collection and planting into an area to be designated as protected open space, followed by monitoring to ensure successful established, is recommended. The mouse-gray dudleya occurrence is outside of the project impact area, but if it were to be impacted, seed and plant salvage would also be implemented.

Two invertebrate, one reptile, sixteen bird, and four mammal species were considered to have potential to occur or were documented on the subject property. No fish species could occur because there are no streams on the subject property that could support fish. No designated critical habitat for federally listed species occurs on the site or in adjacent areas. Mitigation for special-status animal species that could occur onsite (i.e., southwestern pond turtle [*Actinemys pallida*], burrowing owl (*Athene cunicularа*) and American badger [*Taxidea taxus*]) is described, and includes preconstruction surveys and avoidance of individuals, worker training program, biological monitoring during initial site disturbance, installation of a temporary protection and wildlife exclusion fence, and other avoidance measures. If construction cannot be conducted outside of the bird nesting season, nesting bird surveys and avoidance of active nests would be required. Best Management Practices are to be employed during the construction phases to reduce erosion and sedimentation and protect water quality.

The project as currently proposed would at least partially fill the basin containing wetland habitat that supports the special-status California linderiella (*Linderiella occidentalis*). Impacts to the basin and associated wetland habitat may require approval by the USACE through the issuance of a Section 404 permit, but consultation with this agency will be needed to determine if the feature is currently subject to their regulatory jurisdiction. Impacts to state wetlands will require a Section 401 Water Quality Certification from the RWQCB if the USACE is involved or Waste Discharge Requirements will be needed if the wetlands do not meet current federal regulatory requirements. A Streambed Alteration Agreement from the CDFW may also be needed for impacts to the basin. As currently proposed, the basin and associated wetland habitat would be reconfigured in this part of the site, and a Habitat Mitigation and Monitoring Plan would be prepared to provide the level of detail to ensure a no-net-loss of the feature as part of the regulatory permitting effort, and to mitigate impacts to Congdon's tarplant and California linderiella. Compensatory mitigation for impacts on wetland habitat, rare plants and California linderiella are prescribed herein.

The federal-threatened vernal pool fairy shrimp (*Branchinecta lynchi*) has been documented from depressional wetlands and seasonal aquatic features on neighboring property to the west and south. Wet season surveys following U.S. Fish and Wildlife Service guidance were completed in 2020 for the stormwater basin, and no vernal pool fairy shrimp were identified. Consultation with the U.S. Fish and Wildlife Service will continue to determine if additional surveys are needed to confirm the species is absent from the subject property.

The loss of approximately 11.67 acres of Ruderal habitat and disturbed Annual Grassland and mowed Coastal Scrub would not result in a significant loss of wildlife habitat. No native trees are proposed to be removed. No project elements are planned to take place within riparian habitat and will not affect the bank of Acacia Creek, but the currently proposed project would encroach in several areas within the 35-foot setback area from Acacia Creek required by City policy. Mitigation to reduce impacts from encroachment into the setback area include preparation and implementation of an ecological landscape or riparian habitat enhancement plan for the Acacia Creek setback zone. Other recommended mitigation measures are provided to avoid and minimize impacts to biological resources onsite and reduce long-term impacts of increased human presence along the creek corridor. The proposed project did not trigger any of the criteria that would meet a mandatory finding of significance under the California Environmental Quality Act (CEQA). Mitigation measures for the six additional impacts evaluated under CEQA are described herein, and would reduce project effects below a level of significance.

1.0 INTRODUCTION

Kevin Merk Associates, LLC (KMA) conducted this biological resources assessment (BRA) for a proposed residential and mixed-use project on two parcels totaling approximately 11.67 acres at 600 Tank Farm Road, San Luis Obispo, San Luis Obispo County, California ("subject property"). The properties are identified as Assessor's Parcel Numbers (APNs) 053-421-002 and 053-421-006. The project is located 0.3 mile to the west of the intersection of Tank Farm Road with Broad Street (Highway 227), within the Urban Reserve Limits of the City of San Luis Obispo (Figure 1). It is on the U. S. Geological Survey (USGS) Pismo Beach 7.5-minute topographic quadrangle (T 31 S, R 12 E, northwest corner of the northwest corner of Section 12; 35.248762° N, -120.648580° W). The project is situated within a disturbed industrial area, on the eastern edge of the former Union Oil Company San Luis Obispo Tank Farm (Tank Farm site or property) and surrounded by a rapidly growing commercial area. Acacia Creek and a mobile home park are located immediately to the east, Damon-Garcia Sports Fields to the north, and the Mindbody campus and other commercial development to the southeast (Figure 2). Further to the northwest is the South Hills Open Space, and further to the southeast is the San Luis Obispo Airport. The surrounding area is urban residential and commercial development, and further to the south along Buckley Road is rural residential, grazing and other agricultural lands. The Tank Farm site is under extensive remediation and restoration work for soil and groundwater contamination as a result of past oil operations onsite. The subject property is just outside of the area in which there is known soil contamination by petroleum-related materials.

The purpose of this assessment is to assist Covelop with technical biological resources information to support the environmental review to be completed by the City of San Luis Obispo (City). This report evaluates the potential for the project site to support special-status biological resources (plants, animals, sensitive natural communities, and designated critical habitat) for the California Environmental Quality Act (CEQA) compliance document to be prepared for the project. This BRA evaluated the site's existing natural conditions to determine whether special-status biological resources may be present onsite and could be adversely affected by the proposed project. The investigation also included focused rare plant surveys for special-status plant species.

1.1 Project Description

As shown on the Initiation Package plan set prepared for the project by RRM Design Group (February 19, 2020 and revised on June 10, 2020; included as Appendix A), the project involves the construction of 19 residential buildings, two mixed-use buildings, and one community building. The residential structures would be composed of 280 units, including studios, and 1-, 2-, and 3-bedroom units. The structures would be 3-stories tall. A total of 497 parking spaces would be provided for both the residential and mixed-use areas. The project incorporates lawns, landscaping and sidewalks between the buildings. A bicycle and pedestrian path would also run west to east through the middle of the development, and then northward connecting to Damon-Garcia Sports Fields.

The project would involve the removal of existing stockpiles of materials, fencing, and access roads from the site. Some tree removal (non-native ornamentals) will also be required. A 35-foot setback from the top of bank along Acacia Creek was delineated in the field and is depicted on the site plans. Some encroachment into this setback area may occur (Appendix A). As a component of the project, improvements to Tank Farm Road would occur at the entrance to the site. An existing road crossing over Acacia Creek would also be improved, and will be completed as part of the development proposal on property to the east.

KEVIN MERK ASSOCIATES

N W E S

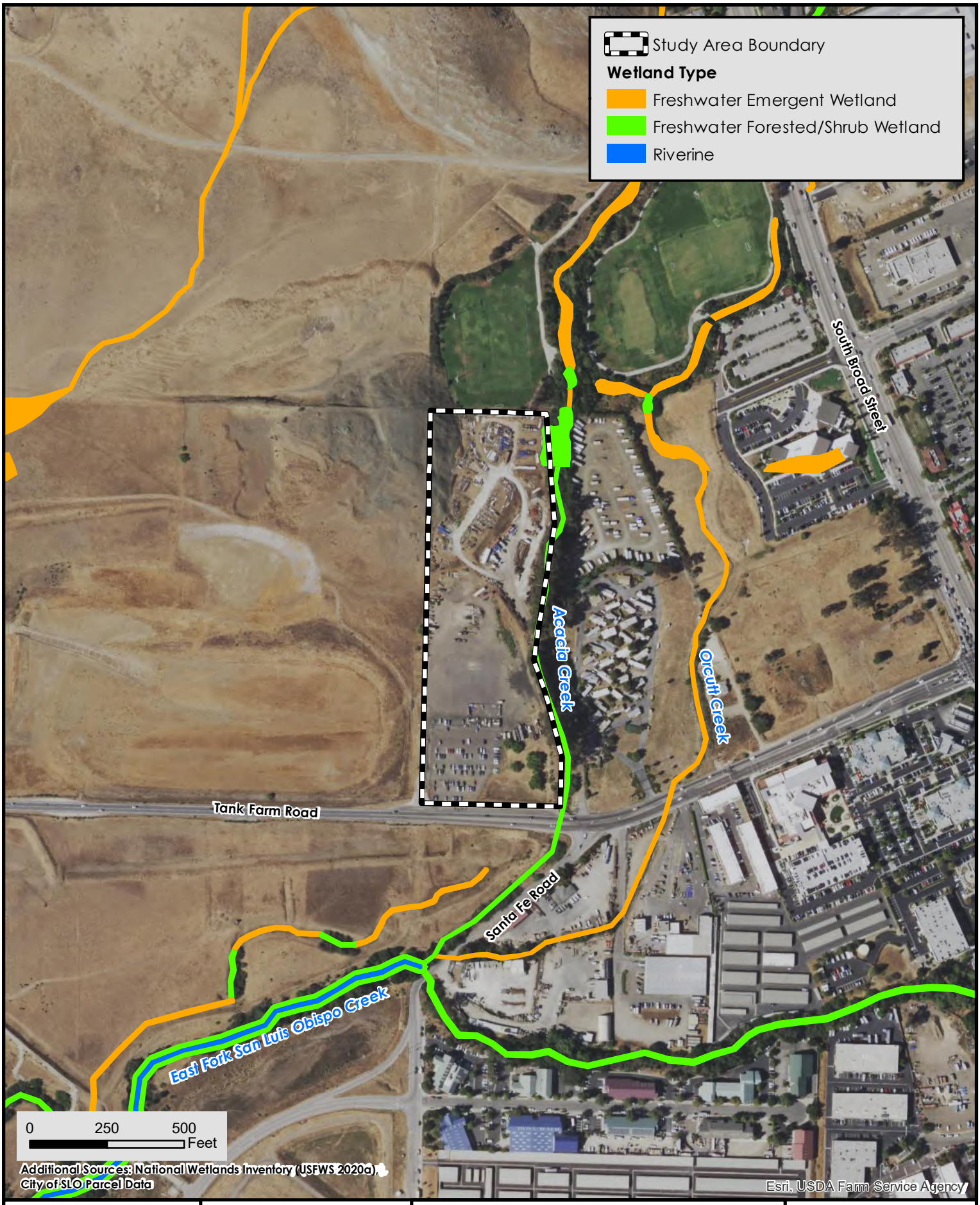
1 in = 3 miles

600 Tank Farm Road

Covelop

Figure 1

Site Location



KEVIN MERK ASSOCIATES

N W E S 1 in = 400 feet

600 Tank Farm Road

Covelop

Figure 2

Aerial Overview

1.2 Regulatory Overview

The CEQA defines a *significant effect on the environment* as "a substantial, or potentially substantial, adverse change in the environment." Projects that may have significant effects are required to be analyzed in an Environmental Impact Report (EIR). Under CEQA Section 15065, a project's effects on biotic resources would have a mandatory finding of significance if the project would do any of the following:

- Have 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; or substantially reduce the number or restrict the range of an endangered, rare or threated species.
- Have the potential to achieve short-term goals to the disadvantage of long-term environmental goals.
- Have possible environmental effects that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Prior to the public review of an environmental document, if a project proponent agrees to mitigation measures or project modifications that would avoid any significant effect or mitigate to a level below significance, and EIR would not be required. In addition to the criteria listed above that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines, Section IV Biological Resources, includes six additional impacts to consider when analyzing the significance of project effects. A project's effects on biological resources could be deemed significant if the project would do the following:

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 CDFW or USFWS.
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

If the project proponent agrees to mitigation measures or project modifications that would avoid all significant effects or would mitigate the significant effect(s) to a point below the level of significance, an EIR would not be required. The project proponent would be bound to implement the mitigation measures to reduce the project effects to below a level of significance. Mitigation is not required for effects that are less than significant.

For the purpose of this report, "special-status" species are those plants and animals listed, or Candidates for listing, as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA); those listed as Threatened or Endangered under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the California Department of Fish and Wildlife (CDFW; 2019); plants considered Endangered or Rare under the California Native Plant Protection Act; and, animals considered sensitive that do not have a specific listing status but which are recorded in the California Natural Diversity Database (CNDDB; CDFW 2020a).

FESA provisions protect federally listed species and their habitats from unlawful take, which is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." Under these regulations, "harm" may include significant habitat modification or degradation that kills or injures wildlife. Candidate species are not afforded legal protection under FESA; however, Candidate species typically receive special attention during the CEQA environmental review process. CESA provides for the protection and preservation of native species of plants and animals that are experiencing a significant decline which if not halted would lead to a threatened or endangered designation. Habitat degradation or modification is not expressly included in the definition of take under CESA.

CDFW maintains a list of Species of Special Concern for those species in which declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as special concern is to halt or reverse their decline early enough to secure their long-term viability. Species of Special Concern may receive special attention during environmental review, but do not have statutory protection. FESA and CESA emphasize early consultation to avoid impacts on Threatened and Endangered species. As part of the consultation process, project proponents are directed to develop appropriate mitigation plans to offset project effects on listed species and their habitats.

Sensitive natural communities are those native plant communities listed in the CNDDB (CDFW 2020a) as rare or of limited distribution. They are evaluated using NatureServe's Heritage Methodology to assign global and state ranks based on rarity and threat, and these ranks are reviewed and adopted by CDFW's (2020b) *Vegetation Classification and Mapping Program* (VegCAMP). Evaluation with the state (S) level results in ranks ranging from 1 (very rare or threatened) to 5 (demonstrably secure). Those with ranks of S1 to S3 are to be addressed in the environmental review process under CEQA (CDFW 2020b).

Critical habitat is designated for species listed under FESA, and are areas that contain the physical or biological features which are essential to the conservation of those species and may need special management or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Activities by private landowners are not affected if there is no federal nexus.

Rare plants are those defined as occurring on California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 and 4 developed by the CDFW working in concert with the California Native Plant Society (CNPS; CDFW 2020c). Rank 4 species are a watch list, and typically do not meet CEQA's rarity definition (Section 15380), but are included here because they may be of local concern. The CRPR definitions are as follows:

- *Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years.

- *Rank 1B: Rare, threatened or endangered in California and elsewhere.* Plants that are rare throughout their range and the majority in this rank are endemic to California.
- *Rank 2A: Presumed extirpated in California, but more common elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years, but they are common outside of the state.
- *Rank 2B: Rare, threatened or endangered in California, but more common elsewhere.* Plants that have ranges that extend into California, where they are rare, but are common in areas outside of the state.
- *Rank 3: Plants needing more information - A review list.* Information necessary to assign the species to one of the lists or reject them is lacking. Most species in this rank are taxonomically unresolved.
- *Rank 4: Plants of limited distribution - A watch list.* Species of limited distribution or infrequent occurrence throughout their range in California but which their vulnerability to extirpation appears low at this time and should be monitored.

Additionally, the CRPR system further assigns threat codes as a decimal extension to the rank, ranging from 1 to 3. CRPR 3 species do not have a threat code due to insufficiency of information needed to assign it, and CRPR 1A and 2A also do not have threat codes because they not know to currently occur in California. The threat code extensions are as follows:

- *.1: Seriously threatened in California.* More than 80% of occurrences are threatened and there is high degree and immediacy of threat.
- *.2: Moderately threatened in California.* Approximately 20 to 80% of occurrences are threatened and there is a moderate degree of immediacy of threat.
- *.3: Not very threatened in California.* Less than 20% of occurrences are threatened and the is a low degree and immediacy of threat, or no current threats are known.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state regulations. Birds of prey are protected in California under the California Fish and Game (2001) Code Section 3503.5. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by CDFW. Eagles are protected under the Bald and Golden Eagle Protection Act. The federal Migratory Bird Treaty Act (MBTA) applies to many bird species, including common species, and prohibits killing, possessing, or trading in migratory birds, including whole birds, parts of birds, bird nests, and eggs. The act restricts construction disturbance during the nesting season that could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

The City has established zoning regulations (17.70.030) and many policies with regard to biological resources, and would apply to the development of this property. The project site is located within the Airport Area Specific Plan ("Specific Plan") area of the City's General Plan (including the Conservation and Open Space Element). Policy 3.2.1 calls for establishing healthy, continuous riparian vegetation along Acacia Creek within the subject property (City of San Luis Obispo 2014). As detailed in these planning documents, a 35-foot setback is required from the top of bank or edge of riparian dripline along Acacia Creek, whichever is farther. The Specific Plan details that temporary disturbance to riparian woodland and scrub shall be avoided during projects through compliance with CDFW and General Plan guidelines for setbacks from riparian corridors, as follows: 1) retain a qualified biologist to identify and map riparian woodland and scrub in the project area; 2) establish a buffer zone around the edge of riparian habitat at a distance to be

determined in coordination with CDFW and the City, and delineate that buffer through the installation of temporary fencing during construction; and 3) restrict all construction activities to be outside of the fenced buffer zone (City of San Luis Obispo 2014). The setback area determination shall be made by a qualified, independent biologist. Elements prohibited within the setback area include structures larger than 120 square feet; paving; parking lots; fire pits, barbeques and other open flames; and mechanical equipment. Impervious pedestrian walkways and bicycle paths within the setback area require obtaining a discretionary exception from a director's hearing, and would include specific provisions to ensure protection of the creek habitat. For residential projects with three or more stories, an additional 10-foot step back is required for the third story on the units facing the creek.

The City's Specific Plan and General Plan also call for policies to protect wetland habitats. Specific Plan Policy 3.2.4 calls for natural wetland habitats and their associated buffers to be designated as open space. Program 3.3.3 designates a 50-foot setback from wetlands for the construction of new buildings. The Specific Plan has specified that project impacts shall avoid and minimize impacts on wetland habitat as follows: 1) obtain a qualified wetland ecologist to conduct a delineation of waters of the United States, including wetlands, at the project site; 2) obtain verification of the delineation from the USACE; 3) establish a buffer from the jurisdictional feature to be preserved, to the extent possible; 4) obtain a permit from the USACE for any unavoidable "fill" of wetlands or other waters of the United States; and, 5) develop and implement a mitigation and monitoring plan in coordination with the agencies to compensate for losses and ensure no net loss of wetland habitat functions and values (City of San Luis Obispo 2014). Policies 3.2.5 through 3.2.8 designate goals for restoring marginal or degraded wetlands (City of San Luis Obispo 2014).

The City also has policies regarding tree removal, and the exact number, species, and locations of trees to be removed by projects need to be specified on final project plans. A tree protection and replacement plan may need to be prepared to ensure that the project is consistent with local tree preservation and removal regulations.

2.0 METHODS

2.1 Biological Resources Assessment

Google Earth aerial imagery was employed in coordination with a field survey to define the current extent of onsite plant communities and assist in identifying potential habitat for special-status species. KMA's Principal Biologist Kevin B. Merk conducted a reconnaissance survey of the entire property on February 21, 2020 between 1000 and 1200 hours, and weather conditions were high clouds and pre-frontal flow, light wind and air temperature around 72°F. Multiple surveys of the study area occurred during the spring and early summer and are detailed further below.

For the purposes of this assessment, the study area included the two parcel boundaries. The site was accessed from Tank Farm Road, and the survey was conducted by walking and visually inspecting all portions of the study area. Dominant plant species in each habitat type were determined, and all plant and animal species observed during the survey were recorded (Appendix B). Plant taxonomy followed the Jepson Flora Project (2020), and nomenclature for animals is reported as it appears in the CNDDB (CDFW 2020a) or as updates are available (California Herps 2020). Plant communities and land use types were mapped on ESRI (2020) aerial imagery. Classification of the onsite plant communities was based on Holland's (1986) *Preliminary Descriptions of the Terrestrial Natural Communities of California* and the CDFW's (2020b) *Vegetation Classification and Mapping Program*, which generally follows Sawyer et al.'s (2009) *Manual of California Vegetation*. *A Guide to Wildlife Habitats in California*, which is updated through the

California Wildlife Habitat Relationships (CWHR) System (CDFW 2020d), was also cross-referenced. Representative photographs of each of the habitat types within the study area are provided in a photo plate (Appendix C).

The *Web Soil Survey* (Natural Resources Conservation Service [NRCS] 2020) was used to identify the soil mapping units present within the study area. The *National Wetlands Inventory* (NWI) was examined to evaluate the extent of any identified wetlands on the site and in the vicinity (USFWS 2020a). USGS topographic maps were also reviewed for information on hydrologic and topographic features. Designated critical habitat for species listed under FESA was identified and mapped based upon information provided in *Environmental Conservation Online System* (USFWS 2020b).

The CNDDB (CDFW 2020a) was queried for special-status plant and animal species occurrences and sensitive natural communities within the following seven USGS 7.5-minute quadrangles: Pismo Beach, Morro Bay South, San Luis Obispo, Lopez Mountain, Arroyo Grande Northeast, Oceano, and Port San Luis. The records occurring within a five-mile buffer of the study area were mapped. For each of the special-status species in the seven-quadrangle CNDDB search, local distribution and ecological information was obtained from a variety of online and published sources (Hoover 1970, Jennings and Hayes 1994, Bolster 1998, Moyle et al. 2015, Thompson et al. 2016, Audubon 2020, Calflora 2020, California Native Plant Society 2020, California Herps 2020, The Cornell Lab of Ornithology 2020a, 2020b; CDFW 2020d). Those species that occur within the San Luis Obispo and Chorro Creek watersheds, as well as each species recorded in the CNDDB within five miles, were considered to be within the project vicinity (Appendix D). Other species from the nine-quadrangle search that have limited distributions that do not include the subject area and/or are restricted to higher elevations in the Santa Lucia Range, immediate coastline and beaches, and areas north of Cuesta Grade were considered to be outside of the project vicinity. Based upon our knowledge of the local area and other sources of species occurrence records (particularly observations recorded in Calflora 2020 and The Cornell Lab of Ornithology 2020a), we included additional special-status biological resources that have been documented in the project vicinity.

For the list of all special-status species known from the project vicinity, an evaluation of those species with potential to occur onsite was performed based upon the suitability of habitat conditions on the property, and the local distribution (geographical and elevational ranges) and specific requirements (plant communities and soils) of the species considered. Definitive surveys for the presence or absence of special-status animal species were not conducted. We relied on existing information and known occurrence records in the region, coupled with our site-specific observations from other locations in the surrounding area, to make determinations for the probability of occurrence of each special-status species within the study area.

Extensive biological studies have been conducted on the adjacent Tank Farm property, and some of these studies included the subject property. For a complete list of the consultant reports reviewed for species information in the area, see Section 6.0 References. Any special-status species that were observed during the site surveys are listed as "Present" in Appendix D. Those species considered to have "Potential" met the following requirements: relatively recent records in the vicinity; appropriate plant community and/or soil associations onsite; and, within the elevational range and local distribution of the species. If any one of these elements was not met or considered to be marginal for the site, but the other elements were present, that species was considered "Unlikely" to occur in the study area. In situations where onsite environmental conditions were clearly inappropriate, the only records in the vicinity were very old and/or imprecise, and/or the species has a limited distribution that does not overlap the site, then those species were considered "Not Expected". The list of plant species with potential to occur onsite was used to guide the focused

rare plant surveys (see Section 2.2 below). For animals, if any lifestage or particular life history use (i.e., foraging) fit the requirements of the onsite conditions, even while other aspects were inappropriate for certain functions (i.e., breeding), these species were still considered to have potential to occur onsite, but the likelihood of occurring onsite along with a description of site suitability are provided in the Special-status Biological Resources Summary (Appendix D), as well as a more in-depth analysis in the text.

We determined whether special-status plant and animal species, sensitive natural communities, and designated critical habitat could occur on or near the site. With the exception of focused rare plant surveys described in Section 2.2 below and surveys for the vernal pool fairy shrimp, no protocol surveys for wildlife species were conducted to determine presence or absence on the site. Animal species observed during the site visits were recorded (see Appendix B), but otherwise we employed a background review of special-status wildlife records in the vicinity and observations of onsite habitat conditions to determine the likelihood of occurrence. We then evaluated the potential impacts of the proposed project on each of these biological resource issues, including the six additional impacts in CEQA Appendix G. An evaluation of significance as defined under CEQA is provided for each potential impact, and mitigation is proposed to reduce impacts to a level below the significance threshold.

2.2 Focused Rare Plant Surveys

Rare plant surveys conducted for this investigation covered the two parcels comprising the subject property. Suitable special-status plant habitats were searched for during the initial site visit on February 21st, and then seasonally timed surveys focused on the species determined with potential to occur onsite were conducted (see Section 3.6.1). The plant surveys were timed to occur during the spring and summer and were timed to coincide with the blooming periods of the suite of special-status plant species known to occur in the region. The spring and summer are the time of year that most annual plant species are in flower and typically the most readily identifiable. The focused rare plant surveys were conducted by KMA on March 3, April 24, May 13, June 2, June 30, and July 19, 2020. Weather conditions during all surveys were generally clear and warm with good visibility. The surveys were floristic in nature in that all plants observed were recorded. Plant species were identified to a level necessary to determine rarity. The methodology used during the surveys followed the guidance in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (California Department of Fish and Wildlife [CDFW] 2018) and *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (U.S. Fish and Wildlife Service [USFWS] 2000). This included walking the entire study area using evenly spaced transects to observe and document all plant species observed. The extent of rare plant occurrences found in the study area were recorded using a Trimble GeoXH 600 Global Positioning System (GPS) unit and imported into ArcGIS for map production.

Based upon the results of the surveys, the Evaluation of Occurrence in Appendix D was adjusted to account for field observations. For example, if any species would have been determined to have Potential to occur onsite due to suitable habitat conditions such as serpentine soils and local records in close proximity to the site (i.e., on the Tank Farm property) during the background review, and would have been found during the surveys if it was present, its rating was downgraded to Not Expected. Several species were categorized as Unlikely when suitable habitat conditions were present and there were records immediately adjacent to the site, and could potentially recolonize the site in future years. Due to the highly disturbed nature of the site, as well as the number of surveys conducted and the rainfall conditions in spring 2020, the survey effort was considered to be adequate to make conclusions of presence/absence of special-status plant species at this point in time. Results of botanical surveys conducted on the neighboring Tank Farm

property were also used to help support the analysis (Padre Associates, Inc. and WSP Environment & Energy 2008, Marine Research Specialists 2013, Padre Associates, Inc. 2013).

2.3 Top of Bank Delineation

The City's Municipal Code 17.70.030 describes policies related to creek setbacks. The code details that the setback for the portion of Acacia Creek adjacent to the property shall have a 35-foot setback. The setback area shall be measured from the top of bank, or from the edge of the predominant pattern of riparian vegetation, whichever is farther from the creek flow line. The "35-foot creek setback" as shown on the site plans in Appendix A and the Habitat Map included herein was determined in the field by delineating the top of bank, which was defined as the break in slope between the flat upland area and the bank leading to the creek. The blue gum eucalyptus windrow was planted just outside the top of bank and therefore, does not comprise riparian habitat. Riparian habitat dominated by willows is present along Acacia Creek adjacent to the northern portion of the property, but is located below what was identified as the top of bank. The top of bank was identified by KMA in the field and recorded using a Trimble GeoXH 6000 GPS unit capable of submeter accuracy. KMA's GPS data was imported into ArcGIS, and shapefiles were provided to RRM to import into CAD for use in the site plan (Appendix A.) The top of bank flags were also surveyed by RRM and the data were compared to ensure accuracy on the site plans.

3.0 RESULTS

A list of plants and animals observed during the survey is included as Appendix B. Appendix C is a plate of photographs taken during the site visit to characterize onsite conditions. Appendix D includes a list of all special-status species, sensitive plant communities, and designated critical habitat recorded within the site vicinity, and an evaluation as to their potential presence onsite. Figure 1 is a site location map, Figure 2 is an aerial overview map that shows the wetland habitats recorded in the NWI in the site vicinity, and Figure 3 is a habitat map showing the plant communities, land use types, and special status plant occurrences in the study area. Figure 4 shows the locations of special-status plants recorded in the CNDDB, and Figure 5 shows the special status animals within five miles of the study area. Figure 6 illustrates the CNDDB recorded sensitive natural communities and federally designated critical habitat within five miles of the site.

3.1 Existing Conditions

The property is greatly disturbed, contains only fragments of native vegetation, and is surrounded by developed areas to the north, south and east. The former Tank Farm property is located to the west. As seen on historic aerial photography, the study area has been graded and in intensive use for materials storage since 2005, and the northern parcel has been in use since at least 1989. Prior to that, constructed basins, earthen berms and grading, as well as quarrying of the serpentine hill in the northwest corner, are visible on aerial photography. These features and land use disturbances are contiguous with offsite areas, suggesting that the site had undergone earth moving activities associated with Tank Farm property in the past, and possibly the construction of containment basins following the oil spill from the 1926 fire. Currently, the site is composed mainly of bare ground that is compacted from past grading, remnant patches of asphalt, and base rock, and has perimeters of weedy, non-native vegetation in ruderal (disturbed) areas. It has a few remnant structures from industrial uses in its northern portion and a gravel parking area in the southern portion. Patches of native vegetation that exist are disturbed by mowing and other site management activities on the site. The channel of Acacia Creek and its associated riparian corridor are located just off the subject properties to the east. A windrow of large blue gum eucalyptus (*Eucalyptus globulus*) trees was planted just beyond the top of bank to the west of Acacia Creek, and

the trunks are located on the neighboring property. These trees partially overhang onto the project site, and tower over and intermix with a remnant of native riparian vegetation to the east along the creek. Various ornamental, non-native species are associated with the eucalyptus windrow and are also present in annual grassland in the southeastern corner of the site. The onsite habitat types are described in detail in Section 3.4 below.

A constructed stormwater basin supporting a mix of upland and wetland vegetation is present along the property's southeastern boundary. A Preliminary Delineation of Wetlands and Other Waters is in preparation for this site, and is evaluating the jurisdictional status of this feature. The basin was apparently excavated in an historic upland area, and as seen on available aerial photography from Google Earth (2020), was part of a larger basin complex that was constructed on the former Tank Farm property. Site grading is visible in the June 11, 2005 aerial that appears to have removed the earthen berms that were constructed in the center of the southern parcel to contain potentially contaminated surface runoff from entering Acacia Creek. The remaining basin is still separated from Acacia Creek by a constructed earthen berm, but a small culvert is present in the southeast corner that drains the basin to Acacia Creek with the outfall located under the Tank Farm Road bridge.

In the northwestern portion of the property is the southeastern part of a serpentine hill that extends offsite, and is known locally as the "Flower Mound". This area is a former quarry site, and contains disturbed serpentinite rock and bare soil. It is sparsely vegetated as a result of past disturbance.

Elevations on the property range from 146 to 214 feet (44 to 65 meters) above mean sea level. The highest point is on the northeast at the serpentine hill and the lowest within the basin in the southeast portion of the site. The site topography generally consists of two graded terraces with a slope in the northern third of the site separating the terraces. Observations of the soils in the field were of rocky clay and clay loam in the southern two-thirds of the site, and broken serpentinite rock in the northwest corner. Base rock, asphalt and pavement were present throughout the site. Additional information about the soils onsite is provided in Section 3.3 below.

3.2 Hydrologic Features, Wetlands and Riparian Habitats

There is an intermittent drainage, shown on the Pismo Beach quadrangle, that runs from the north to the south just outside the eastern boundary of the study area. The drainage is locally known as Acacia Creek and joins Orcutt Creek from the east to form the East Fork of San Luis Obispo Creek on the Tank Farm property to the south (Figure 2), although neither of these drainages are named on the USGS map. Acacia Creek is a jurisdictional drainage feature under the federal Clean Water Act due to a significant nexus as a tributary to San Luis Obispo Creek, which drains into the Pacific Ocean at Avila Beach (Padre Associates, Inc. 2013). The channel of Acacia Creek and the associated riparian habitat are located on the property to the east. Throughout the southern two-thirds of the study area, the riparian habitat has been displaced by a row of mature Eucalyptus, which towers over the native willow and bay trees, and has covered the ground with its leaves, preventing growth of native species.

The Wetland plant community onsite is contained within the constructed stormwater basin and is separated from Acacia Creek by an earthen berm that is vegetated by upland species. The wetland plants occur in an anthropogenic basin that is not part of a natural wetland system. However, the basin has not been maintained other than mowing on a seasonal basis and it continues to receive surface runoff from the site and Tank Farm Road with sufficient hydrologic conditions to support wetland habitat. The surface runoff from Tank Farm Road is directed into the feature through a

storm drain inlet and outfall pipe at the edge of the feature. As stated above, a small pipe leads out of the basin in the southeast corner for overflow drainage into Acacia Creek. Plant species composition of the Wetland habitat is described in Section 3.4 below.

The NWI shows Acacia Creek to have a narrow band of Freshwater Forested/Shrub Wetland (i.e., riparian) in all but the northern part of the study area (Figure 2). As described above, the southern two thirds of the drainage adjacent to the site is actually a row of large Eucalyptus planted outside the creek top of bank, and there are only a few scattered willow and bay trees in this area. The NWI shows some areas of Freshwater Emergent Wetland vegetation in Acacia Creek upstream at Damon-Garcia Sports Fields and in Orcutt Creek further to the east. Downstream from the confluence of these two tributaries, the East Fork of San Luis Obispo Creek is mapped as Riverine and bordered by Freshwater Forested/Shrub Wetland. The onsite wetland is not mapped in the NWI (Figure 2), but is shown on figures in background documents (Marine Research Specialists, 2013). In addition, Freshwater Forested/Shrub Wetland shown as extending onto the site's northeast corner was no longer present from removal of a homeless camp in the creek.

3.3 Soils

There are three soil types in the study area. The northern half of the property is Gazos-Lodo clay loams, 30 to 50 percent slopes; the southern half of the property is Xererts-Xerolis-Urban land complex, 0 to 15 percent slopes; and, the Acacia Creek corridor is Cropley clay, 0 to 2 percent slopes, MLRA 14 (NRCS 2020). The Gazos-Lodo clay loams unit is associated with hills and mountains, and is residuum weathered from sandstone and shale. It is well-drained and is not considered to be a hydric soil (NRCS 2020). Note that the serpentine hill is not mapped as a separate soil type, but is considered to be within the Gazos-Lodo clay loams unit. Serpentine rock outcrops in the area are mapped on the site. Xererts and Xerolis soils are also on hills and mountains, and are residuum or alluvium derived from sedimentary rock, sandstone or shale. These soils are well-drained, do not experience ponding or flooding, and are not considered to be a hydric soil (NRCS 2020). This complex describes areas that have been modified by heavy equipment such that their physical characteristics have been modified. The Cropley clay soils form on alluvial fans and terraces, and are alluvium derived from calcareous shale. Even though they are clay soils in the upper 32 inches, they are moderately well-drained, do not experience ponding or flooding, and are not a hydric soil (NRCS 2020). Based on field observation, onsite soils are very clayey with base rock and other surface materials added to support all-weather access.

3.4 Habitat Types

Six plant communities or land use types were identified within the study area, and include: 1) Ruderal; 2) Eucalyptus; 3) Wetland; 4) Ornamental; 5) Annual Grassland; and, 6) Coastal Scrub. A description of these habitat types is given below and the areas occupied by these habitat types is shown in Figure 3. Representative photographs of these habitat types are provided in Appendix C.

3.4.1 Ruderal

The Ruderal habitat type is used to describe areas that have been significantly disturbed by various land use practices, and as a result, are sparsely vegetated by mainly non-native weedy species. Only plant species that can withstand frequent disturbance occur in these areas, and they aggressively outcompete native plant species. Ruderal habitats in the study area include the gravel and paved

KEVIN MERK ASSOCIATES

N W E S 1 in = 150 feet

600 Tank Farm Road

Covelop

Figure 3

Habitat Map

lots, previously graded areas lacking native plant communities, the serpentine hill (Flower Mound), roads, and materials storage areas. Although portions of the serpentine hill offsite could be described as a rock outcrop, the area onsite has been excavated and lacks native serpentine-affiliated plant species that occur in undisturbed serpentine rock outcrop habitats. Plant species observed in this area included a couple of California sagebrush (*Artemisia californica*) shrubs, scattered ladies' tobacco (*Pseudognaphalium californicum*), elephant grass (*Pennisetum purpureum*), longstem buckwheat (*Eriogonum elongatum*), telegraph weed (*Heterotheca grandiflora*), fennel (*Foeniculum vulgare*), smooth cat's ear (*Hypochaeris glabra*), and California fuscia (*Epilobium canum*). Other areas around the edges of lots with bare ground supported species such as spiny sowthistle (*Sonchus asper*), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), lamb's quarter (*Chenopodium album*) and yellow starthistle (*Centaurea solstitialis*). Ruderal areas are an anthropogenic land use type and are not a natural community.

3.4.2 Eucalyptus

A row of mature blue gum eucalyptus was present along the west bank of Acacia Creek, just above the top of bank. It had dense leaf litter covering the ground, which prevented the formation of an herbaceous understory in most areas. Where understory was present, species included Bermuda buttercup (*Oxalis pes-caprae*), slender wild oat (*Avena barbata*) and coyote brush (*Baccharis pilularis*). Eucalyptus are non-native species and are not considered to be a natural community. The *Eucalyptus* spp. alliance is a semi-natural alliance (CDFW 2020b).

3.4.3 Wetland

A basin is present in the southeastern corner of the subject property that supports wetland vegetation. It is a constructed feature in an upland area that was graded in the past, apparently to protect the creek from polluted runoff from the Tank Farm property. Since it has been in place for many years, surface water has collected seasonally, and over time allowed the establishment of wetland habitat. It also detains some site and road runoff, and an outfall pipe directs runoff from Tank Farm Road into the feature. The heavy clay soils onsite create a restrictive layer that does not allow the water to percolate and as a result, wetland vegetation persists in the basin floor. It was observed to have been mowed when it dries in the summer. The basin supported a dominance of hydrophytic vegetation, including common spikerush (*Eleocharis macrostachya*), curly dock (*Rumex crispus*), cocklebur (*Xanthium strumarium*), and bird's foot trefoil (*Lotus corniculatus*). Other facultative upland species in this habitat type were wild teasel (*Dipsacus fullonum*) and California buttercup (*Ranunculus californicus*). Dried green algae covered the vascular plants in the lowermost part of the basin, indicative of standing water which was observed to be present in March following a series of storm events. Congdon's tarplant was also observed in the basin later into the summer surveys. The hydrologic conditions supporting this community are as described for Vernal Marsh habitats, which have standing water following winter rains and are dry in summer, and are dominated by low-growing annual herbs (Holland 1986). It aligns with the Pale Spike Rush Marshes alliance described by Sawyer et al. (2009).

3.4.4 Ornamental

Ornamental species occurrences onsite were generally planted along the northern property boundary as part of the Damon-Garcia Sports Complex, which were generally offsite. In the southeastern corner of the site, ornamental plantings included species such as Peruvian pepper tree (*Schinus molle*) and mission cactus (*Opuntia ficus-indica*). This habitat type is not a native plant community is classified as an Urban habitat within the CWHR System (CDFW 2020d).

3.4.5 Annual Grassland

Patches of Annual Grassland were present away from frequently disturbed areas, along the western edge of the site and in the southeastern corner in upland areas surrounding the Wetland. The Annual Grassland habitat onsite had previously been disturbed, and was dominated by non-native species that tolerate disturbance. Species characteristic of this habitat type included each of the species described for the Ruderal areas not on the serpentine hill, plus slender wild oat (*Avena barbata*), Italian rye grass (*Festuca perennis*), English plantain (*Plantago lanceolata*), and California burclover (*Medicago polymorpha*). Soils in this part of the site were clayey and contained dense thatch from years of mowing. Occasional occurrences of native grassland species were also present and included California poppy (*Eschscholzia californica*), island morning glory (*Calystegia macrostegia*), and arroyo lupine (*Lupinus succulentus*). The Annual Grassland onsite corresponds to the Non-native Grassland community described by Holland (1986) and the Wild Oats and Annual Brome Grasslands association, which is a semi-natural alliance (CDFW 2020b).

3.4.6 Coastal Scrub

The Coastal Scrub habitat type existed onsite as only a few small patches of coyote brush (*Baccharis pilularis*). Individual shrubs of California sagebrush observed along the fenceline in the old quarry area were not mapped as coastal scrub. In the southeastern corner of the site, the coyote brush shrubs had been mowed. In other instances, these shrubs were isolated occurrences within Ruderal areas. Site disturbance prevented other plant species from occurring that are typically associated with this habitat type, and as such, did not represent a separate habitat type from surrounding areas and would not support any additional species. This community when occurring in dense stands of shrubs is known as Central (Lucian) Coastal Scrub (Holland 1986), and Coyote Brush Scrub by Sawyer et al. (2009).

3.5 Special-status Biological Resources

The background review revealed an exceptionally large number of special-status biological resources that have been documented within the project vicinity (Appendix D). The diversity of habitats ranging from the coastline, valleys, and mountainous areas, in addition to rare habitat types such as serpentine rock outcrops, and the concentrated effort in this area to survey for and record rare species have resulted in the large number of occurrences. The study area is less than 12 acres of almost entirely disturbed lands with little potential to support special-status plant or wildlife species. The only natural plant communities onsite are small fragments lacking the true characteristics of those habitat types in regard to ability to support special-status species. The site is surrounded by urban development and the large Tank Farm site that is currently undergoing extensive remediation activities. The northwestern border of the property has some connectivity with an open space area, but that area in turn is surrounded by urban development. The riparian habitat is offsite and has limited potential to be used as a wildlife corridor for larger animals because it is bisected by roads and dense development upstream from the study area, and is degraded by eucalyptus and other non-native species. In general, the special-status species that would be expected to occur onsite would be mobile species that could use the site on a transitory basis, and species that tolerate disturbance and occur in anthropogenically modified environments. Those special-status biological resources that have potential to occur in the study area are described in further detail below.

3.5.1 Special-status Plants

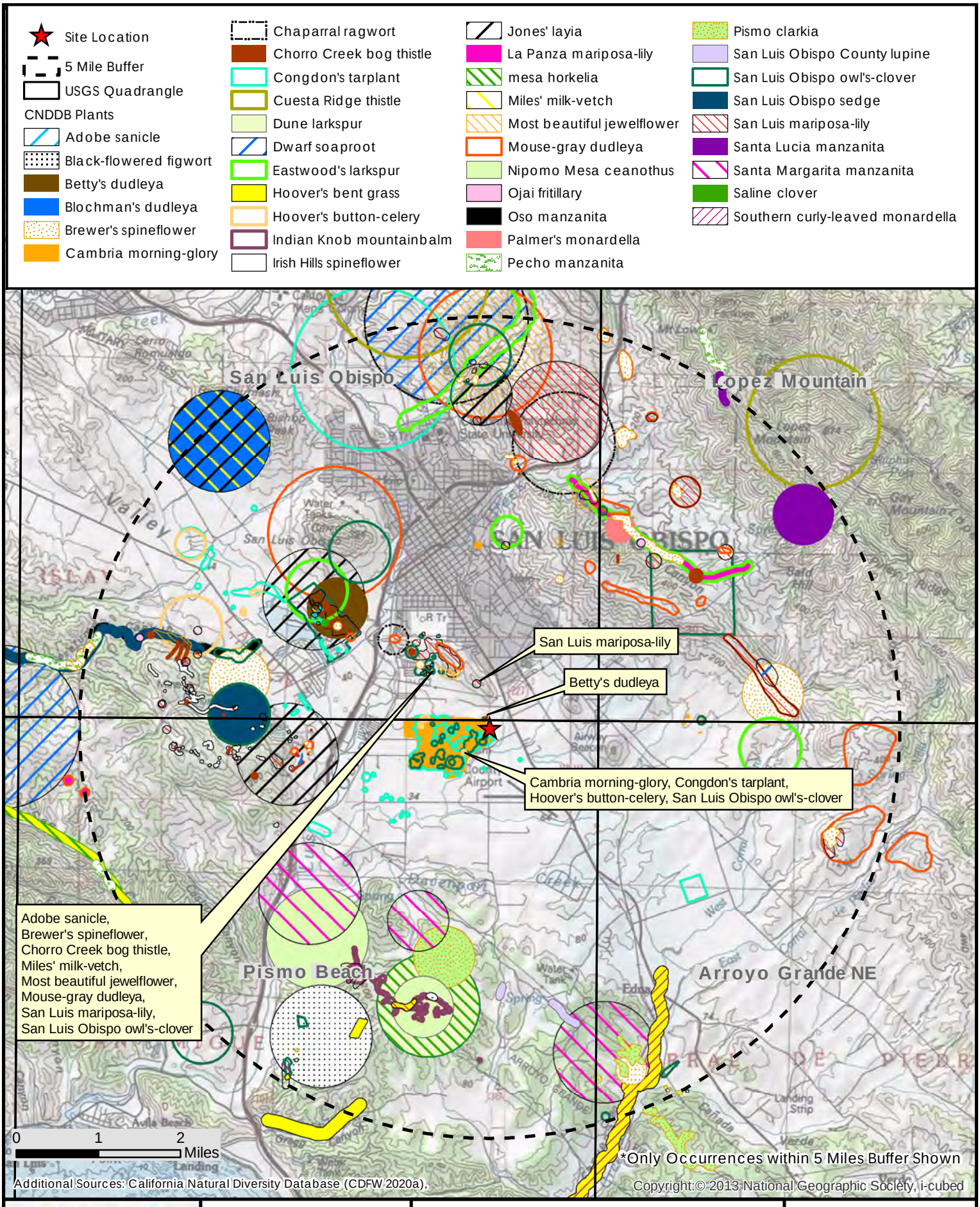
The background review evaluated a number of species that are known to occur on serpentine soils and rock outcrops, as well as wetlands, in the region. The initial analysis conducted in February 2020 at the start of the field investigation determined that there was potential for six special-status plant species to occur onsite, based upon onsite disturbed habitat conditions, suitable soils and local records from the immediate area. These species are described in Appendix D and as follows:

- **Adobe sanicle** (*Sanicula maritima*) — State Rare, CRPR 1B.1;
- **Cambria morning-glory** (*Calystegia subacaulis* ssp. *episcopalis*) — CRPR 4.2;
- **Congdon's tarplant** (*Centromadia parryi* ssp. *congdonii*) — CRPR 1B.1;
- **Hoover's button-celery** (*Eryngium aristulatum* var. *hooveri*) — CRPR 1B.1;
- **Mouse-gray dudleya** (*Dudleya abramsii* ssp. *murina*) — CRPR 1B.3; and
- **San Luis Obispo owl's-clover** (*Castilleja densiflora* var. *obispoensis*) — CRPR 1B.2.

These species have been recorded near the study area (Figure 4) and are associated with clay and serpentine based soils, grassland and wetland habitats. Numerous other serpentine endemic species are present in the region, but the disturbed nature of the site precludes most from occurring on the former quarry site. Focused rare plant surveys were conducted within the blooming period of all special status plants known to occur in the region in the spring and summer 2020. Three special-status plant species were found on the subject property, as described below, and the locations in which these species were detected are shown in Figure 3.

Cambria morning-glory, also called San Luis Obispo morning-glory, is a rhizomatous perennial herb in the family Convolvulaceae. It has trailing or twining stems and a cream-colored, funnel-shaped flower. This species is found in chaparral, cismontane woodland, coastal prairie, and grassland habitats, and is often associated with clay soils (Calflora 2020). It is relatively common in the San Luis Obispo area (Calflora 2020), and is widespread at the Tank Farm site, occupying about 14 acres (Padre Associates, Inc. and WSP Environment & Energy 2008). This species was documented on the subject property in a small occurrence of approximately 15 plants, within the Annual Grassland habitat in the southern part of the property. Past studies for the Tank Farm also documented a small patch in the center of the subject property, but is no longer present at this location. It has also been recorded at a number of locales along Tank Farm Road and other areas to the west and south (Padre Associates, Inc.; WSP Environment & Energy 2008; Marine Research Specialists 2013).

Congdon's tarplant is an annual herb in the family Asteraceae. It is a California endemic species that usually occurs in wetlands, associated with valley grassland communities (Calflora 2020). The species occurs in three disjunct areas within the state, including the San Francisco Bay area, Monterey Bay area, and San Luis Obispo County. In San Luis Obispo County, it has a restricted distribution around the city of San Luis Obispo and eastern Los Osos Valley (Calflora 2020), where it is associated with hard clay soils and seasonal wetlands (Hoover 1970). This species was documented from approximately 25.9 acres on the Tank Farm site, where it is associated with vernal swales and pools, seasonal wet meadows and constructed basins (Padre Associates, Inc. and WSP Environment & Energy 2008, Marine Research Specialists 2013). During the June and July plant surveys, 11 individual Congdon's tarplants were found in the western part of the basin in the southeast corner of the property. Plants were growing in small openings in the dense wetland vegetation composed of spike rush (*Eleocharis macrostachya*).



KEVIN MERK ASSOCIATES

N W E S

1 inch = 1.5 miles

600 Tank Farm Road

Covelop

Figure 4

CNDDB Plants

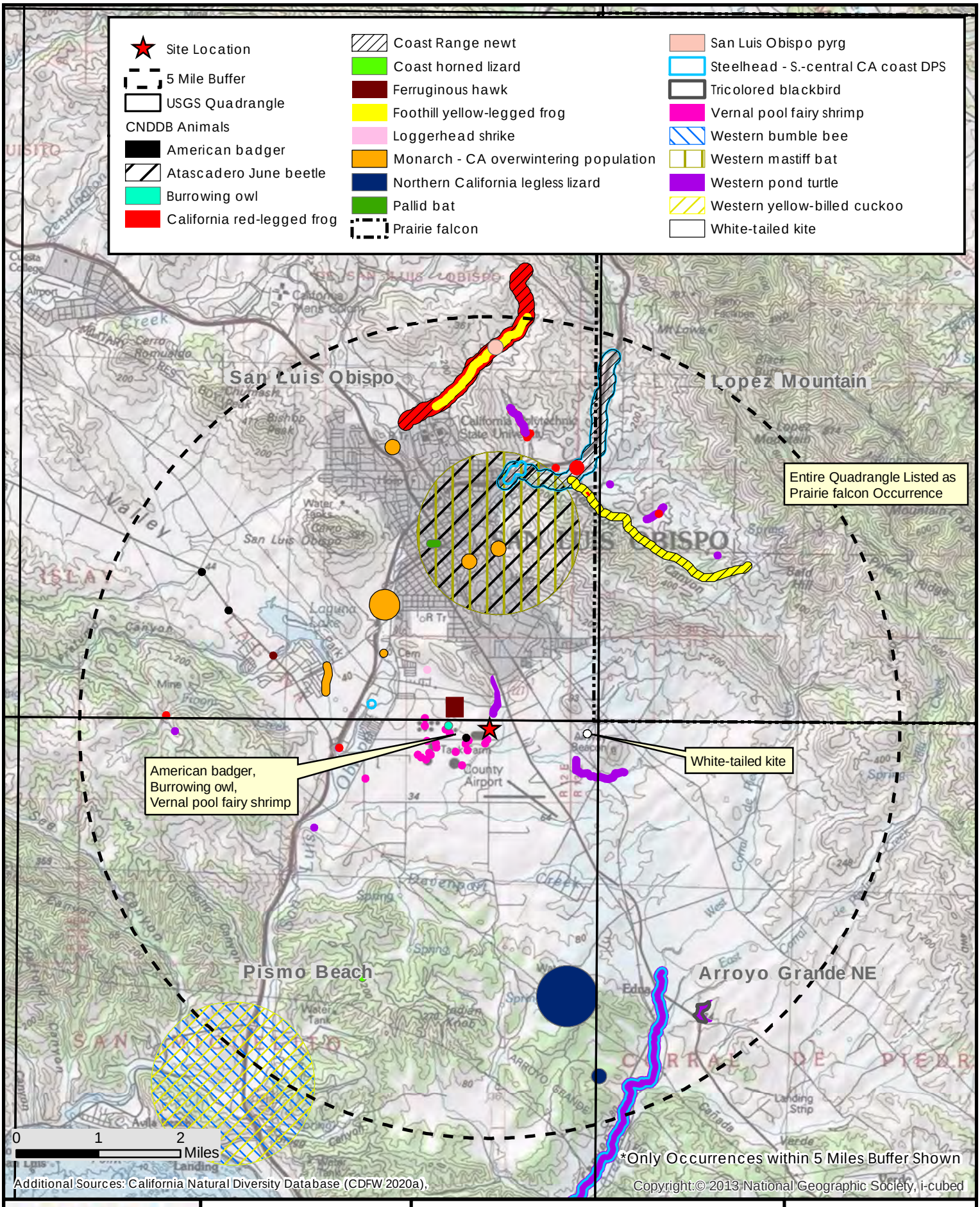
Mouse-gray dudleya, also called San Luis Obispo dudleya, is a perennial herb (succulent) in the family Crassulaceae. It has fleshy oblong leaves and purple-flecked flowers. It is found in chaparral, cismontane woodland and grassland habitats, where it is restricted to serpentine soils (Calflora 2020). It is endemic to the San Luis Obispo area and surrounding hills (Hoover 1970, Calflora 2020). *Dudleya* species are known to hybridize and onsite plants showed similar characteristics with this species Betty's dudleya (*Dudleya abramsii* ssp. *bettinae*), which was documented on the neighboring property (Padre 2008). Hoover (1970) states that Betty's dudleya is known to occur further west of San Luis Obispo, from Cerro Romualdo west along the coast (Hoover, 1970). Records in the Consortium of Herbaria and in Calflora (2020) identify mouse gray dudleya (ssp. *murina*) as more prevalent in the immediate project area, and based on physical characteristics observed in the plants on the study area, we concluded the dudleya onsite was mouse gray dudleya rather than Betty's dudleya. The questionable taxonomy of the subspecies of *Dudleya abramsii* on the subject property and Tank Farm site does not change the rarity of the plants observed during this investigation as both Betty's dudleya and mouse gray dudleya have California Rare Plant Ranks of 1B. Onsite, the five plants were found in a thin band growing on a rock face of the former quarry site in the northwestern corner of the property. Additional dudleya plants were observed offsite to the north in similar habitat adjacent to the Damon-Garcia Sports Fields.

The focused rare plant surveys conducted for this investigation on the subject property were considered to be comprehensive and floristic in nature. The surveys covered all bloom periods of special-status plant species that could occur in the study area and identified all species to the level necessary to determine rarity. No further botanical surveys of the subject property are recommended at this time.

3.5.2 Special-status Animals

The CNDDB contains a moderate number of recorded occurrences of special-status wildlife species in the vicinity of the subject property (refer to Figure 5). Based upon our background review of special-status species records, two invertebrate, one reptile, sixteen bird, and four mammal species were considered to have potential to occur or were documented on the property. No fish species could occur because there are no streams that could support fish on the property — the channel of Acacia Creek is offsite and the stream appears to be too ephemeral to support fish such as steelhead on a regular basis. Although potentially suitable dispersal habitat is present for the federally Threatened California red-legged frog (*Rana draytonii*), particularly along the Acacia Creek corridor, the aquatic habitat within the creek and the onsite Wetland are not suitable for this species due to insufficient depth and/or hydroperiod. If the frog occupied suitable aquatic habitats offsite, they potentially could disperse through the site. However, the closest documented occurrence at the City's Wastewater Treatment Plant is just beyond the farthest documented migratory distance (2.8 kilometers ([1.7 miles]) away from the subject property (Bulger et al. 2003). Numerous protocol surveys for the species have been conducted on the Tank Farm site, East Fork of San Luis Obispo Creek, Acacia and Orcutt creeks at Damon-Garcia Sports Fields, and the Filipponi Ecological Area, and this species has not been detected (Rincon Consultants, Inc. 2000, 2003; Christopher 2005, Padre Associates 2008, 2012; Marine Research Specialists 2013). Despite the presence of potentially suitable but marginal habitat onsite, due to the large number of protocol surveys conducted for the species in more highly suitable habitat areas surrounding the site, the California red-legged frog was considered to be unlikely to occur.

While the listing status, habitat associations and evaluation of occurrence are summarized in Appendix D, the 23 species with potential to occur or documented onsite during the surveys are also described in further detail below. Also see Figure 5 for a map of CNDDB wildlife records within five miles of the property.



KEVIN MERK ASSOCIATES

N W E S

1 inch = 1.5 miles

600 Tank Farm Road

Covelop

Figure 5

CNDDB Animals

The **California linderiella** (*Linderiella occidentalis*) is a vernal pool crustacean that is considered sensitive within the CNDDB, but has no specific listing status. It completes its life cycle in temporary pools in grassland or sandstone rock outcrops. These habitats include vernal pools, alkali pools, rock outcrop pools, ephemeral drainages, freshwater marshes, stream oxbow pools, stock ponds, seasonal wetlands, and vernal swales. They also occur in anthropogenic habitats such as artificial seasonal wetlands and pools, created pools in ephemeral drainages, ditches, excavations, road ruts, depressions along railroad right-of-ways (Helm 1998). Eggs hatch after the site fills with water, and they can reach their reproductive stage in a minimum of 31 days but on average takes 43 days (Helm 1998). Females produce embryos that are incased as shelled cysts, and remain dormant in the dried pool bottom until hatching when the site fills again the next year up to decades in the future. This species often co-occurs with vernal pool fairy shrimp, but can also occur in wetlands that are deeper and larger than those occupied by vernal pool fairy shrimp. This species has been documented in two seasonal pools on top of Flower Mound ("FS-38" and "FS-84"), within a portion of the serpentine hill offsite immediately to the west (Rincon Consultants, Inc. 2005). Wet season branchiopod surveys were conducted in Spring 2020, and this species was documented to be present in the basin on the subject property, within the western area of the feature. A vernal pool branchiopod survey report is in preparation by Sage Institute detailing these survey results. This species has also been documented in two pools to the south of Tank Farm Road ("FS-36" and "FS-67") that are within the impact area of the proposed roundabout and road widening and a third site that is adjacent to this area ("FS-66") (Rincon Consultants, Inc. 2005).

The **monarch butterfly** (*Danaus plexippus,* population 1) is considered sensitive by CDFW for overwintering colonies and is under review by the USFWS for listing under the Endangered Species Act. This species roosts colonially during the winter in wind-protected groves of eucalyptus, Monterey pine and cypress. These colonial roost sites are occupied by large numbers of butterflies throughout the winter and the individual sites are generally reused each year. Overwintering is the most vulnerable element in the monarch life cycle, and over the past 30 years the overwintering population has declined by at least 95% (Schultz et al. 2017). "Autumnal sites" are temporary sites used for roosting that do not persist through the winter and may not be used every year. Adults nectar on a variety of blooming plants, and individuals could use or move through the site while foraging or migrating. There are several records of overwintering populations and autumnal sites from within the urban limits of San Luis Obispo, however, most overwintering occurs along the coast in the Pismo Beach, Los Osos, and Morro Bay areas (CDFW 2020a). Individual monarch butterflies were observed flying over the site during the surveys, but no congregation sites were observed in the eucalyptus windrow. The eucalyptus windrow does not contain the micro-habitat requirements for this species such as more structure and depth for wind protection and thermal regulation. In addition, milkweed is required as a host plant for caterpillars, and was not seen in the study area. It is possible that autumnal congregations could occur on the eucalyptus windrow, but given its narrow linear form, is unlikely that a protected overwintering site is present. .

The federally Threatened **vernal pool fairy shrimp** (*Branchinecta lynchi*) is a tiny crustacean that completes its life cycle in temporary ponded water in various-sized topographic depressions in grasslands. They live in vernal swales (shallow, vegetated channels that carry water seasonally), vernal pools (shallow depressions in grasslands that hold water seasonally), and ephemeral (short-lived) aquatic habitats that form on a variety of substrates, including in rock outcrops (Helm 1998). They do not occur in riverine habitats (streams), marine areas, or in permanent bodies of water. Vernal pools form where there is a soil layer below or near the surface that has limited permeability to water, where precipitation and surface runoff becomes "perched" above this layer. Vernal pool fairy shrimp can also occur in anthropogenic habitats such as artificial seasonal wetlands, created pools in ephemeral drainages, dozer scrapes or other excavations that hold temporary water,

pooled water in road ruts and along railroad right-of-ways, and roadside ditches (Helm 1998). In order to survive in habitats with short inundation periods, vernal pool fairy shrimp have evolved short time to reproduction and high reproductive rates. They hatch in a few days after the sites fill with water, and complete their life cycle in one season. Temporary ponded water must last at least a minimum of 18 days for fairy shrimp to reach their reproductive stage, but on average is about 40 days and populations can persist up to 139 days in continuously standing water (Helm 1998). Females produce embryos that become encased as shelled cysts, which enters a dormant stage that can survive pool drying, temperature extremes, fires, and absence of oxygen (USFWS 2003). They can remain viable in the soil for decades, and be transported to other habitats in the digestive tracts of animals. Only a fraction of viable cysts hatch each season, while the rest remain dormant in the soil to hatch in future years (USFWS 2003).

Vernal pool fairy shrimp were first documented at the Tank Farm property in 2003, and additional dry and wet season surveys in 2004 through 2005 resulted in their presence (or presumed presence due to pool connectivity) at 60 of 86 seasonal wetland features sampled (Rincon Consultants, Inc. 2005). Wet season surveys at the adjacent Tank Farm property during winter 2011/2012 documented the species at an additional five pools (Padre Associates, Inc. 2012). This species was documented in several areas along Tank Farm Road that could be impacted by future development activities in the area (Marine Research Specialists 2013).

Potentially suitable habitat was determined to be present in the basin on the subject property, and one wet season of protocol-level aquatic surveys was conducted for this project, but no vernal pool fairy shrimp were detected (Sage Institute, 2020). A 90-day survey report documents the methods and results of these surveys. The basin on the subject property ("FS-41") was also sampled during the 2004 dry season and the 2004/2005 wet season surveys, and vernal pool fairy shrimp were not found (Rincon Consultants, Inc. 2005). A former basin wetland on the subject property to the west of the existing basin that is no longer present (identified as "FS-40") was sampled and had negative results (Rincon Consultants, Inc. 2005). It is likely that if vernal pool fairy shrimp occurred on the subject property that they would have been detected during the surveys. Additional investigation during the winter of 2020 confirmed that the basin had not been colonized since the earlier work was completed. A complete USFWS protocol level survey to determine the absence of this species consists of either two full wet season surveys within a 5-year period or two consecutive seasons of one full wet season survey and one dry season survey (USFWS 1996). Based on the results of the 2020 wet season survey, a sufficient amount of water filled the basin in 2020 and the entire area was sampled; therefore, it is unlikely that vernal pool fairy shrimp are present on the subject property, but they are known to occur on the Tank Farm property, and could potentially colonize the basin in the future presuming suitable hydrologic conditions persist.

The **southwestern (=western) pond turtle** (*Actinemys pallida*) is a CDFW Species of Special Concern. They occupy streams, rivers, lagoons, as well as created ponds and irrigation reservoirs, especially those with areas of open water and some perimeter vegetation such as bulrushes, cattails and willows (Bury et al. 2012). Southwestern pond turtles move away from aquatic sites in late-summer or fall when water levels decline to begin a period of dormancy over the winter (Rathbun et al. 1993). At sites with permanent water, they remain buried in the substrate of the aquatic site during the winter (Bury et al. 2012). They have been found to undergo movements of up to 3,596 feet (1,096 meters) within upland habitats in one season, and they occupy woodland, scrub and chaparral vegetation within 1,640 feet (500 meters) from their aquatic sites for up to 30 weeks (Reese and Welsh 1997, Rathbun et al. 2002, Pilliod et al. 2013). During dormant periods, turtles remain buried under dense cover such as willow/blackberry thickets, patches of coyote brush, or Monterey pine stands (Rathbun et al. 1993). Nesting, which occurs in summer, is in upland areas 98 to 558 feet (30 to 170 meters) from aquatic habitats, in well-compacted soils of sunny open

areas within sparse grassland (Rathbun et al. 1992, 1993, 2002; Scott et al. 2008). Hatchlings may leave the nest in the fall or overwinter in the nest and move to water the following spring. This species is primarily diurnal, and they make overland movements during the day. This species has been documented to occur in Acacia Creek on the Damon-Garcia Sports Fields (K. Merk personal observation). A shell was reported to have been found on Flower Mound, on or immediately adjacent to the subject property (Padre Associates, Inc. 2013). This species has also been documented downstream of the site in the East Fork of San Luis Obispo Creek (Rincon Consultants, Inc. 2003, Christopher 2005). They could move through the study area while traveling between the aquatic sites nearby. They are unlikely to remain in the Ruderal habitat due to low vegetative cover and disturbed conditions, but potentially could take refuge under the stored materials. The riparian corridor along the creek could be suitable for movement between sites, but this area is located offsite. Although a small patch of Annual Grassland is present onsite, they are unlikely to nest there because the adjacent portion of Acacia Creek is unsuitable for long-term occupancy of adults due to insufficient water depth.

The **bald eagle** (*Haliaeetus leucocephalus*) is a state Endangered species for nesting and wintering habitats and is a CDFW Fully Protected species. Their primary prey is fish, but they also feed on small mammals, amphibians, reptiles and carrion (The Cornell Lab of Ornithology 2020b). They are usually in close proximity to large bodies of water, rivers or flooded fields with large trees or other perches nearby (CDFW 2020d). They roost communally in winter in dense conifer stands away from human disturbance. Nests in large trees in stands with moderately low canopy within 1 mile of water (CDFW 2020d). There are numerous observations of this species from the area surrounding Tank Farm Road and the San Luis Obispo Airport (The Cornell Lab of Ornithology 2020a). Because they are relatively common year-round in this area, individuals may fly over the site and could perch or temporarily roost on the large trees. They are unlikely to nest or communally roost due to the urban environment surrounding the site and the distance from water.

The **burrowing owl** (*Athene cunicularia*) is listed by CDFW as a Species of Special Concern for burrowing sites and some wintering sites. It forages in grasslands and nests in burrows constructed by other species (typically ground squirrel) within grassland habitat. This species prefers areas with low vegetation and small hills that provide a vantage point of the surrounding area. Coastal and Salinas Valley populations in San Luis Obispo County are considered to no longer breed in this area, but they occur infrequently during the winter (Wilkerson and Siegel 2010). Burrowing owls were observed on the Tank Farm site occupying burrows over several days in January 2008, but they had vacated those burrows by June 2008 and no evidence of nesting was found (Padre Associates, Inc. 2008b). Several burrowing owls were documented to be overwintering in burrows at the Tank Farm site in 2013 (CDFW 2020a). The bare ground and sparse vegetation in Ruderal areas onsite could be suitable for wintering burrowing owls. California ground squirrel burrows that could be used by owls were observed onsite. This species is not expected to nest onsite but could occur as an uncommon transient moving through the area during the winter. They could occupy burrows and forage onsite during the winter.

The **California horned lark** (*Eremophila alpestris actia*) is on the CDFW Watch List. It occurs in open habitats such as agricultural areas and grassland, and prefers areas with sparse vegetation or patches of bare ground. Nests are placed on the ground in open areas, sparse vegetation, or next to a grass clump or other object (Audubon 2020). This species has been recorded on or immediately adjacent to the subject property in 2012 (Padre Associates, Inc. 2013). This species could occur onsite in sparse vegetation associated with the Ruderal habitats or in the Annual Grassland on a regular or transitory basis, and could nest onsite.

Cooper's hawk (*Accipiter cooperii*) is on the CDFW Watch List for nesting. This is a woodland species that prefers dense stands of coast live oak, riparian forest, and mixed coniferous forests near a source of water. They prey on birds, small mammals, reptiles and amphibians. They have been documented at Damon-Garcia Sports Fields and the Tank Farm property, and in urban areas of San Luis Obispo (The Cornell Lab of Ornithology 2020a). The Eucalyptus habitat onsite and offsite immediately to the east would be suitable for foraging and nesting, and potential small mammal prey was seen during the survey.

The **ferruginous hawk** (*Buteo regalis*) is on the CDFW Watch List for wintering sites, and it occurs in this area during the winter. They use lower elevation open grassland habitats, and also occur in sagebrush, desert scrub, and edges of pinyon-juniper (CDFW 2020d). Roosting is in open areas on a lone tree or utility pole. They prey on rabbits, ground squirrels, mice, amphibians and reptiles (CDFW 2020d). This species has been observed adjacent to the site on the Tank Farm property during winter (Padre Associates, Inc. 2013), as well as area surrounding San Luis Obispo (The Cornell Lab of Ornithology 2020a). Individuals could forage periodically onsite in the Ruderal habitat and perch or roost in the Eucalyptus, but they do not nest in this area. They could potentially use the site for wintering.

The **golden eagle** (*Aquila chrysaetos*) is considered a Fully Protected species by CDFW and is on the Watch List for nesting and wintering. Nesting is on cliffs, large trees or other structures such as electrical towers. This species has been observed periodically while foraging on the adjacent Tank Farm property (Marine Research Specialists 2013). This species forages over a variety of open habitats, and could forage in the adjacent large expanses of Annual Grassland and fly over the site. Although the property is heavily disturbed, potential prey could be present. Large eucalyptus trees may have sufficient structure for nesting, but due to high disturbance in the surrounding area, they are unlikely to nest on the property.

The **great blue heron** (*Ardea herodias*) does not have a specific listing status but is considered a sensitive species by CDFW for nesting colonies, which are located in forests near bodies of water. This species is associated with wetland habitats, but it is occasionally seen foraging in grasslands or agricultural fields away from water. Nesting colonies are near aquatic habitats, where they nest mainly in large trees. There are numerous observations of great blue herons from adjacent areas along Tank Farm and Buckley roads, as well as urban areas within the city (The Cornell Lab of Ornithology 2020a). Individuals could occur onsite periodically while foraging, but nesting colonies would not utilize the site due to the distance from any lakes, ponds or wetlands. Appropriate aquatic habitat for nesting colonies is not present in or near the study area. Foraging could occur in the Wetland or Annual Grassland areas onsite, and they could be attracted to the adjacent Acacia Creek.

The **great egret** (*Ardea alba*) does not have a specific listing status, but is considered sensitive by the CNDDB for nesting colonies. This species does not nest in this area. Individuals forage in aquatic habitats, including freshwater and saline emergent wetlands, estuaries, lakes, streams, ditches, and mudflats, where they prey on fish and crustaceans. They also forage in fields on small mammals, amphibians and reptiles. They roost communally in trees near foraging areas (CDFW 2020d). There are several observations from along Tank Farm Road and the San Luis Obispo Airport property (The Cornell Lab of Ornithology 2020a). There is a chance that transient individuals could forage periodically onsite in the Wetland or Annual Grassland habitats and along Acacia Creek. No nesting would occur as they do not nest in this area.

The **loggerhead shrike** (*Lanius ludovicianus*) is a CDFW Species of Special Concern for nesting. This species occurs in variety of relatively open habitats with low vegetation and well-spaced

shrubs or trees, such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides. They prefer areas where there are objects to perch on such as fences, trees or shrubs (Audubon 2020). Nests are placed in dense and sometimes thorny trees or shrubs and brush piles (Audubon 2020). They prey on insects, amphibians, reptiles and small mammals, and may impale their prey on sharp objects. There are observations of this species within urban San Luis Obispo (The Cornell Lab of Ornithology 2020a), and this species was reported to be "commonly observed" on the Tank Farm property, with nesting documented (Padre Associates, Inc. 2013). Suitable foraging habitat for this species is present throughout the Ruderal and Ornamental habitats onsite. They could build nests in the dense shrubby Ornamental areas.

The **northern harrier** (*Circus cyaneus*) is a CDFW Species of Special Concern for nesting. This species prefers wide open country with wetlands but they also occur in rolling grasslands or desert shrubland. Nests are placed on the ground in dense clumps of vegetation, usually in marshes, but occasionally they nest in dry open fields (Audubon 2020). There are numerous observations from the surrounding area, including urban areas in San Luis Obispo, and Laguna Lake (The Cornell Lab of Ornithology 2020a), as well as the Tank Farm property (Marine Research Specialists 2013). They could occur onsite occasionally while foraging or flying over, but are unlikely to nest in the study area due to the urban environment surrounding the site.

The **prairie falcon** (*Falco mexicanus*) is on the CDFW Watch List for nesting. This species forages in open grasslands, scrublands, and agricultural areas including feed lots. Nesting habitat is generally rock formations and large trees, but they also occur in urban areas and nest high on buildings. This species has been recorded at several locations on CalPoly and around the edge of the San Luis Obispo urban area (The Cornell Lab of Ornithology 2020a). They could forage onsite as small mammals were seen, and potentially could nest in the tall Eucalyptus because they tolerate human disturbance in some areas, nesting in cities.

The **sharp-shinned hawk** (*Accipiter striatus*) is on the CDFW Watch List for nesting. This species generally occurs in densely forested coniferous forests, mixed woodlands and riparian habitats, and dense forest is required for nesting. During migration, it uses coastlines, lake shores and mountain ridges (Audubon 2020). It does not breed in San Luis Obispo County. This species has been recorded at Damon-Garcia Sports Field and the Tank Farm property, as well as other areas in the greater San Luis Obispo area (The Cornell Lab of Ornithology 2020a). This species could occur onsite during migration and could periodically forage onsite, but does not nest in this area. The Eucalyptus onsite, and on the property to the east offsite, are suitable for foraging.

The **snowy egret** (*Egretta thula*) is considered sensitive by the CNDDB for nesting colonies, but does not have a specific listing status. This species does not nest in the county. They occur in inland portions of the county during migration, in which they can be found in wetlands, ponds, rivers, irrigation ditches and agricultural fields. Along the coast they remain longer into the year, occurring in estuaries, and coastal freshwater and saline wetlands. They feed along shallow margins on fish, crustaceans, insects, amphibians, reptiles, worms, snails and small mammals. They roost in dense emergent wetland vegetation and trees near water (CDFW 2020d). There are a few records in the general area surrounding the site (The Cornell Lab of Ornithology 2020a). This species could forage in winter in the Wetland and Annual Grassland habitats onsite, or along Acacia Creek, but do not nest in this area.

The **tricolored blackbird** (*Agelaius tricolor*) is a state Threatened species and a CDFW Species of Special Concern for nesting colonies. This species nests and roosts colonially in freshwater marshes with dense tules, cattails, or blackberry thickets. They forage in areas with low-growing

vegetation such as agricultural fields, grasslands and feedlots. Wintering tricolored blackbirds congregate in large multispecies flocks, often containing red-winged blackbirds (The Tricolored Blackbird Working Group 2007). This species has been recorded on the Tank Farm property during the breeding season, and suitable emergent wetland habitat is present on that adjacent property (Marine Research Specialists 2013). They potentially could nest in the riparian habitat offsite even though tule and cattail patches are not present, and individuals may forage periodically or occur as transients throughout the study area.

The **white-tailed kite** (*Elanus leucurus*) is a CDFW Fully Protected species for nesting sites. This species prefers open areas for foraging, including grasslands, river valleys, oak savanna, agricultural areas, deserts, and marshes (Audubon 2020). They nest in large isolated trees, and occasionally in riparian habitats (CDFW 2020d). During the non-breeding season, they roost communally in trees or tall shrubs at the edges of grasslands (The Cornell Lab of Ornithology 2020b). This species has been recorded at numerous locations surrounding the property (The Cornell Lab of Ornithology 2020a), and they are "commonly observed" on the Tank Farm property (Padre Associates, Inc. 2013). They could roost or nest in the Eucalyptus habitat onsite, and small mammals that this species could potentially prey on were observed. However, red-tailed hawks appeared to be nesting in the Eucalyptus windrow (although a nest was not observed), and may preclude white-tailed kites from nesting in the project area.

The **yellow warbler** (*Setophaga petechia*) is a CDFW Species of Special Concern for nesting. In California, this species breeds along coastal areas from Del Norte County south to Ventura County, where it prefers medium-density riparian woodlands (CDFW 2020d). This is a migratory species that occurs in this area only during the breeding season. This species is closely tied to riparian habitat for foraging and nesting, but they also use residential areas and orchards. There are several records of this species from various locations surrounding the site, including Damon-Garcia Sports Fields (The Cornell Lab of Ornithology 2020a). The Eucalyptus and Ornamental trees and shrubs onsite are suitable for this species, and they could forage or nest onsite.

The **American badger** (*Taxidea taxus*) is a CDFW Species of Special Concern. This species occurs in a variety of open habitats, and prefers grassland, oak savannah and edges of shrubland. They are associated with friable soils in which they dig burrows. Although they frequently reuse old dens, they may dig a new den each night, especially in summer (CDFW 2020d). Young are born in maternity dens in March and April (CDFW 2020d). They tolerate some human disturbance. California ground squirrels are a common prey species of badgers, and their burrows are often found to be enlarged by foraging badgers. In addition, badgers also eat pocket gophers, rats, mice and chipmunks (CDFW 2020d). This species has been observed on the adjacent Tank Farm property (Padre Associates, Inc. 2013). The soils onsite in the serpentine areas were not particularly friable, and no potential dens were observed during the survey, but California ground squirrels were observed. Badgers are highly mobile and could move through the study area, but the probability of denning is low due to lack of suitable habitat and regular human disturbance.

The **pallid bat** (*Antrozous pallidus*) is a CDFW Species of Special Concern. This species forages in a variety of dry, open habitats such as grassland, deserts, woodland, shrubland and coniferous forest. Maternity and winter roosting sites are cavities or caves in rock features, large trees or buildings, and these structures must substantially moderate temperature. Day roosts are in caves, crevasses, mines and occasionally hollow trees or buildings. Night roosts are in more open areas such as porches or agricultural buildings. They forage on beetles, moths, spiders, scorpions and Jerusalem crickets (CDFW 2020d). There are records of the species from the vicinity, including Camp San Luis Obispo and the tunnel for San Luis Creek within the city (CDFW 2020a). They could forage over the site and there is a slight possibility they could roost in the large Eucalyptus.

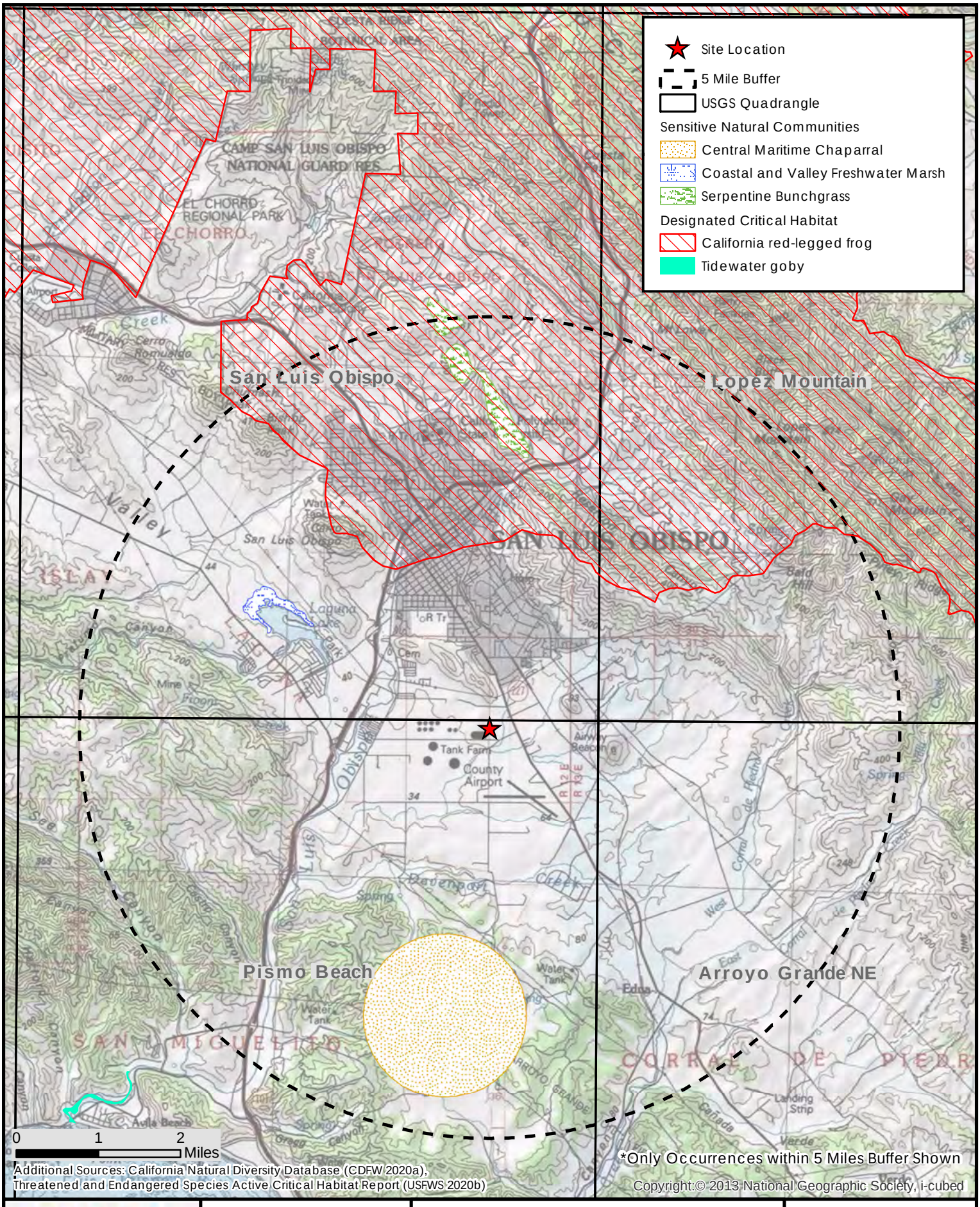
Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW Species of Special Concern. This species occurs in a variety of habitats, including dry upland areas, semidesert, coniferous forest, and riparian woodland. They prefer foraging along the edges of riparian vegetation and they drink water from ponds. They roost in caves, mines, abandoned buildings and under bridges (Gruver and Keinath 2006). They are considered to widespread throughout California except for high elevations in the Sierra Nevada and occur in this area throughout the year (CDFW 2020d). There are records or roost sites on Camp San Luis Obispo and along Chorro Creek, as well as an individual from Shell Beach (CDFW 2020a). This species could forage over the site, but there is no suitable habitat for roosting.

The **western mastiff bat** (*Eumops perotis californicus*) is a CDFW Species of Special Concern. It occurs in coniferous and deciduous woodlands, coastal scrub, grasslands, chaparral, deserts and urban areas (CDFW 2020d). This species is resident year-round in the Coast Ranges, and are active nocturnally throughout the year. They roost in cliff faces, tunnels, on buildings or in trees. Maternity roosts are restricted to crevices in rock formations or buildings (CDFW 2020d). There is a record in the CNDDB from the general area of San Luis Obispo (CDFW 2020a). This species could forage over all areas of the property. They could roost in the large Eucalyptus.

3.5.3 Sensitive Natural Communities

Figure 6 illustrates the sensitive natural communities in the project region documented in the CNDDB. The Wetland habitat on the subject property would be considered a sensitive natural community. Although it occurs in a constructed basin, the Wetland habitat is consistent with the Vernal Marsh habitat type (Holland, 1986) since it supports a predominance of seasonal wetland species. It colonized the basin and now persists under the current hydrologic regime. The basin has not been maintained for some time, other than annual mowing. Vernal Marsh habitat in its natural conditions has a State Rarity Rank S2, and also is considered to be sensitive by CDFW. The Wetland habitat was identified as a potential wetland Waters of the United States under the Clean Water Act Section 404 jurisdiction of USACE, as well as Waters of the State regulated by RWRCB and CDFW because it contained all three wetland criteria (i.e., predominance of wetland vegetation, hydric soils and wetland hydrology). It is located adjacent to Acacia Creek and is hydrologically connected via a culvert. Further, it supports the rare Congdon's tarplant and a special animal, the California linderiella. The Wetland habitat may also be considered to be of special status by the City of San Luis Obispo pursuant to General Plan policies, since it is connected to Acacia Creek and its associated riparian habitat, supports a rare plant and this area is considered to be an important open space resource within the Airport Area Specific Plan (Specific Plan; City of San Luis Obispo 2014). Wetland habitats on the Tank Farm site that have become established in an extensively modified environment are considered to be high value natural resources in the Specific Plan, and it is expected that this definition would extend to the wetland feature located in the study area, especially since it is occupied by California linderiella and supports a small occurrence of Congdon's tarplant. City wetland policies require the preservation of wetland habitat as open space and mitigation for degradation or loss of these habitats (City of San Luis Obispo 2014).

The Coastal Scrub habitat is classified as Coyote Brush Scrub, and has a State Rarity Rank of S5, which does not meet the threshold to be considered sensitive. The Wild Oats and Annual Brome Grasslands association is a semi-natural alliance and is not considered sensitive (CDFW 2020b). Eucalyptus is a semi-natural alliance and is not a sensitive natural community. Ornamental and Ruderal are anthropogenic land uses and are not natural communities. Other sensitive natural communities recorded in the CNDDB within the site vicinity are not present within the study area (please refer to Appendix D).



KEVIN MERK ASSOCIATES

N W E S

1 inch = 1.5 miles

600 Tank Farm Road

Covelop

Figure 6

CNDDB Communities

3.5.4 Designated Critical Habitat

No designated critical habitat for federally listed species occurs on the site or in adjacent areas (Figure 6, Appendix D). California red-legged frog critical habitat Unit SLO-3 occurs in the northern portion of San Luis Obispo, and extends west to the coast and north and east through the Santa Lucia Range. Tidewater goby critical habitat is present only in the estuaries and lowermost reaches of some coastal streams.

3.5.5 Migratory Birds and Raptors

There are numerous bird species with potential to occur at the site that could nest in the onsite Eucalyptus and Ornamental habitat types. In addition to the special-status bird species described above, avian species that could nest onsite also include raptors protected under California Fish and Game Code and common species that are protected under the MBTA. Red-tailed hawks (*Buteo jamaicensis*) were observed in the Eucalyptus windrow exhibiting nesting behavior and it appears that a nest may be present in one of these trees or other large trees east of the property.

4.0 IMPACT ANALYSIS AND RECOMMENDED MITIGATION

The following impact analysis and recommended mitigation measures are intended to help guide project planning efforts and support the CEQA review process. The impact discussion addresses the range of impacts that could result from implementation of the proposed project. Direct effects (or impacts), as defined under CEQA, are caused by a project and occur at the same time and place. Indirect effects are caused by a project, but occur at a different time or place. Cumulative effects are those that result from when the effects of the subject project combine with effects from other unrelated projects to compound environmental harm. Our understanding of the extent of proposed development footprint, along with the observations of onsite conditions from the site visit and desktop evaluation of special-status biological resources in the project vicinity, provided the basis for this analysis. Impact statements defining potential impacts on biological resources and proposed mitigation measures to reduce project-related impacts are described. This analysis and recommended mitigation measures are expected to be refined based upon follow-up investigations underway for the Preliminary Delineation of Wetlands and Other Waters and Listed Branchiopod Wet Season Surveys.

4.1 Direct and Indirect Effects

The proposed project would develop almost the entire 11.67-acre site, which is predominantly Ruderal areas with a history of site disturbance and little value for wildlife habitat or potential to support native plant species. Small areas of Annual Grassland and mowed Coastal Scrub would be removed. The old serpentine quarry area would mostly be avoided. The primary effects of the proposed development are associated with the temporary loss of the Wetland habitat in the basin and development encroaching into the creek setback area along Acacia Creek. The proposed development would relocate the basin for development in that area and, and would occur in compliance with project permits that would be obtained from the identified regulatory agencies. The plans prepared to date and reviewed for this investigation do not show the exact size and location of the new basin, but it is envisioned that the new basin would be of sufficient size to support creation of wetland habitat of the same size or larger than the extent of mapped wetland habitat. It would also be required to have a sufficient hydroperiod to be able to support wetland plants, including Congdon's tarplant as well as the California linderiella similar to its current condition. A 35-foot setback from the top of the west bank of Acacia Creek is shown on the site

plans, and based on the conceptual site plan, two residential buildings and their perimeter sidewalks extend into the setback. The proposed bicycle/pedestrian path would also be located within the setback area.

While the current setback zone from Acacia Creek is highly disturbed from current land uses onsite, there is the potential for increased human activities to affect wildlife species that may utilize the habitat for key functions once the site is developed. Construction activities, disturbance caused by human occupancy and recreational activity along the bicycle path, and maintenance activities for the residences could negatively affect the use of adjacent riparian habitat for small animals including birds and bats. Wildlife uses of the Eucalyptus habitat could also be affected assuming pruning of large limbs may be required. There is potential for other direct effects on wildlife species that could occur in impact areas during construction activities, as described in Section 4.1.1 below. Indirect effects on habitats or species located downstream from the site, or wetland features located adjacent to disturbance areas, could also occur through surface runoff of disturbed areas during construction. Each of these potential effects is discussed in the sections following.

4.1.1 Adverse Effects on Candidate, Sensitive or Special-status Species

A suite of special-status plant and animal species that are known to occur in the site vicinity were evaluated to determine their potential to occur in the study area. Although most of the site was heavily disturbed, there was a small area of Annual Grassland in the southeastern corner of the site and serpentine and clay soils that could support special-status plant species. The field surveys conducted for this BRA determined that three special-status plant species (Cambria morning glory, Congdon's tarplant and mouse gray dudleya) are present onsite. Cambria morning glory is a relatively common species in the region and is on a watch list with a California Rare Plant Rank of 4.2, which is a species of limited distribution that is moderately threatened. Approximately 15 plants were located in a small occurrence near the onsite basin that would be removed for construction of the project. Cambria morning-glory has also been documented from the Tank Farm property including areas of remediation and potential future development (Marine Research Specialists 2013).

Even though Cambria morning-glory is relatively common in grassland habitats in the project region, CDFW recommends that these species be evaluated under CEQA, and if the species is regionally rare or unique, it must be fully analyzed in a CEQA document. The level of significance of effects is to be based on:

- The type locality of a California Rare Plant Rank 4 taxon;
- Occurrences at the periphery of a species' range;
- Areas where the taxon is especially uncommon;
- Areas where the taxon has sustained heavy losses (declining);
- Occurrences exhibiting unusual morphology or occurring on unusual substrates;
- Species maintained on Bureau of Land Management (BLM), USFWS, or U.S. Forest Service (USFS) sensitive species lists; and
- Taxa associated with a habitat that is declining in California at a significant rate (CNPS 2020b).

None of these conditions apply to this particular species within this localized area since numerous records of the species were identified in the CNDDB search, and the site is located within the center of the species' local distribution (Calflora 2020). This species is only found in the Central Coast region, but it is a common associate of coastal grasslands from San Luis Obispo west to Los Osos

and north to San Simeon. Furthermore, larger occurrences of Cambria morning-glory were identified and mapped on the Tank Farm property, and the proposed project will not jeopardize the continued existence of this species in the region. Although mitigation for this species may not be required due to the low level of local rarity, a compensatory mitigation program is described below to maintain its presence on the subject property post development.

Eleven (11) individuals of Congdon's tarplant were documented from the western portion of the basin (Figure 3) and would be impacted by the project. This species is considered rare throughout its range (CRPR 1B.1) and project impacts to the onsite occurrence are likely to be considered significant under CEQA. Five (5) mouse-gray dudleya plants were also observed in the northwestern part of the site on a steep east-facing slope on the serpentine hill area. As currently proposed, these plants will not be impacted by the proposed development. Recommended mitigation for impacts to special status plants is described below.

Special-status animal species with potential to occur within or adjacent the project impact area and which may be affected by construction activities include California linderiella, southwestern pond turtle, burrowing owl, American badger, and special-status or other protected species of nesting birds and raptors. The project will relocate the existing basin that provides wetland habitat supporting the California linderiella. Details are not currently available on the exact plans to relocate the basin, but is envisioned that it will be repositioned in the same general area within the creek setback zone. Project effects on the temporary loss of wetland habitat (described in Section 4.1.3 below) and California linderiella would be considered to be a significant impact and require mitigation. Mitigation Measure BIO-2 describes methods for California linderiella and BIO-7 describes more specific information on recreating wetland habitat in a new basin. Vernal pool fairy shrimp were not detected in the basin during surveys conducted for the Tank Farm. An updated wet season of protocol sampling conducted in 2020 show that this feature is unlikely to support the vernal pool fairy shrimp. Given the numerous sampling events in this basin, it is highly unlikely that the federally listed vernal pool fairy shrimp is present on the subject property, but consultation with the USFWS may be required prior to the absence determination is finalized, especially if future development may encroach into occupied habitat on neighboring property. Should future study identify vernal pool fairy shrimp onsite, it is anticipated that mitigation prescribed herein for impacts on the basin wetland habitat and California linderiella would be sufficient to mitigate impacts to all branchiopods that may be present in this feature. Vernal pool fairy shrimp and California linderiella have been documented on the Tank Farm property, and agency consultation and mitigation should vernal pool fairy shrimp be identified onsite would be consistent with that project.

Southwestern pond turtles could be present in Ruderal areas under stored materials, and be killed or injured during construction phases. Burrowing owls have been documented in this area during the winter and could occupy burrows onsite periodically, but they do not nest in this area. Individuals in burrows could be injured or killed during site grading if conducted during the winter. Although unlikely, American badgers may have dens onsite and individuals and their young could be injured or killed during site grading and individuals could be subject to vehicle strikes. Some avian species could nest in the Ornamental trees or in Annual Grassland habitat that would be removed and their nests directly affected. Construction noise and other disturbance could affect nesting birds and raptors along the riparian and eucalyptus corridor just to the east of the site. Project impacts on these special-status species would be considered to be significant under CEQA, and mitigation is required as described below.

Special-status animal species that could occur on the site but that are not expected to be significantly affected include monarch butterfly, bird species that only forage onsite or use the site

on a transitory basis, and foraging or roosting bats. Individuals of these mobile species are expected to move out of harm's way during construction activities, and would not be directly affected. Construction activities would occur during the day and would not affect nocturnal foraging of bats. Roosting bats may be present within the Eucalyptus habitat, and the disturbance caused by construction equipment could cause the bats to abandon these sites. Abandonment of roost sites by solitary bats or small groups of individuals may not be considered to be significant under CEQA, as the bats may simply move out of the disturbance area during construction and use another suitable location. When disturbance has ended, the bats may move back in because their roosting habitat will not be affected. No suitable habitat is present to support maternity colonies. No mitigation is necessary for these species because no significant effects are expected.

Because a majority of the site is heavily disturbed, the project would not present a significant reduction in the amount of suitable foraging habitat for special-status bird species or American badger, or upland habitat for the southwestern pond turtle, especially considering the open space on the Tank Farm property. Bat species would continue to forage over the site after development. The effects of the project on wildlife corridors that may be used by special-status wildlife species is discussed below in Section 4.1.4. No designated critical habitat for federally listed species occurs at the site, and no such areas exist offsite that could be indirectly affected (Figure 6).

Impact BIO-1. Construction of the project will impact special-status plant species. This is a significant but mitigable impact.

The proposed disturbance footprint on the subject property would impact small occurrences of Cambria morning-glory and Congdon's tarplant (Figure 3). In addition, offsite improvements may be required for the project that could impact additional special status plant species should construction extend onto the Tank Farm property. Offsite improvements would need to be evaluated further to determine whether rare plants are present in proposed impact areas and if so, evaluate the extent of the area of occurrence(s) and the estimated number of individuals.

Cambria morning-glory is a CRPR 4.2 species, which is a watch list, and the project will not adversely affect or jeopardize the continued existence of this species in the project area; therefore, a rigorous mitigation and monitoring program is not warranted. Congdon's tarplant is a CRPR 1B.1 species, and project impacts on this species would need to be fully mitigated. As currently proposed, the project will not impact mouse gray dudleya. To ensure impacts on special-status plant species on the subject property remain below the significance threshold under CEQA, Mitigation Measures BIO-1a and -1b are required.

<u>Mitigation Measure BIO-1a</u>*: Prepare a Rare Plant Mitigation Plan that describes the methods and techniques to ensure a no-net-loss of special status plants on the project site.* The plan shall be prepared by a qualified botanist approved by the City. As a component of the plan, seed shall be collected from Cambria morning-glory and Congdon's tarplant individuals within the project footprint prior to disturbance, and stored until receiving sites are ready. The seed shall be cleaned and stored using industry standards by a qualified botanist during the appropriate season prior to grading activities. Suitable habitat outside of the development area (presumably in the creek setback zone) should be identified for each species, and designated as mitigation site(s) that will be maintained in a natural state and not be subject to planting ornamental species or other adverse modifications. The receiver sites shall be at least twice the size as the area currently occupied by the rare plant occurrences to ensure a minimum 1:1 replacement ratio is achieved. The Cambria morning-glory mitigation site should be within grassland habitat in the creek setback area, and the Congdon's tarplant mitigation site should be within wetland habitat created in the bed of the relocated basin. The mitigation sites should be prepared for planting by grading, removal of non-

native species and other measures as necessary. Topsoil salvage can also be utilized, where topsoil from the occurrences is collected and stored during construction to "top-dress" the mitigation site(s). Once the mitigation/receiver sites are prepared, then the collected seed should be hand-broadcasted into suitable locations. Seeding that is part of the native erosion control seed mix described in Table 1 under Mitigation Measure BIO-11 and applied to the site as part of the erosion control effort. Depending on the season when construction starts, the qualified botanist may also potentially salvage plants (i.e., dig them up during the winter or early spring) and transplant them to the mitigation sites. As stated above, the total establishment area should be at least twice the size of the occupied area lost to ensure no net loss of the species onsite, and the methods, techniques, final success criteria and monitoring requirements would be detailed in the Rare Plant Mitigation Plan.

Mitigation Measure BIO-1b: Conduct annual monitoring and implement adaptive management measures for five years to ensure no net loss of rare plant occurrences onsite. The Rare Plant Mitigation Plan shall provide a detailed monitoring and maintenance strategy to ensure success of the program. Monitoring by a qualified botanist should occur during the spring and summer growing season to ensure successful establishment of target habitats and seeded/planted rare plants. The established rare plants should be mapped to evaluate the goal of no net loss of the species onsite. The measurable objective should be to have at least 15 Cambria morning-glory plants and 11 Congdon's tarplants occupying areas at least the same size or larger than the impacted occurrences. Appropriate vegetation sampling techniques should be used to assess the areal cover of vegetation and habitats to evaluate the status of the re-established occurrences. If the defined goals and final success criteria are not reached by the fifth year of monitoring, remedial actions such as collecting more seed and distributing it in suitable areas should be employed, with a corresponding additional year of monitoring. Other activities to increase the success of the rare plant mitigation effort could include non-native plant species removal within the mitigation sites to reduce competition, additional seed application, or supplemental irrigation. The qualified botanist would prepare annual reports for the applicant detailing the methods and results of the mitigation effort and population monitoring. The applicant would be responsible for submitting the report to the City on an annual basis for the five year monitoring period or until the final success criteria defined in the plan are met.

Implementation of these mitigation measures would reduce project effects on special-status plant species to a level below significance.

Impact BIO-2. Construction of the project would eliminate wetland habitat onsite that supports the California linderiella, which is on the CDFW Special Animals list. This is a significant but mitigable impact.

Surveys conducted in 2020 identified California linderiella, a special-status species, in the basin in the southeastern part of the property. The California linderiella does not have a specific listing status, but as a species on the CDFW's Special Animals list are to be evaluated in the project impact analysis. Project effects on this species could be considered significant under CEQA, and mitigation involves methods that would be required for impacts on the Wetland habitat itself. The Wetland habitat supporting this species would also potentially be considered jurisdictional by USACE, CDFW, and RWQCB, as well as a sensitive habitat by the City. Mitigation for impacts on Wetland habitat is described in Section 4.1.5 below. As described above, vernal pool fairy shrimp were not detected in the basin during the recent and historic surveys, but should the USFWS require further study that subsequently detects vernal pool fairy shrimp, the mitigation described below is consistent with measures employed on the Tank Farm property and could mitigate impacts to this species. The following mitigation, along with Wetland habitat establishment techniques described

in Mitigation Measure BIO-7 would ensure that the new basin would contain suitable habitat to support California linderiella to adequately mitigate project impacts to a level below significance.

Mitigation Measure BIO-2: Create a new basin onsite that contains the same area of wetland habitat and is functionally equivalent to the existing basin, and inoculate the basin with California linderiella cysts. A new basin that can function as a retention/detention basin shall be constructed on the project site that has a floor of sufficient size to create at least equal to or greater areal cover than the existing extent of Wetland habitat as shown on Figure 3. The area of wetland habitat in the basin is estimated at 0.1 acre. The basin hydrology shall be developed by a qualified engineer working with the project biologist to ensure sufficient ponding is maintained to support habitat requirements, with an adequate hydroperiod similar to the existing wetland habitat and ultimate reproduction and persistence of California linderiella on the project site. The goal is to replace and improve the overall function of the existing basin's Wetland habitat in the new stormwater basin to end up with approximately 0.1 acre of wetland that provides suitable habitat for this species.

A qualified biologist shall oversee salvage and stockpiling of topsoil to be removed from the existing basin. The topsoil can be removed from the basin only after it is dry on the surface to one inch below the surface. The stored topsoil shall be managed to ensure wetland plant propagules and California linderiella cysts remain viable. The qualified biologist shall utilize standard procedures and guidance from the Conceptual Restoration Plan developed for vernal pool fairy shrimp mitigation on the Tank Farm property (Marine Research Specialists 2013), in coordination with subsequent agency approvals as appropriate. When the new basin is constructed, the salvaged topsoil shall be placed as a top layer over the basin floor and then seeded and planted with native species to be detailed in the rare plant mitigation plan described under Mitigation Measure Bio-1.

The plan shall detail the techniques and monitoring methods to be used to ensure successful in-kind replacement of the basin's ecological functions and values as they pertain to California linderiella while still allowing active maintenance of the feature to ensure adequate stormwater management. The plan shall be prepared by a qualified biologist and have the minimum contents detailed under Mitigation Measures BIO-1, BIO-6, BIO-7 and BIO-8. The plan should also include the rare plant requirements set forth above since both Cambria morning glory and Congdon's tarplant would be introduced to this feature and surrounding grassy areas. The basin shall be monitored by a qualified biologist during the winter rain season following construction to assess hydroperiod and confirm presence of California linderiella. Should insufficient ponding occur due to drought conditions, an additional year of monitoring may be required to confirm the suitability of habitat and presence of the species. As warranted through consultation with other applicable agencies such as the USACE, RWQCB and CDFW through their respective permitting processes, additional measures shall apply to increase the monitoring frequency and duration for the wetland restoration effort. At the completion of the monitoring period, at least a 1:1 ratio of functioning California linderiella habitat shall be created. The qualified biologist shall prepare monitoring reports for the applicant describing the methods and results of the branchiopod sampling efforts. The applicant would be responsible for submitting the report to the City.

Impact BIO-3. Construction of the project could directly impact southwestern pond turtle. This is a potentially significant but mitigable impact.

The southwestern pond turtle is known to occur in Acacia Creek and could be present within the project impact area on a seasonal basis and affected by the project. This species could be present under stored materials and other objects that will be removed from the property prior to site grading. The pond turtle is likely to be in upland areas only during winter, but could be along the riparian corridor of Acacia Creek throughout the year. They could be affected by construction such

as site grading, building construction, and constructing the bicycle path and associated landscaping. Although unlikely, pond turtles could move into the developed area following construction and suffer mortality from vehicle strikes or harassment from humans. Effects on this species could potentially be considered to be significant under CEQA, and the following mitigation is required.

Mitigation Measure BIO-3a: Conduct preconstruction surveys for southwestern pond turtles. Within 48 hours prior to the start of the removal of stored materials and other objects on the property, a qualified biologist shall perform a cover object survey for the southwestern pond turtle. If any pond turtles are found, work shall be halted until they move out of project impact areas on their own volition or captured and relocated as approved by CDFW. If none are found during the preconstruction survey, work may proceed with monitoring as described in Mitigation Measure Bio-3c. If any federally listed species are found (such as California red-legged frog), commencement of work shall be delayed until authorization has been received from the USFWS. A preconstruction survey shall be conducted for each element of the project that occurs in a previously undisturbed area. For example, a separate survey should be conducted for work to construct the bicycle and pedestrian path, if these are scheduled at different times than the main part of the development.

Mitigation Measure BIO-3b: Prepare and present a Worker Environmental Awareness Program. A qualified biologist shall prepare a Worker Environmental Awareness Program that will be presented to all project personnel. This program shall detail measures to avoid and minimize impacts on biological resources. It shall include a description of special-status species potentially occurring on the project site and their natural history; the status of the species and their protection under environmental laws and regulations; and, the penalties for take. Recommendations shall be given as to actions personnel can use to avoid take should a special-status species be found on the project site.

Mitigation Measure BIO-3c: Conduct monitoring for pond turtles while the property is cleared and graded. A qualified biologist shall monitor the removal of objects and materials that may provide cover for pond turtles. The biologist shall be onsite daily until all materials are removed and all vegetation has been cleared. If any turtles are found, work shall be delayed until the individuals have left the work area, or CDFW shall be notified to obtain authorization for capture and relocation. If none are found during monitoring, work may proceed following the installation of creek and wildlife protection fence as described in Mitigation Measure BIO-3d.

Mitigation Measure BIO-3d: Install wildlife exclusion fence around the project to avoid wildlife from entering the work area. After the pre-activity surveys and once the site has been cleared of all materials that could provide refugia for pond turtles and associated vegetation, a wildlife exclusion fence similar to the Ertec Systems special status species fencing shall be installed around the site. Fencing may also be an orange construction fence at least 4 feet tall and other erosion and sediment controls (i.e., a silt fence) may be erected around the entire project site to prevent southwestern pond turtles and other wildlife species from entering the work area. The fence may be a combination of wildlife exclusion and silt fence to serve the purposes of preventing silt or sediment from entering the creek, safety/construction area delineation, and wildlife exclusion. The fence shall be monitored by a qualified biologist on a daily basis for the first five days after installation, and then checked weekly by construction personnel for needed maintenance. Once rains commence, the fence shall be inspected by a qualified biologist before and after rain events to ensure proper function.

Mitigation Measure BIO-3e: Employ measures to prevent entrapment of southwestern pond turtles in open excavations and trenches. During the period in which there are open trenches or excavations, such as during the excavation for building foundations or utility lines, escape ramps shall be

installed so that turtles and other wildlife that may have become entrapped have the ability to escape. Escape ramps are to consist of a 2:1 sloped soil area leading from the bottom to ground level. If this is not possible, a qualified biologist shall inspect open trenches each day prior to the start of work for entrapped animals. A third option is that trenches/excavations shall be completely covered with plywood or similar material during overnight periods. If a turtle is located, the biological monitor shall be contacted immediately to assist with relocation upon authorization from CDFW. If any other special-status animal species are found, appropriate authorizations shall be obtained from CDFW and/or USFWS to remove the animal(s) from the project site and relocate it to suitable habitat away from project activities. For common wildlife, the biologist shall capture and relocate the individual out of harm's way. Work shall be halted until the entrapped animal has been relocated.

Implementation of these mitigation measures would reduce project effects on the southwestern pond turtle to a level below significance.

Impact BIO-4. Construction activities could potentially affect American badgers within dens and/or burrowing owls using onsite burrows. This is a significant but mitigable impact.

The American badger may occupy dens on the property, and individuals may be injured or killed during site grading. If the initial site disturbance takes place in the summer, maternal dens containing young may be affected. Adults that are not raising young may be present in dens during the daytime at any time of year. Individual badgers that use the site on a transitory basis for movement or foraging are not expected to be affected because they are expected to leave the area on their own volition when site disturbance begins, and would not likely re-enter the site after construction starts and the orange protection/wildlife exclusion fence is erected as described in Mitigation Measure BIO-3d. Additionally, burrowing owls may occur as transients stopping over at the site and could occupy burrows onsite during the winter months. Project impacts on these two CDFW Species of Special Concern could be considered to be significant under CEQA. To reduce project effects to a level below significance, the following mitigation is required.

Mitigation Measure BIO-4a: Conduct a preconstruction den/burrow survey and establish no-work buffers around potential dens/burrows. Within seven days prior to the start of ground-disturbing activities, a qualified biologist shall survey the project impact area plus a 100-foot buffer for potential American badger dens and burrowing owl burrows. Any potential dens/burrows found shall be identified with flagging or stakes, and a 50-foot no-work buffer shall be flagged. If the potential den cannot be avoided during all work activities with at least a 50-foot buffer, the following mitigation measure would also be required.

Mitigation Measure BIO-4b: If any potential American badger dens or burrowing owl burrows are found that cannot be avoided including buffer area, monitor the dens and employ wildlife trail cameras and/or a tracking medium around dens to determine whether they are active and excavate non-active dens to prevent re-occupation. A qualified biologist shall install wildlife trail cameras and/or tracking medium outside any potential dens/burrows that cannot be avoided, and monitor those sites daily for at least three days to determine whether they are currently occupied. Any unoccupied dens/burrows shall be excavated to prevent badgers/owls from re-entering. If the work takes place in the late-spring or summer, additional measures shall be employed to determine whether dens are occupied by badger young. No dens with young shall be disturbed, and no work shall be conducted within 50 feet of maternal dens until they have left the den. Any occupied badger den or burrowing owl burrow that is being used by a single adult with no young that cannot be avoided shall be blocked incrementally by placing sticks and debris over the entrance for three

to five days, to discourage the individual from using the den. Only after the badger or owl has left the den, as determined by the qualified biologist implementing the wildlife camera and/or tracking medium methods, can the den/burrow be excavated and work proceed.

Mitigation Measure BIO-4c: Implement general wildlife protection measures during construction. Additional measures to be implemented during construction that would benefit wildlife species in general should be implemented, including the following:

1. Construction activities shall be restricted to daylight hours to avoid impacts on nocturnal and crepuscular wildlife species.
2. All trash must be properly maintained to avoid attracting wildlife and kept within an appropriate container for removal from the property.

Implementation of these mitigation measures would reduce project effects on the American badger and burrowing owl to a level below significance.

Impact BIO-5. Construction activities could potentially impact nesting of special-status avian species as well as bird species protected under the Migratory Bird Treaty Act, California Fish and Game Code, and/or the Bald and Golden Eagle Protection Act. This is a significant but mitigable impact.

If construction activities are initiated during the nesting season (February 1 to August 31), impacts on protected nesting birds and raptors could occur. Active nests containing eggs and/or young could be killed during the removal of the Ornamental trees or grading in the Annual Grassland habitat. Some bird species may nest in the stored materials onsite. Raptors and other species could nest in the nearby eucalyptus and riparian habitats, and their nesting behavior could be affected by construction disturbance. The effects of construction activities on nesting birds would be limited to the seasonal time period that birds nest in this area; if the nesting season is avoided, no adverse effects are expected. To reduce potential project impacts to a level below significance, the following mitigation is required.

Mitigation Measure BIO-5a: If feasible, conduct the initiation of construction activities outside of the nesting season. All initial site disturbance should be limited to the time period between September 1 and January 31, if feasible. If stored materials and tree removal, and grading cannot be conducted during this time period, then implementation of Mitigation Measure BIO-5b is required.

Mitigation Measure BIO-5b: Conduct a preconstruction nesting bird survey and avoid active nests. For any initial construction scheduled to start between February 1 and August 31, a qualified biologist shall conduct a preconstruction survey for nesting birds within a 250-foot buffer of project impact areas. The survey shall be conducted within seven days before the initiation of construction activities for any phase of the project. During this survey, the qualified biologist shall search for birds exhibiting nesting behavior and inspect all potential nest substrates in the impact and buffer areas. Any nests identified will be monitored to determine if they are active. If no active nests are found, construction may proceed. If an active nest is found within 50 feet (250 feet for raptors) of the construction area, the biologist, in consultation with the City, shall determine the extent of a buffer to be established around the nest. The buffer will be delineated with flagging, and no work shall take place within the buffer area until the young have left the nest, as determined by the qualified biologist. It is expected that construction of the bicycle path would be conducted during a separate time period, and if so, preconstruction surveys would need to be repeated if these activities take place within the nesting season.

Implementation of these mitigation measures would reduce project effects on protected nesting birds to a level below significance.

4.1.2 Adverse Effects on Riparian Habitat or Sensitive Natural Communities

No riparian habitat is present onsite, but the riparian habitat adjacent to the site is considered to be a sensitive natural community by CDFW. It would be classified as Central Coast Arroyo Willow Forest, which has a State Rarity Rank of S3.2, or Central Coast Riparian Scrub, which has a State Rarity Rank of S3, and therefore meets the threshold for consideration under CEQA. Riparian habitats are also under the jurisdiction of CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code and RWQCB under the Porter-Cologne Act. No impacts on riparian habitat are anticipated for the project since it will be setback beyond the top of the west bank of Acacia Creek. While permitting from these agencies is not expected to be required for encroachment into the creek corridor, relocation of the onsite basin will likely trigger the involvement of the above referenced agencies in addition to the USACE.

Riparian habitats are also considered sensitive by the City, and guidelines for their protection are detailed in the Specific Plan, General Plan, and the City's Municipal Code. The code details that the setback for the portion of Acacia Creek adjacent to the property shall have a 35-foot setback. The setback area shall be measured from the top of bank, or from the edge of the predominant pattern of riparian vegetation, whichever is farther from the creek flow line. The setback area is to be determined by a qualified biologist and delineated with construction fencing. No temporary disturbance from the construction work, structures, or pavement shall occur within the setback area. Impervious pedestrian walkways and bicycle paths within the setback area require obtaining a discretionary exception from a director's hearing, and would include specific provisions to ensure protection of the creek habitat. An additional 10-foot structural step back is required for residential construction with three or more stories for the units facing the creek.

The top of bank of Acacia Creek was delineated by KMA in the field and is shown on Figure 3. The conceptual site plan prepared by RRM also identifies the top of bank and the creek setback zone was measured as 35 feet from the top of bank because that was farther than the extent of riparian vegetation along the creek. The setback zone on the property is currently very disturbed with base rock, pavement and stockpiled materials. As shown in the current conceptual plan, two buildings, their perimeter sidewalks and the connector road to the property to the east would encroach into the setback (Appendix A). The bicycle path running towards the Damon-Garcia Sports Complex would also be located for the most part within the setback zone, and portions of the path may be close to the top of bank. Future improvements to Tank Farm Road and adjacent property at the site entrance may also extend into the setback area.

While direct impacts to the creek and associated riparian habitat will not occur, indirect effects on the riparian habitat could result from the project. Even though the site and the existing setback zone is highly disturbed and contains a number of weedy species, encroachment into the creek setback or buffer zone from construction and site development may further spread invasive species, which can outcompete native species, and reduce the quality of the corridor as wildlife habitat. The setback zone is necessary to help support the functions of the creek and riparian corridor because it buffers impacts from the adjacent development, minimizes human encroachment, allows for infiltration of surface runoff, and supports wildlife movement. Constricting the width of the habitat by building within the setback also has the potential to degrade the habitat function and overall value to both wildlife and humans. Additionally, by placing a pedestrian and bicycle path and its associated maintenance requirements into the setback area,

additional input would be required to protect the creek and its riparian corridor from increased human presence. Impacts within the creek setback are potentially significant under CEQA, and mitigation is required as described below to bring the impact to a level below significance.

Impact BIO-6. Construction of the project would encroach into the City-required 35-foot creek setback and could negatively affect the Acacia Creek corridor. This is a significant but mitigable impact.

To meet current City policies and zoning regulations, the project would need to be redesigned to avoid all permanent and temporary impacts within the 35-foot setback area. This includes locating all buildings, sidewalks, managed landscaped areas, roads, parking areas, and the bicycle path outside of the 35-foot setback area, unless an exemption can be made to the governing policies by the City. Final construction plans will be developed and submitted to the City to show the permanent and temporary limits of disturbance in relation to the setback area, and any allowable encroachment into the setback would need to receive City approval. Should grading activities extend below the top of bank, permitting would also be needed from the RWQCB and CDFW, and potentially the USACE. Since the setback zone on the property consists primarily of ruderal or disturbed areas, an ecological landscape plan or a riparian habitat enhancement plan consistent with City policies could be prepared and implemented as a condition of approval to mitigate encroachment into the setback area. A development setback greater than 35 feet may be achievable in select parts of the site and those areas could also be included in the ecological landscape plan area and planted with native vegetation to enhance the creek corridor and allow a reduced setback along portions of the site. The goal of the ecological landscape or riparian enhancement plan would be to restore appropriate native plants in the setback zone that would increase the habitat structure and value of the riparian corridor, and ultimately buffer the development from the creek. Native plantings could also help stabilize the creek bank where the bike path may come close to the top of bank. Plant establishment in the eucalyptus windrow may be difficult due to chemicals in the leaf litter and exuded by the trees, but select trimming of eucalyptus branches could open additional areas on the site to support native plant establishment. Any tree trimming should be done under the direction of a qualified arborist following City requirements, and conducted consistent with mitigation measures described herein to avoid impacts to birds and wildlife.

As currently designed, 1,920 square feet of buildings and associated sidewalks and 6,110 square feet of bike path would be constructed in the creek setback zone as shown on current site plans prepared for the project (Appendix A). Temporary disturbance from grading and constructing these features would also disturb additional area within the setback zone. While the setback area on the property is highly disturbed from current land use activities onsite, the development impacts on the creek setback area are not consistent with City policies and zoning regulations, and would be a significant impact. To reduce the impact associated with development encroachment into the setback, additional area could be included in the creek setback in another part of the site to help the project comply with current City policies pertaining to development in creek setbacks. For instance, in the area proposed for the stormwater basin in the southeast corner of the site where wetland, rare plant and California linderiella mitigation would occur, a larger setback could be created. The creek setback could also be enlarged east of Buildings 1 and 5, and this increase in creek setback area could be planted with native vegetation to potentially offset impacts associated with the encroachment for the two buildings and bike path.

Given the development encroachment into the creek setback is approximately 8,030 square feet, an increase in the creek buffer of an equivalent or greater area (i.e., equal to or greater than 8,030 square feet) could help offset project impacts to the creek setback area. Ultimately, all portions of the site to the east of the buildings, roads, and parking areas, including the stormwater basin area,

would become part of the ecological landscape plan area to enhance the creek corridor and be consistent with other biological mitigation measures detailed in this report. Should an exception to the City's creek setback policies be allowed, the following mitigation measure shall be implemented to support the exception and offset project impacts on the creek corridor to a level below significance under CEQA. If the project is redesigned to avoid the required 35-foot creek setback, a native landscaping plan for this area would still be appropriate consistent with City creek corridor enhancement policies.

Mitigation Measure BIO-6: Prepare and implement an ecological landscape plan for the creek setback area to enhance riparian habitat along Acacia Creek. The plan shall be prepared by a qualified restoration ecologist working with the project landscape architect to identify appropriate planting areas for native species along the eastern part of the site. The plan shall be consistent with the measures detailed for Impacts BIO-1, BIO-2, and BIO-7, as well as be generally consistent with the Habitat Mitigation and Monitoring Plans prepared for the Damon-Garcia Sports complex and neighboring development to the east (i.e., 650 Tank Farm Road Mixed-Use Project). The plan shall include at minimum the following components:

1. A description of the final City-approved setback zone.
2. Allowable structures, paved areas, and amenities within the setback that are not part of the ecological landscape plan, and the area (square feet) occupied by these features ("permanent impacts"). Site plans showing the limits of disturbance, and any areas that will be disturbed by grading and planted with native vegetation ("temporary impacts").
3. Overall goals and measurable objectives to enhance the riparian corridor and create a self-sustaining planted area that requires minimal maintenance.
4. An implementation plan, including schedule, site preparation (including site preparation and non-native invasive species removal), planting plan (species and number of each, propagule type, seeding/planting density), and responsible party.
5. A maintenance plan detailing activities to be conducted during the establishment period (irrigation, non-native species removal) and schedule for implementation. The maintenance plan shall also address the long-term guidelines and constraints to maintaining the vegetation along the bike path, should it be located within the setback area. No pesticides, herbicides or fertilizers shall be used in a manner in which these substances can affect the creek habitat and biota. Guidelines shall be provided for the maintenance of planted trees, such as trimming or replacement. Guidelines for mowing, if acceptable, shall be clearly delineated in the maintenance plan and show any rare plant of California linderiella mitigation areas as protected habitat that have specific management requirements.
6. A monitoring plan, including data collection methodology, success criteria, how success criteria will be measured, and a monitoring schedule shall also be part of the plan.
7. Success criteria based on the goals and measurable objectives to ensure that a viable riparian community is established on the project site meeting the requirements established by the City and other involved regulatory agencies.
8. Contingency measures, such as supplemental planting and seeding, if success criteria are not being met.
9. Reporting requirements and notification of completion to responsible agencies.

In addition to the specific measures regarding implementation of the ecological landscape or

riparian enhancement plan outlined above, the City shall provide direction on the use of night lighting (such as along the bike path) that will be designed to not interfere with nocturnal wildlife. Appropriate fencing to prevent human access into the creek channel as well as animals such as the pond turtle from gaining access to the site should also be developed in coordination with the City. In summary, either relocating all project elements outside of the 35-foot creek setback area, or obtaining director's approval plus implementation of the above mitigation measure would bring project impacts to the creek setback to a level below significance from a biological perspective.

4.1.3 State and Federally Protected Wetlands

The Wetland habitat onsite is in a constructed basin that has naturalized. Since it is hydrologically connected to Acacia Creek and met the three wetland criteria that define a federal wetland, it is potentially under the jurisdiction of USACE as a Wetland Waters of the United States. However, recent regulatory guidance may preclude the constructed basin from falling under USACE Clean Water Act jurisdiction. The evaluation of this feature and its regulatory status will be further detailed in the Preliminary Delineation of Wetlands and Other Waters currently in preparation for this project. It is envisioned that the delineation report will be submitted to USACE for verification. This basin feature meets the definition of state wetland that would be regulated by CDFW and RWQCB given the presence of wetland habitat. It may also be protected by the City under Specific Plan and General Plan policies, even though it has established in a constructed depression. These policies call for a USACE-verified delineation of the feature, permitting for fill of wetlands, a mitigation and monitoring program that provides for no net loss of the habitat, and a 50-foot buffer for the construction of new buildings adjacent to the wetland (City of San Luis Obispo 2014). The project in concept would remove and relocate this feature to a nearby location; however, final design plans for the created basin are not currently available. The new basin will at minimum provide the same floor area for impacts on California linderiella, as well as to ensure no-net-loss of the wetland habitat, consistent with a 1:1 mitigation ratio. To meet this condition, it is recommended that a 2:1 ratio be used in order to have sufficient area to meet the no-net-loss requirement.

Wetland habitat offsite, as well as riparian habitat located adjacent or downstream of the project, could be affected indirectly through stormwater runoff from the construction site. These indirect effects are potentially significant, but can be brought to a level below significance with implementation of measures described below.

Impact BIO-7. Construction of the project would remove wetland habitat on the subject property anticipated to fall under federal and state jurisdiction, and considered to be a sensitive resource by the City. This is a significant but mitigable impact.

The project is in the early stage of design, and the conceptual plan provided for this analysis showed the general location for the new basin on the site. For this analysis, it was assumed that the basin containing wetland habitat would be at least partially filled to facilitate site development. A preliminary delineation of the basin feature determined that all three wetland parameters or criteria that define a federal wetland were present in the location shown on the Habitat Map (Figure 3). Due to recent regulatory guidance and the USACE implementing the Navigable Waters Protection Rule from the current administration, this area may or may not be regulated by the USACE pursuant to Section 404 of the Clean Water Act. Under the former Clean Water Rule, the wetland would likely have been subject to 404 regulation since it is adjacent to Acacia Creek and hydrologically connected to it via a storm drain pipe. The RWQCB and CDFW will likely claim jurisdiction over this feature as waters of the state since it has naturalized and not been maintained for at least five years. Because protected wetland habitat would be permanently impacted, approval from the above-referenced agencies is

required through issuance of a Section 404 permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Lake and Streambed Alteration Agreement from the CDFW. Compensatory mitigation would be required as a condition of these permits, as well as by the City as the CEQA Lead Agency, at a ratio of at least 1:1. The extent of the Wetland habitat was determined to be approximately 3,100 square feet or 0.1 acre; therefore, the new stormwater basin acting as the compensatory mitigation site shall have the goal to successfully establish the functional equivalent Wetland habitat at a minimum of 0.1 acre. In addition, although the wetland in the basin is not a natural feature with high functions and values, the City may still require a 50-foot buffer from the edge of the created Wetland habitat in which no buildings may be constructed. This re-established basin feature will need to have a specific suite of management and protection measures since it will function as habitat for a rare plant, Congdon's tarplant, and a rare animal, California linderiella.

Mitigation Measure BIO-7: Obtain necessary permits for relocating the basin and filling Wetland habitat, implement a compensatory mitigation program to relocate the Wetland habitat, and monitor the success of the program to ensure no net loss of Wetlands on the subject property. A compensatory mitigation program shall be designed in coordination with regulatory agencies to ensure no net loss of Wetland habitat onsite. The following mitigation measures in addition to those described above under Mitigation Measure BIO-2 shall be implemented:

1. During project planning phases, the applicant shall initiate consultation with regulatory agencies prior to submitting applications to obtain a Clean Water Act Section 404 Permit from USACE, a Clean Water Act Section 401 Water Quality Certification from RWQCB, and a California Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement from CDFW. As a component of the application packages, the Preliminary Delineation of Wetlands and Other Waters currently in preparation would be submitted, and a request for verification from the USACE would need to be obtained. The applicant would then be required to show the City proof of permit acquisition or a determination from each agency that a permit is not required. Even if permitting is not required by these three agencies, compensatory mitigation would still be required under City policies and CEQA as described herein.
2. Once the development footprint has been finalized, the impact area can be determined as needed to complete the permit applications. To compensate for impacts on Wetland habitat, a Habitat Mitigation and Monitoring Plan (HMMP) will be required by the agencies. The HMMP shall be consistent with the goals and objectives to be defined in the rare plant mitigation plan and ecological landscape plan described above in Mitigation Measures BIO-1 and BIO-6, since it is anticipated that the Wetland mitigation site may be located within the creek setback area. The HMMP shall detail the location of the mitigation site where Wetland habitat will be restored or created; techniques to be used; plant species to be used and propagule source; maintenance techniques and schedule; success criteria to meet the goals of the restoration effort; monitoring techniques and schedule for at least five years; and, remedial actions if success criteria are not met.
3. Prior to start of construction activities, the applicant shall retain a qualified biological monitor to ensure compliance with all Clean Water Act and CDFW permit requirements and avoidance and minimization measures during work within the basin and adjacent (within 50 feet) to Acacia Creek. The monitor shall be present during the installation of the construction fencing delineating the limits of work and creek setback buffer, as described in Mitigation Measure BIO-3d. If the Wetland compensatory mitigation site is to be located within this buffer, the monitor shall direct appropriate wildlife exclusion and erosion control BMPs to protect the top of bank and riparian habitat during the construction of the relocated basin.

4. As required to mitigate impacts to California linderiella, basin topsoil will be salvaged and used to top-dress the new basin to create a suitable medium for seeding and planting with native wetland species (see Mitigation Measure BIO-2).
5. The basin and appropriate setback area shall be planted/seeded with native vegetation including the native seed mix as described in Mitigation Measure BIO-8 Table 1, and may include seed of Congdon's tarplant as described in Mitigation Measure BIO-1a.
6. The qualified restoration ecologist will work with the applicant to implement the HMMP and conduct annual monitoring and reporting requirements until the final success criteria are attained.
7. The mitigation site and buffer area shall be surrounded with a City approved fencing designed to prevent human activities and ensure the site's permanent protection.

Implementation of the above mitigation measures together with those resulting from regulatory agency permitting would reduce construction-related impacts on Wetland habitat to a less than significant level.

Impact BIO-8. Stormwater runoff from the project site could potentially result in sediment and/or pollutants entering Acacia Creek and isolated wetlands supporting special-status species adjacent to and/or downstream of the study area. This is a potentially significant but mitigable impact.

Construction of the project will involve vegetation removal, grading, and soil excavation. Disturbed soils could erode into Acacia Creek and be carried into East Branch of San Luis Obispo Creek if these areas are not stabilized and/or protected prior to significant rainfall. Sedimentation is considered to be a type of pollutant in aquatic systems because it decreases water quality through increased turbidity, fills in pools or causes lateral spread of channels, and covers instream vegetation and other aquatic life. The buildings and infrastructure are planned to be located generally outside a 35-foot setback from the top of bank, but will have an increase of impervious surfaces that could result in pollutants from the site being carried into the drainage downstream. The project is expected to be designed to have stormwater basins and other features to contain stormwater, and the Best Management Practices (BMPs) outlined below are designed to avoid or minimize project effects during and shortly after construction, in the short-term while the basins and other features become established with vegetation. Measures are described for the prevention of erosion, sedimentation, and toxic substances from reaching wetland and riparian habitats adjacent to the site as well as further downstream. Toxic substances include those from construction equipment such as oil, gas, diesel, and hydraulic fluid could leak or be spilled and be carried in stormwater runoff into the Acacia Creek. To reduce the chance of indirect effects on protected wetland habitats, riparian habitat, and aquatic resources in offsite drainages to a level below significance, the following mitigation measures are required.

<u>Mitigation Measure BIO-8:</u> *Install appropriate erosion and sediment controls and revegetate graded areas.* The following erosion and sedimentation control methods are required to be implemented during and after the construction phases of the project:

1. If possible, the potential for erosion and sedimentation shall be minimized by scheduling construction to occur outside of the rainy season, which is typically defined as October 15 through April 15.
2. To minimize site disturbance, all construction related equipment shall be restricted to established roads, construction areas, and other designated staging areas. The creek setback zone shall be clearly marked as described in Mitigation Measure BIO-3d.

3. A Sediment and Erosion Control Plan may be required by the City, and would be prepared by a qualified engineer. The use of silt fence, straw wattles, erosion control blankets, straw bales, sandbags, fiber rolls and other appropriate techniques should be employed to protect the drainage features on and off the property. Biotechnical approaches using native vegetation shall be used as feasible. All areas with soil disturbance shall have appropriate erosion controls and other stormwater protection BMPs installed to prevent erosion potential. All sediment and erosion control measures shall be installed per the engineer's requirements prior to the initiation of site grading if planned to occur within the rainy season.
4. Spill kits shall be maintained on the site, and a Spill Response Plan shall be in place.
5. No vehicles or equipment shall be refueled within 100 feet of wetland areas, riparian habitat and/or drainage features, and refueling areas shall have a spill containment system installed. No vehicles or construction equipment shall be stored overnight within 100 feet of these areas unless drip pans or ground covers are used. All equipment and vehicles should be checked and maintained on a daily basis to ensure proper operation and to avoid potential leaks or spills. Construction staging areas shall be located in a location where spills would not drain into aquatic habitats.
6. No concrete washout shall be conducted on the site outside of an appropriate containment system. Washing of equipment, tools, etc. should not be allowed in any location where the tainted water could enter onsite drainages.
7. The use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation.
8. All project-related spills of hazardous materials within or adjacent to the project site should be cleaned up immediately.
9. All areas with soil disturbance shall have appropriate erosion controls and other stormwater protection BMPs installed to prevent erosion potential. Silt fencing, erosion control blankets, straw bales, sandbags, fiber rolls and/or other types of materials prescribed on the plan shall be implemented to prevent erosion and sedimentation. Biotechnical approaches using native vegetation shall be used as feasible.
10. Areas with disturbed soils shall be restored under the direction of the project engineer in consultation with a qualified restoration ecologist as detailed above. Methods may include recontouring graded areas to blend in with existing natural contours, covering the areas with salvaged topsoil containing native seedbank from the site, and/or applying the native seed mix as described in Table 1. Native seed mix shall be applied to the graded areas in upland habitat through either direct hand seeding or hydroseeding methods. Note that any compensatory mitigation for the loss of wetland habitat and the ecological landscape/riparian enhancement area for the creek setback encroachment may have a different seed mix and plant palette. Seeding with the native erosion control seed mix should be provided on all disturbed soil areas prior to the onset of the rainy season (by October 15).

Table 1. Native Erosion Control Seed Mix

Species	Application Rate (lbs./acre)
Bromus carinatus (California brome)	10
Stipa pulchra (purple needlegrass)	5
Trifolium wildenovii (tomcat clover)	5
Vulpia microstachys (six weeks fescue)	5
Total	**25**

4.1.4 Interference with Movement of Native Fish or Wildlife, Wildlife Corridors, and Wildlife Nursery Sites

The proposed project would not affect the movement of native fish because no project elements would directly affect the Acacia Creek channel. The project would involve construction of high-density housing and mixed-use development, which would be an impediment or barrier to the movement of mammals, such as the American badger, and many other species. The current land uses on the site have low suitability for wildlife movement, and regular human presence, stockpiled materials and generally disturbed land does not constitute high quality movement corridors or nursery sites for wildlife. The project development will result in increased human presence, large structures, and wildlife exclusion fence that would further reduce the ability of wildlife to move throughout most of the site. Development in the area along with road crossings, homeless encampments and other human impacts already restrict wildlife movement in the area. Common wildlife species would continue to move along the Acacia Creek riparian corridor and with the incorporation of the required creek setback, a north-south movement corridor would be maintained. The location of the bicycle and pedestrian path within the setback area adjacent to the riparian habitat could potentially reduce wildlife use of the area given the increase in human presence and night lighting that may be required. City policy requires a 35-foot setback along Acacia Creek to accommodate wildlife movement. In other areas of the City, creek setbacks range from 20 to 50 feet to facilitate wildlife movement. Policy 3.2.1 of the Airport Area Specific Plan requires establishing a healthy, continuous riparian corridor along the portion of Acacia Creek onsite.

The majority of the site is highly disturbed, Ruderal habitat that would not support breeding of wildlife species and does not provide quality movement habitat. The riparian and eucalyptus habitats adjacent to the site helps form a vegetation corridor with varied structure that is used by birds for nesting and foraging activities. The increased human use on the bicycle path and within the development area could reduce breeding bird activity in the setback area and riparian habitat. With the implementation of the ecological landscape plan and other habitat restoration plans detailed under Mitigation Measures BIO-1, BIO-2, and BIO-7 would be adequate to reduce project impacts to wildlife corridors and potential nursery sites on the project site.

4.1.5 Conflicts with Local Policies or Ordinances, Such as Tree Preservation

The proposed project has been designed to avoid the removal of any native tree species. Ornamental species onsite that would be removed consist mainly of Peruvian pepper tree, a non-native species, present in the southeast part of the site. The project does not propose to remove the Eucalyptus windrow since it is rooted off the property.

The project falls within the Airport Area Specific Plan area, in an area zoned as Business Park. The development would require rezoning to Service-Commercial (CS). The Specific Plan shows the realignment of Santa Fe Road south of Tank Farm to connect with the proposed road along the western boundary of the subject property, and continue offsite to the proposed Prado Road extension. The project design accommodates these future road improvements, along with a proposed roundabout at the Tank Farm/Santa Fe Road intersection. Local policies or ordinances within the Specific Plan, General Plan and Municipal Code that apply to this project concern protection of riparian and wetland habitats, and setback areas from these features, as described in Sections 4.1.2 and 4.1.3 above.

4.1.6 Conflicts with Local, Regional or State Conservation Plans

No local, regional or state conservation plans have been prepared for the area in which the project is located; therefore, there would be no conflicts with these plans and no mitigation is required.

4.2 Cumulative Effects

A substantial amount of development is underway in the southeastern portion of San Luis Obispo. The property adjacent to the subject site where the mobile home park is located (650 Tank Farm Road) has been proposed for rezoning and a Specific Plan amendment to facilitate the construction of a mixed-use project, including 17,500 square feet of commercial space, 249 residential units, and 2.65 acres of Conservation Open Space along Acacia and Orcutt Creeks (City of San Luis Obispo 2019). The property further to the east at the intersection of Broad Street (660 Tank Farm Road) has been proposed to be redeveloped for an assisted living facility and retail commercial project. Under the Chevron Tank Farm Remediation and Development Project, business parks would be developed immediately to the west of the subject property and to the south of Tank Farm Road. The Santa Fe Road roundabout would also provide access to the Tank Farm project, and connect to another proposed roundabout to the northwest for the future Prado Road extension. Service and manufacturing, public recreation facilities, and open space are also planned on the 332-acre Tank Farm site, with a development footprint encompassing approximately 17% of the site (Marine Research Specialists 2013). Open space is present in the general area, such as the South Hills Open Space and parks including the Damon-Garcia Sports Fields. In addition, the Tank Farm property will have large areas of open space that connect to offsite areas facilitating wildlife movement opportunities even with the proposed development in the area.

There are no natural habitats within the impact area that have not already been disturbed, and no streams or creek resources occur on the property. Wetland habitat has become established in an artificial basin and supports special-status plant and invertebrate species. Special-status plant species occupy small areas of the site. Measures are described herein to avoid, minimize and mitigate impacts on special-status biological resources. These measures would be implemented prior to and during construction, as well as compensatory mitigation for project effects on sensitive resources. Habitat creation and enhancement along the creek corridor and creation of wetland habitat for onsite impacts are prescribed above. With the recommended mitigation incorporated into the project, no significant cumulative effects on biological resources are expected to occur as a result of project implementation. Because there would be no effects of the project in the context of the site's importance in the overall area, the project would not contribute to cumulative effects of other non-federal projects planned in the area.

5.0 CONCLUSIONS

The proposed project involves the construction of high-density residential units and mixed-use buildings on an approximately 11.67-acre site that is highly disturbed and used for materials, vehicle and equipment storage. It is located within the urban boundary of San Luis Obispo surrounded by expanding industrial and commercial development. The site was historically part of the Union Oil Tank Farm facility and has been graded and impacted by human activities for many years. The significant biological resources onsite include a small wetland in a constructed stormwater basin, an area of serpentine rock that was formerly a quarry site, and the site's proximity to Acacia Creek. Three special-status plant species (Cambria morning glory, Congdon's tarplant and mouse gray dudleya) were found onsite, one sensitive invertebrate (California linderiella) was found in the wetland, and one Species of Special Concern (southwest pond turtle) is known to occur in Acacia Creek. Other special-status species could potentially use adjacent offsite habitats and occur on a transitory basis.

The wetland habitat is likely subject to regulatory requirements from the USACE pursuant to the Clean Water Act, RWQCB pursuant to the Clean Water Act and Porter-Cologne Water Quality Act, and CDFW pursuant to California Fish and Game Code. Permitting from these agencies and compensatory mitigation to relocate the wetland habitat and California linderiella is required. The project proposes a 35-foot buffer from the creek habitat with some minor encroachment of buildings and a bike path. Mitigation measures relating to the creek habitat include protection measures during construction, an ecological landscape plan to enhance riparian habitat within the setback area, and guidelines to reduce the long-term effects of human occupancy along the corridor. Incorporation of these measures would ensure that the riparian zone will continue to provide habitat value for wildlife and their movements through the site after development of the project. With the incorporation of the mitigation measures described herein, project impacts on the six additional impacts to be considered during CEQA review will be reduced to a level below significance. This analysis determined that the proposed project meets none of the criteria that trigger mandatory findings of significance under CEQA.

6.0 REFERENCES

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APPENDIX A

Site Plans

KMA

SCALES: 1" = 100'-0" *(12"X18" SHEET)* 0' 50' 100' 200' 300'

1"=50'-0" *(24"X36" SHEET)* 0' 25' 50' 100' 150'

NORTH

rrm design group

600 TANK FARM ROAD

600 TANK FARM ROAD, SAN LUIS OBISPO, CA 93401

CONCEPTUAL SITE PLAN

A5

1622-01-LP19 AUGUST 10, 2020

CONCEPTUAL REVIEW PACKAGE

APPENDIX B

List of Plants and Animals Observed Onsite During the Survey

Appendix B. List of Plants and Animals Observed Onsite During the Site Visits

Scientific Name	Common Name
Plants	
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
*Avena barbata**	Slender wild oat
Baccharis pilularis	Coyote brush
*Brassica nigra**	Black mustard
*Bromus diandrus**	Ripgut brome
*Bromus hordeaceus**	Soft chess
Calystegia macrostegia	Island morning glory
Calystegia subacaulis* ssp. *episcopalis	**Cambria morning-glory (CRPR 4.2)**
*Carduus pycnocephalus**	Italian thistle
*Centaurea solstitialis**	Yellow starthistle
Centromadia parryi* ssp. *congdonii	**Congdon's tarplant (CRPR 1B.1)**
*Chenopodium album**	Lambs quarters
*Conium maculatum**	Poison hemlock
*Convolvulus arvensis**	Field bindweed
*Dipsacus fullonum**	Wild teasel
Dudleya abramsii* ssp. *murina	**Mouse-gray dudleya (CRPR 1B.3)**
Eleocharis macrostachya	Common spikerush
Epilobium brachycarpum	Willow herb
Epilobium canum	California fuchsia
Erigeron canadensis	Horseweed
Eriogonum elongatum	Longstem buckwheat
*Erodium botrys**	Filaree
*Erodium cicutarium**	Red-stemmed filaree
Eschscholzia californica	California poppy
*Eucalyptus globulus **	Blue gum eucalyptus
*Festuca perennis**	Italian rye grass
*Foeniculum vulgare**	Fennel
*Geranium carolinianum**	Carolina geranium
*Helminthotheca echioides**	Bristly ox-tongue
Heterotheca grandiflora	Telegraph weed
*Hirschfeldia incana**	Summer mustard
*Hordeum murinum**	Barnyard foxtail
*Hypochaeris glabra**	Smooth cats ear
*Lactuca serriola**	Prickly lettuce
*Lotus corniculatus**	Bird's foot trefoil
Lupinus succulentus	Arroyo lupine
*Lythrum hyssopifolium**	Grass poly
*Medicago polymorpha**	California burclover
*Melilotus indicus**	Yellow sweetclover
*Opuntia ficus-indica**	Mission cactus
*Oxalis pes-caprae**	Bermuda buttercup
*Pennisetum purpureum**	Elephant or fountain grass
*Plantago lanceolata**	English plantain
Pseudognaphalium californicum	Ladies' tobacco
Quercus agrifolia	Coast live oak (just offsite along Acacia Creek)
Ranunculus californicus	California buttercup
*Ricinus communis**	Castor bean

Scientific Name	Common Name
*Rumex crispus**	Curly dock
Salix lasiolepis	Arroyo willow (just offsite along Acacia Creek)
*Schinus molle**	Peruvian pepper tree
Selaginella sp.	Spikemoss
*Sonchus asper**	Spiny sowthistle
*Stipa miliacea**	Smilo grass
Toxicodendron diversilobum	Poison oak
*Tradescantia zebrina**	Wandering jew
*Trifolium hirtum**	Rose clover
Umbellularia californica	California bay (just offsite along Acacia Creek)
Xanthium strumarium	Cocklebur
Animals	
Aphelocoma coerulescens	California scrub-jay
Baeolophus inornatus	Oak titmouse
Buteo jamaicensis	Red-tailed hawk
Calypte anna	Anna's hummingbird
Canis latrans	Coyote (scat)
Chamaea fasciata	Wrentit
Corvus brachyrhynchos	American crow
Danaus plexippus	Monarch butterfly
Haemorhous mexicanus	House finch
Larus occidentalis	Western gull
Lepus californicus	Black-tailed jackrabbit
Linderiella occidentalis	**California linderiella**
*Lithobates catesbeianus**	American bullfrog (tadpoles; offsite in creek)
Melozone crissalis	California towhee
Otospermophilus beecheyi	California ground squirrel
Pseudacris regilla	Pacific chorus frog
Sayornis nigricans	Black phoebe
Spinus psaltria	Lesser goldfinch
Spinus tristis	American goldfinch
Thomomys bottae	Botta's pocket gopher
Tyrannus verticalus	Western kingbird
Zenaida macroura	Mourning dove

*Non-native species
Bold = special-status species

APPENDIX C

Photo Plate

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Appendix C. Photo Plate

Photo 1. View from the southwestern corner of the property looking east. Tank Farm Road is on the right. Ruderal or disturbed habitat is present throughout the site, and in this location is composed of base rock and weeds in an area used for vehicle storage.

Photo 2. View of the center of the site showing materials storage, bare ground and weedy vegetation characteristic of the Ruderal habitat type.

Photo 3. Additional view of weedy vegetation in disturbed areas between storage lots, within the Ruderal habitat type.

Photo 4. Picture taken from the northwest corner of the property looking south showing the disturbed serpentine hill that was a former quarry. This area was considered to be Ruderal because it was disturbed from mining activities and was composed primarily of bare rock and soil with scattered weedy species.

Photo 5. Easterly view of the property's northern border where it abuts the Damon-Garcia Sports Fields. Ornamental trees and shrubs are along the property line (center), and a small occurrence of mouse-gray dudleya (*Dudleya abramsii* ssp. *murina*) is on the rocky slope. Trees in the distance are riparian habitat along Acacia Creek, which is just offsite to the east.

Photo 6. Northerly view of northeast property corner showing Ruderal habitat onsite and Riparian habitat along Acacia Creek just offsite (right). Pink flagging demarcates the top of bank of Acacia Creek, which is generally consistent with the property line.

Photo 7. Acacia Creek offsite near the middle portion of the study area. A row of large blue gum eucalyptus (*Eucalyptus globulus*) is present along the eastern property line and intermixes with native arroyo willow (*Salix lasiolepis*) and California bay (*Umbellularia californica*) outside of the property's eastern boundary.

Photo 8. Row of large blue gum eucalyptus to the west of Acacia Creek. The stream channel is on the far-right side of the photo. Weedy non-native vegetation is in the understory. Pink flags demarcate top of bank, which is beyond the eastern property line.

Photo 9. View looking north and upstream at Acacia Creek from Tank Farm Road. The fence on the left generally demarcates the eastern property line. A shrubby arroyo willow and pepper tree (*Schinus molle*) cluster is in the center of the picture, with the row of eucalyptus beyond. Pink flagging marks the top of bank.

Photo 10. View from the southeast corner of the property, looking west across a constructed stormwater basin that supports wetland vegetation. Water apparently enters the basin from a storm drain outfall on Tank Farm Road and exits via a small pipe to Acacia Creek.

Photo 11. Additional view of the stormwater basin in the southwest corner, with wetland vegetation covered by dried algae from recent standing water.

Photo 12. Overview of the stormwater basin during March 2020, looking west. Pepper tree and mission cactus (*Opuntia ficus-indica*) are seen on the right, and comprise the Ornamental habitat type. Tank Farm Road is on the left. A small outfall pipe is present in the southeast corner of the basin that drains to Acacia Creek.

Photo 13. A remnant patch of Coastal Scrub, represented by coyote brush (*Baccharis pilularis*) shrubs, was on the berm between Ornamental shrubs (left) and Acacia Creek, and had been mowed.

Photo 14. Annual Grassland habitat in the southeastern corner of the study area outside the past grading footprint. Ornamental shrubs (i.e., pepper trees) are middle/right and Eucalyptus along Acacia Creek are in the distance. A small occurrence of Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*) was observed in the grassland in this area.

Photo 15. Cambria morning-glory, which has a California Rare Plant Rank (CRPR) 4.2, was observed north of the stormwater basin in the southeastern part of the study area. Approximately 15 plants were observed.

Photo 16. Mouse-gray dudleya (*Dudleya abramsii* ssp. *murina*; CRPR 1B.3) was observed on the northern part of the old quarry site. Approximately five plants were present on the east-facing slope of a serpentine rock area.

Photo 17. Approximately 11 Congdon's tarplants (*Centromadia parryi* ssp. *congdonii*; CRPR 1B.1) were observed in the west portion of the basin.

Photo 18. Close-up photo of Congdon's tarplant in the onsite basin.

APPENDIX D

Special-status Biological Resources Summary

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Appendix D. Special-status Biological Resources Summary

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
PLANTS						
Adobe sanicle	*Sanicula maritima*	—	R	1B.1	Perennial herb; chaparral, coastal prairie, meadows and seeps, valley and foothill grassland on clay and serpentine soils; 30-240 meters in elevation; blooms February to May.	**Not expected.** The site is within the species' known range, has been recorded at several locations nearby, clay/serpentine soils are present, and the site is within the species' elevational range. However, it was not observed onsite during surveys conducted when it would have been blooming and in identifiable condition. In addition, it has not been observed on the neighboring Tank Farm site despite extensive botanical surveys.
Aparejo grass	*Muhlenbergia utilis*	—	—	1B.2	Perennial bunch grass; coastal scrub, creosote bush scrub, wetlands and riparian; 250-1000 meters in elevation; blooms October to May.	**Not expected.** There is only one recorded occurrence nearby at Camp SLO and the site is outside of the species' elevational range. Not observed during surveys.
Betty's dudleya	*Dudleya abramsii* ssp. *bettinae*	—	—	1B.2	Perennial herb; chaparral, coastal scrub and valley and foothill grassland on rocky, serpentine soils; 20-180 meters in elevation; blooms May to July.	**Not expected.** Serpentine rock outcrops and suitable plant communities are present onsite, but the site is outside of the species' restricted local distribution. While hybridization between ssp. *murina* may occur, Betty's dudleya typically occurs further west of the project site along the coast. Reported from the serpentine hill (Flower Mound) on Tank Farm, but appears that *Dudleya abramsii* ssp. *murina* may have been misidentified as this species.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Black-flowered figwort	*Scrophularia atrata*	—	—	1B.2	Perennial herb; coniferous forest, chaparral, coastal dunes, coastal scrub and riparian scrub on sand or diatomaceous shale; 10-500 meters in elevation; blooms March to July.	**Not expected.** No suitable soils or habitats are present onsite. Coastal scrub is composed of coyote brush that is mowed, and riparian habitat is offsite to the east. Not observed during surveys.
Blochman's dudleya	*Dudleya blochmaniae* ssp. *blochmaniae*	—	—	1B.1	Perennial herb; coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland on rocky, often clay or serpentine soils and sandstone rock outcrops; 5 - 450 meters in elevation; blooms April to June.	**Not expected.** Suitable soils and plant communities are present onsite, and the site is within the species' elevational range. However, site is slightly outside of the known distribution and was searched during its bloom period and it was not observed.
Brewer's spineflower	*Chorizanthe breweri*	—	—	1B.3	Annual herb; coniferous forest, chaparral, cismontane woodland and coastal scrub on serpentinite or gravelly soils; 45-800 meters in elevation; blooms April to August.	**Not expected.** Suitable habitat and soils are present in the old quarry site, and numerous recorded occurrences are present on serpentine hills in the region. Not observed onsite nor has it been identified on neighboring Tank Farm property despite numerous focused surveys.
Cambria morning-glory	*Calystegia subacaulis* ssp. *episcopalis*	—	—	4.2	Perennial rhizomatous herb; chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland usually on clay soils; 30-500 meters in elevation; blooms March to July.	**Present.** Approximately 15 plants observed in a small occurrence in southern part of site within Annual Grassland habitat adjacent to basin.
Chaparral ragwort	*Senecio aphanactis*	—	—	2B.2	Annual herb; chaparral, cismontane woodland, coastal scrub in drying alkaline flats; 15-800 meters in elevation; blooms January to April.	**Not expected.** Coastal scrub is disturbed and occurs in patches where coyote brush has established. While soils may be suitable, the site is highly disturbed and the site is outside of the local distribution of the species. Records near SLO are restricted to the Chorro Valley and along the coast. Not observed during surveys.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Chorro Creek bog thistle	*Cirsium fontinale* var. *obispoense*	E	E	1B.2	Perennial herb; chaparral, cismontane woodland, coastal scrub, valley and foothill grassland in seeps and drainages with serpentine; 35-385 meters in elevation; blooms February to September.	**Not expected.** Site is within the species' elevational range and it occurs at Laguna Lake, Froom Creek, Prefumo Canyon, Reservoir Canyon and in the South Hills Open Space Area near the site. Species is restricted to seeps in serpentine rock outcrops and other mesic areas. No suitable habitat present onsite and species was not observed during surveys.
Congdon's tarplant	*Centromadia parryi* ssp. *congdonii*	—	—	1B.1	Annual herb; valley and foothill grassland and disturbed sites on alkaline soils; 0-230 meters in elevation; blooms May to November.	**Present.** Eleven plants were observed in the western portion of the onsite basin. Species known to occur in seasonally wet depressions throughout the Tank Farm property to the west and south. Basin contains only suitable habitat observed onsite.
Cuesta Ridge thistle	*Cirsium occidentale* var. *lucianum*	—	—	1B.2	Perennial herb; openings in chaparral, steep rocky slopes and disturbed roadsides; 500-750 meters in elevation; blooms April to June.	**Not expected.** The site is greatly outside of the species' elevational range and restricted distribution, although rocky disturbed areas are present.
Dune larkspur	*Delphinium parryi* ssp. *blochmaniae*	—	—	1B.2	Perennial herb; maritime chaparral and coastal dunes; 0-200 meters in elevation; blooms April to June.	**Not expected.** No suitable habitat is present, and this species is restricted to coastal areas. Records from SLO are from the 1880s and only have general locality information.
Dwarf soaproot	*Chlorogalum pomeridianum* var. *minus*	—	—	1B.2	Perennial bulbiferous herb; chaparral on serpentine soils; 305-1000 meters in elevation; blooms May to August.	**Not expected.** No suitable habitat is present, and the site is greatly outside of the species' elevational range. Recorded from more mountainous areas surrounding the site.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Eastwood's larkspur	*Delphinium parryi* ssp. *eastwoodiae*	—	—	1B.2	Perennial herb; chaparral and valley and foothill grassland generally in serpentine soils; 75-500 meters in elevation; blooms February to March.	**Not expected.** Serpentine soils present in the old quarry site, but area is highly disturbed from past mining. The site is within the species' local distribution and elevational range. Recorded at Laguna Lake Park and just north of urban SLO, but not found on the Tank Farm site. Not observed during surveys when species would have been in identifiable condition.
Hoover's bent grass	*Agrostis hooveri*	—	—	1B.2	Stoloniferous perennial herb; chaparral, cismontane woodland, and valley and foothill grassland habitats in sandy soils; 60-600 meters in elevation; blooms April to July.	**Not expected.** No suitable soils are present and the site is highly disturbed. Has been recorded surrounding the site, but generally in more mountainous areas and there are no records from the City of SLO area. Not observed during surveys when species would have been in identifiable condition.
Hoover's button-celery	*Eryngium aristulatum* var. *hooveri*	—	—	1B.1	Herb that can occur as either an annual or a perennial; vernal pools, seasonally wet grasslands, and roadside ditches; 3-45 meters in elevation; blooms June to August.	**Unlikely.** Potentially suitable habitat is present in the Wetland habitat at the stormwater basin, and the species has been documented throughout the Tank Farm property. However, this area was searched repeatedly during spring and summer surveys and the species was not found. Species has been documented nearby on the Tank Farm property and could colonize wetland habitat in the basin in the future.
Indian Knob mountainbalm	*Eriodictyon altissimum*	E	E	1B.1	Perennial evergreen shrub; maritime chaparral, cismontane woodland, and coastal scrub in sandstone soils; 80-270 meters in elevation; blooms March to June.	**Not expected.** No suitable soils are present and the site is outside of the species' elevational range and local distribution.
Irish Hills spineflower	*Chorizanthe aphanantha*	—	—	1B.1	Annual herb; openings in chaparral and restricted to serpentine; approx. 305 meters in elevation; blooms from April to August.	**Not expected.** Known only from a very restricted area in the Irish Hills to the southwest of San Luis Obispo; no suitable habitat is present.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Jones' layia	*Layia jonesii*	—	—	1B.2	Annual herb; chaparral and valley and foothill grassland on clay or serpentine; 5-400 meters in elevation; blooms March to May.	**Not expected.** Clay and serpentine soils are present onsite, but the quarry area is highly disturbed with limited vegetation growth. Numerous recorded occurrences near the site, including Laguna Lake and Froom Ranch, but species was not observed during surveys conducted when it would have been in identifiable condition.
La Panza mariposa-lily	*Calochortus simulans*	—	—	1B.3	Perennial bulbiferous herb; chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland on sandy and often granitic soils and sometimes on serpentine; 325-1150 meters in elevation; blooms April through June.	**Not expected.** Marginally suitable habitat is present but historic and ongoing disturbance precludes any bulbiferous species from occurring. This species is known to occur north of Cuesta Grade and is not expected to occur in this area. Not observed during surveys.
Mesa horkelia	*Horkelia cuneata* var. *puberula*	—	—	1B.1	Perennial herb; chaparral, cismontane woodland, and coastal scrub on sandy or gravelly soils; 70- 810 meters in elevation; blooms February to September.	**Not expected.** Not suitable soils are present, and the coastal scrub habitat onsite is of extremely limited extent. Site is within the species' distribution, but there are no records from the San Luis Obispo area.
Miles' milk-vetch	*Astragalus didymocarpus* var. *milesianus*	—	—	1B.2	Annual herb; coastal scrub habitats with clay soils; 20-90 meters in elevation; blooms March to June.	**Not expected.** Potentially suitable soils are present and remnants of Coastal Scrub habitat are present, but the site is slightly outside of the local distribution of the species, it is highly disturbed and surveys conducted during the bloom period did not observe this species.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Most beautiful jewelflower	*Streptanthus albidus* ssp. *peramoenus*	—	—	1B.2	Annual herb; chaparral, cismontane woodland, and valley and foothill grassland on serpentine soils; 94-1000 meters in elevation; blooms March to October.	**Not expected.** Suitable soils are present in the old quarry area, but this area is highly disturbed from past mining. Recorded occurrences are present in South Hills Open Space and areas to the north in more steeper terrain with exposed serpentine rock and native purple needlegrass grassland.
Mouse-gray (or San Luis Obispo) dudleya	*Dudleya abramsii* ssp. *murina*	—	—	1B.3	Perennial leaf succulent; chaparral, cismontane woodland and valley and foothill grassland on serpentine soils; 50-525 meters in elevation; blooms May to June.	**Present.** Five individuals observed along rock face of old quarry in northern study area. Dudleya species recorded on Flower Mound on Chevron Tank Farm property (Padre 2008) may be this same species instead of *Dudleya abramsii* ssp. *bettinae*, which is known to occur further west closer to the coast. Numerous occurrences of this species are recorded in the vicinity and larger numbers of this species observed just offsite to the north.
Nipomo Mesa ceanothus	*Ceanothus impressus* var. *nipomensis*	—	—	1B.2	Perennial shrub; chaparral on sandy soil; 30-245 meters in elevation; blooms February to April.	**Not expected.** No suitable habitat or soils are present, and this species has a restricted range on the Nipomo Mesa with a few historic localities in the hills north of Pismo Beach.
Ojai fritillary	*Fritillaria ojaiensis*	—	—	1B.2	Perennial bulbiferous herb; broad-leaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest on rocky soils; 225-998 meters in elevation; blooms February to May.	**Not expected.** No suitable habitat or soils are present and the site is greatly outside of the elevational range of this species.
Oso manzanita	*Arctostaphylos osoensis*	—	—	1B.2	Perennial evergreen shrub; chaparral and cismontane woodland on dacite porphyry buttes; 95-500 meters in elevation; blooms February to March.	**Not expected.** No suitable habitat or soils are present, the site is outside of the elevational range of the species, and no manzanita shrubs were seen during the survey.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Palmer's monardella	*Monardella palmeri*	—	—	1B.2	Perennial herb; chaparral and cismontane woodland on serpentine soils; 200-800 meters in elevation; blooms June to August.	**Not expected.** No habitat is present and the site is outside of the elevational range of this species. Recorded in surrounding mountainous area.
Pecho manzanita	*Arctostaphylos pechoensis*	—	—	1B.2	Perennial evergreen shrub; coniferous forest, chaparral and coastal scrub on siliceous shale soils; 125-850 meters in elevation; blooms November to March.	**Not expected.** No suitable soils are present, the site is outside of the species' elevational range, no manzanita shrubs were seen during the survey and the site is outside of the species' local distribution.
Pismo clarkia	*Clarkia speciosa* ssp. *immaculata*	E	R	1B.1	Annual herb; margins and openings of chaparral, cismontane woodland, and valley and foothill grassland in sandy soils; 25-185 meters in elevation; blooms May to July.	**Not expected.** Site is outside of the restricted distribution of this species and no sandy soils are present.
Saline clover	*Trifolium hydrophilum*	—	—	1B.2	Annual herb; marshes and swamps, mesic valley and foothill grassland, and vernal pools on alkaline soils; 0-300 meters in elevation; blooms April to June.	**Not expected.** Suitable habitat may be present in the wetland onsite, but last seen in the vicinity in 1998 and there are no other records in the greater area within the County. Constructed stormwater basin was searched during spring surveys for this species and it was not observed.
San Luis mariposa-lily	*Calochortus obispoensis*	—	—	1B.2	Bulbiferous, perennial herb; chaparral, coastal scrub and valley and foothill grassland on sandstone, serpentine and/or sandy soils; 75-730 meters in elevation; blooms May to July.	**Not expected.** Potentially suitable soils and habitat are present, and although there are records in the general area surrounding the site, they are from more mountainous areas. The only records from the City of SLO are historic, with imprecise locations. Site is outside of the species elevational range. The study area was searched repeatedly for this species and it was not observed.
San Luis Obispo County lupine	*Lupinus ludovicianus*	—	—	1B.2	Perennial herb; chaparral and cismontane woodland on sandstone or sandy soils; 50-525 meters in elevation; blooms April to July.	**Not expected.** No suitable habitat or soils are present, and the site is outside of the local distribution of the species. The only record nearby is from 1885.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
San Luis Obispo owl's-clover	*Castilleja densiflora* var. *obispoensis*	—	—	1B.2	Annual herb; meadows, seeps, and valley and foothill grassland sometimes on serpentine; 10-400 meters in elevation; blooms March to May.	**Unlikely.** Potentially suitable grassland habitat is present and the site is within the documented elevational range and local distribution of the species. Species is widespread on the Tank Farm property, occupying more than 10 acres. The subject property is highly disturbed and potentially suitable grassland habitat was searched for this species and it was not observed. Species has been recorded immediately to the west of site along Tank Farm Road and could potentially spread onto the property in the future.
San Luis Obispo sedge	*Carex obispoensis*	—	—	1B.2	Perennial herb; coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland, often on serpentine and clay soils in seeps; 10-820 meters in elevation; blooms April to June.	**Not expected.** No suitable habitat composed of serpentine seeps are present. Known to occur in the vicinity, but all known extant populations are at higher elevations along the Santa Lucia ridge, Irish Hills or other foothill locations with seep spring habitat. Not recorded on the Tank Farm site.
Santa Lucia manzanita	*Arctostaphylos luciana*	—	—	1B.2	Perennial evergreen shrub; chaparral and cismontane woodland on shale soils; 350-850 meters in elevation; blooms December to March.	**Not expected.** No suitable habitat or soils are present, the site is greatly outside of the species' elevational range, and no manzanitas were found during the survey.
Santa Margarita manzanita	*Arctostaphylos pilosula* (=*A. wellsii*)	—	—	1B.2	Evergreen perennial shrub; occurs in closed-cone coniferous forests, broadleafed upland forest, cismontane woodland, and maritime chaparral sometimes on sandstone; ranges from 75 to 1100 meters in elevation; blooms December to May.	**Not expected.** No suitable soils are present, the site is outside of the elevational range of the species, and no manzanitas were found during the survey.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Southern curly-leaved monardella	*Monardella sinuata* ssp. *sinuata*	—	—	1B.2	Annual herb; chaparral, cismontane woodland, coastal dunes, and openings in coastal scrub on sandy soils; elevations below 300 meters; blooms May to September.	**Not expected.** Site is inland and this species is restricted to areas closer to the coast; sandy soils and suitable habitat are absent.

**E = Endangered; T = Threatened; R = Rare; '—' = no status; CRPR: Rank 1A - Presumed extirpated in California and either rare or extinct elsewhere; Rank 1B – Rare, threatened or endangered in California and elsewhere; Rank 2A – Presumed extirpated in California, but more common elsewhere; Rank 2B – Rare, threatened, or endangered in California, but more common elsewhere; Rank 3 - Plants needing more information, a review list; Rank 4 – Limited distribution, a watch list. Sources: California Natural Diversity Database (California Department of Fish and Wildlife 2020a); Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife 2020c); Inventory of Rare and Endangered Plants of California (California Native Plant Society 2020); Information on Wild California Plants for Conservation, Education, and Appreciation (Calflora 2020); Padre Associates, Inc. 2013; Padre Associates, Inc. and WSP Environment & Energy 2008.*

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
ANIMALS						
INVERTEBRATES						
Atascadero June beetle	*Polyphylla nubila*	—	—	—	Sandy soils in annual grassland, chamise chaparral, and oak woodland and savannah. Restricted to Atascadero and San Luis Obispo.	**Not expected.** Onsite soils are not sandy and the only record from the vicinity is from 1956 and has an imprecise location.
California linderiella	*Linderiella occidentalis*	—	—	—	Seasonal pools or vernal pools in grasslands or in sandstone depressions. Can occur in very small pools and are heat tolerant.	**Present.** Observed in constructed stormwater basin along Tank Farm Road. Protocol-level surveys for vernal pool fairy shrimp conducted in Spring 2020 on the project site identified low numbers of California linderiella in the western part of the basin where water appears to persist for a longer period of time.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Monarch butterfly	*Danaus plexippus* pop. 1	— (under review)	—	— (overwintering population)	Adults feed on the nectar of various blooming plants. During breeding can be found in fields, pastures, residential areas, grassland and scrub. Eggs are laid on and caterpillars feed on milkweed. Overwinters in wind-protected tree groves of eucalyptus, Monterey pine and cypress along the coast protected from strong winds and cold temperatures.	**Present.** Several individuals were seen flying around the study area during the spring surveys. The dense, tall stand of Eucalyptus overhanging the site could be suitable for a wintering or autumnal roost site, and may also use the Riparian. There are several overwintering records from small groves and linear windrows in urban SLO and the surrounding area.
San Luis Obispo pyrg	*Pyrgulopsis taylori*	—	—	—	Freshwater snail with planktonic larvae. Also has been recorded on rocks and in leaf litter.	**Not expected.** Suitable habitat may be present in Acacia Creek, but the creek is offsite outside of the study area. Was not recorded during surveys for the Tank Farm, and no suitable aquatic creek habitat is present. The seasonal wetland documented in the basin is not suitable habitat for this species.
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	—	—	Grasslands with temporary ponded water. Inhabits small clear-water depressions in rock, vernal pools and swales, as well as anthropogenic habitats such as tire ruts, dozer scrapes and railroad pools. Needs standing water for at least 18 days to complete its lifecycle.	**Unlikely.** One protocol wet season aquatic survey was conducted at the basin in the southeastern corner of the subject property during winter 2020, and this species was not detected. Species likely would have been detected if present, but will require consultation with USFWS to determine if full protocol, which requires additional surveys, will be needed to confirm absence. Documented at numerous locations in old tank sites and other seasonal wetlands on the Tank Farm property, including two depressions near the site entrance.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Western bumble bee	*Bombus occidentalis*	—	CE	—	Generalist foragers and found on agricultural crops such as tomatoes, peppers, cranberries, alfalfa, avocado, apples, cherries, blackberries, and blueberries. Only females survive the winter and establish new colonies the following spring. Colonies contain one queen, female workers, larvae, and when the season nears, male and female reproductive members. Nests are underground in cavities or burrows.	**Not expected.** Species has undergone substantial range reduction, and no longer occurs in central California. Historic record from 1936 from south of San Luis Obispo. Site is highly disturbed and lacks suitable nesting sites and host plants.
FISH						
South-central California coast DPS steelhead	*Oncorhynchus mykiss irideus* pop. 9	T	—	—	Adults spawn in freshwater streams with clear, well-oxygenated, cool water and clean gravel substrate. Also require instream cover (branches, logs) and streamside vegetation. Juveniles rear in freshwater reaches or lagoons before going to the ocean to mature, and then return to freshwater to reproduce.	**Not expected.** No suitable habitat is present on the property, and the adjacent Acacia Creek does not support quality habitat and pools in its current condition. Past surveys in the area have documented steelhead in Acacia Creek near the site, and even though some instream barriers are present, this species has been able to access this reach (pers. comm. F. Otte).
Tidewater goby	*Eucyclogobius newberryi*	E	—	SSC	Small, euryhaline, benthic fish that inhabits coastal lagoons, estuaries, stream mouths, and backwater marshes, rarely in open ocean. Usually in brackish lower reaches but can occur up to 7 miles upstream from the ocean. Requires shallow water with little to no flow and fine substrate.	**Not expected.** No suitable habitat is present in the study area. Species occurs in the lower 2.5 miles of San Luis Obispo Creek and is restricted to estuarine environments.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
AMPHIBIANS/REPTILES						
Blainville's (=coast) horned lizard	*Phrynosoma blainvillii*	—	—	SSC	Grasslands, sandy washes, coastal scrub, chaparral, coniferous forest and woodlands with patches of open areas for sunning and bushes for cover. Often with loose sandy soils for burial, but also uses small mammal burrows. Preys on native species of ants and other small invertebrates.	**Unlikely.** Only fragments of Coastal Scrub habitat are present onsite, and the site is heavily disturbed. No records nearby, and has not been found on the Tank Farm property throughout years of biological surveys.

California red-legged frog	*Rana draytonii*	T	—	SSC	Forages and breeds in streams with deep slow-moving pools, stock ponds, reservoirs, springs, lagoons, and marshes; usually with emergent or riparian vegetation but also found at sites lacking vegetation. Uses riparian and various upland habitats in winter and for dispersal.	**Unlikely.** Acacia Creek adjacent to the site does not appear to have sufficient water depth to support adults, but if suitable aquatic habitat was present nearby, juveniles could use Acacia Creek and individuals could move periodically through the Annual Grassland, Wetland or Ruderal habitats on the site. Closest recorded occurrence is from the City's Wastewater Treatment Facility in 2006, but this location is outside of the species' dispersal distance. CRLF has also been recorded in San Luis Obispo Creek at Reservoir Canyon and Miossi Creek in the 1990s, which are all outside the expected movement range for the species to gain access to the site. Recent observations of CRLF from upper Froom Creek in 2017, and Avila Golf Resort & Gragg Canyon in the 1990s are also outside potential movement capabilities of the species given all the barriers and developed lands in between the site and those occurrences. Suitable marsh habitat is present at Tank Farm, and East Fork San Luis Creek has suitable habitat, but protocol surveys conducted in 1998, 2003, 2008 and 2012 did not detect the species at these sites, nor at surveys downstream at Filipponi Ecological Area or upstream at Damon-Garcia. These sites contain non-native predatory fish, bullfrogs and crayfish. Tank Farm remediation work underway on property to the west requires preconstruction surveys and biological monitoring, and species has not been detected.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Coast Range newt	*Taricha torosa*	—	—	SSC	Primarily terrestrial in forests, oak woodlands, chaparral, and rolling grassland. Breeds in ponds, reservoirs and pools of clear streams with rocky substrates and cascades.	**Not expected.** Onsite drainage does not have sufficient amount of water or appropriate rocky habitat with pools and cascades. Known to occur in San Luis Obispo Creek at Reservoir Canyon, but not found in areas further downstream.
Foothill yellow-legged frog - Central Coast population	*Rana boylii*	—	E	SSC	Rocky streams and rivers with open sunny banks, surrounded by forests, chaparral and woodlands. Sometimes found in isolated pools, backwaters, and spring-fed pools. Reproduction is exclusively in streams and rivers. Usually found near water and diurnal.	**Not expected.** Acacia Creek is not suitable habitat, and this species is considered to be extirpated south of Rocky Point in far northwestern SLO County. Historically recorded in Brizziolari Creek, Reservoir Canyon, and Arroyo Grande Creek but not found in this part of San Luis Obispo County since 1958.
Northern California legless lizard	*Anniella pulchra*	—	—	SSC	Beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, oak woodland, and stream terraces with riparian vegetation. Fossorial species requires moist, loose soils or leaf litter with plant cover or surface objects (rocks, boards, logs, etc.). Can occur in residential areas.	**Not expected.** Onsite Coastal Scrub habitat is highly degraded and occurs on dense clay soils, which were previously graded to create an earthen berm. Heavy clay soils are typically unsuitable for the species. Site has been graded and base rock applied to most areas. Quarry and past industrial activities have also compacted soils and disturbed the entire property. While riparian habitat had leaf litter that could potentially support the species, it is offsite and will not be affected by the project.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Southwestern pond turtle (=western pond turtle)	*Actinemys pallida* (=*Emys marmorata*)	—	—	SSC	Ponds, lakes, rivers, streams, marshes, brackish lagoons, and irrigation ditches with a mosaic of vegetation and open areas for basking. Uses upland areas for nesting and in winter, including woodland, forest, grassland, chaparral, and grasslands.	**Potential.** Could move through the site and take refuge under stored materials, but unlikely to nest onsite due to lack of appropriate habitat. A shell was found on Flower Mound during prior surveys, and species was documented in Acacia Creek upstream from the site on Damon-Garcia Sports Fields and downstream in East Fork San Luis Obispo Creek.
BIRDS						
Bald eagle	*Haliaeetus leucocephalus*	—	E	FP	Open areas near water where they mainly feed on fish, and may also eat birds, amphibians, reptiles, small mammals, and crabs; nests in large mature trees such as ponderosa pine or occasionally on cliffs or the ground, within 1 mile of a large water source; occurs year-round in this area.	**Potential.** Could fly over the site and perch or roost on large eucalyptus trees periodically. Has been recorded in eBird from numerous locations in the vicinity. Would not be expected to nest onsite.
Burrowing owl	*Athene cunicularia*	—	—	SSC (burrow sites & some wintering sites)	Open treeless areas with low sparse vegetation such as grasslands, deserts, pastures, agricultural fields, airports, and artificial embankments where they prey on small vertebrates and various invertebrates. Nests in burrows created by other animals with nearby lookouts such as fence posts or shrubs. Formerly occurred year-round in this area, but now restricted to winter.	**Potential.** Open habitat is present throughout the western portion of the study area, and old quarry with occasional ground squirrel burrows could be used as a stopover spot. Wintering has been recorded at the Tank Farm property, but not expected to nest onsite or in the vicinity.
California horned lark	*Eremophila alpestris actia*	—	—	WL	Areas with sparse vegetation or bare ground in prairies, deserts, tundra, beaches, dunes, airports, plowed fields and heavily grazed pastures where they eat seeds and insects. Nesting is on bare ground. Occurs year-round in this area.	**Potential.** Known to occur in the area, and could use old quarry and surrounding area for foraging. Has been recorded immediately adjacent to the property, and could potentially nest outside of disturbance areas.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Cooper's hawk	*Accipiter cooperii*	—	—	WL (nesting)	Mature and open woodlands including oak forest, conifers and riparian; may also be found in suburban areas with tall trees. Feeds on birds, small mammals, reptiles and amphibians. Nesting is in dense woodlands. Occurs in this area year-round.	**Potential.** Could forage, nest or roost onsite in the Eucalyptus windrow. They have been recorded on adjacent properties and in urban areas nearby in eBird.
Ferruginous hawk	*Buteo regalis*	—	—	WL (wintering)	Open country such as grasslands, sagebrush, saltbush shrubland, and edges of pinyon-juniper forest where they prey on small mammals. Nests on lone trees, cliffs, utility poles, and shrubs from ground-level to 65-feet high. Occurs in this area during winter.	**Potential.** Potential foraging habitat onsite is of low quality due to ongoing human disturbance and materials storage. Could fly over the site and perch or roost on Eucalyptus trees or neighboring riparian habitat. Does not nest in this area. There are observations from the Tank Farm site and areas surrounding SLO in eBird.
Golden eagle	*Aquila chrysaetos*	—	—	FP, WL (nesting & wintering)	Uncommon resident of mountainous and valley-foothill areas. Foraging typically occurs in open terrain where they prey on small mammals. Nesting usually occurs on cliff ledges, and less commonly in large trees or on structures such as electrical towers. Occurs in this area year-round.	**Potential.** Could be an uncommon transient flying over the site, and less likely to forage over the site due to high level of disturbance. The proximity to open grassland adjacent to the site increases the potential for this species to occasionally occur. Has been recorded at the Tank Farm site and other areas within SLO. Unlikely to nest in the large Eucalyptus due to high degree of disturbance in the surrounding area.
Grasshopper sparrow	*Ammodramus savannarum*	—	—	SSC	Grasslands, prairies, hayfields, and open pastures with little scrub cover and some bare ground where they prey on grasshoppers and other invertebrates. Nests on the ground at the base of clumps of grass within a large patch of tall grass. Occurs in this area during breeding season.	**Unlikely.** Grassland habitat onsite is of limited extent and is highly disturbed from mowing and materials storage activities. Has been recorded at numerous locations surrounding the site in eBird, but is not reported from the Tank Farm property despite extensive studies and suitable grassland habitat.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Great blue heron	*Ardea herodias*	—	—	— (nesting colony)	Freshwater and saltwater marshes, also foraging in grasslands and agricultural fields. Nesting colonies are near lakes, ponds and wetlands bordered by forests. Nests are placed mainly in trees, but may also nest on the ground, in bushes or artificial structures. Occurs year-round in this area.	**Potential.** Individuals could forage periodically in the Annual Grassland, Wetland or along Acacia Creek. Unlikely to nest due to high degree of disturbance in the area. There are numerous records in eBird in the surrounding area, including Tank Farm and Buckley roads.
Great egret	*Ardea alba*	—	—	— (nesting colony)	Forages in marshes, swamps, streams, rivers, ponds, lakes, lagoons, tidal flats, canals, ditches, flooded fields, and sometimes in upland where they prey on fish, amphibians, reptiles, crustaceans, and invertebrates. Roosts communally in trees. Nesting colonies are on lakes, ponds, marshes, and estuaries, but does not nest in this area. Occurs in this area during non-breeding season.	**Potential.** Could forage onsite in Annual Grassland, Wetland or along Acacia Creek. Does not nest in this area. There are a number of observations in eBird in close proximity to the site, including along Tank Farm Road.
Loggerhead shrike	*Lanius ludovicianus*	—	—	SSC (nesting)	Open country with low vegetation and well-spaced shrubs or trees such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides where they prey on insects, amphibians, reptiles and small mammals. Nests in trees, shrubs, or brush piles. Occurs in this area year-round.	**Potential.** Suitable open and shrubby habitats are present onsite and immediately adjacent. Could forage or nest onsite. There are several observations in eBird from SLO and has been observed nesting on the Tank Farm property.
Merlin	*Falco columbarius*	—	—	WL (wintering)	Coastlines, open grasslands, savannas, woodlands, lakes, wetlands, and montane conifer forests where they prey on small birds, small mammals and insects. Nests in existing corvid or hawk nest but does not nest in California. Occurs in this area during winter.	**Unlikely.** Could fly over the site while foraging at the Tank Farm property, but only marginal habitat is present onsite due to historic and ongoing disturbance. Has been recorded in downtown San Luis Obispo in eBird.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Northern harrier	*Circus cyaneus*	—	—	SSC (nesting)	Large areas of wetlands and grasslands with low vegetation where they prey on small mammals, amphibians, reptiles and birds. Nesting is in marshes, grazed meadows, and desert shrubland where they nest on the ground in a dense clump of vegetation such as willows, grasses, sedge, bulrushes or cattails. Occurs year-round in this area.	**Potential.** Could fly over or forage onsite due to the expanse of suitable habitat on the adjacent Tank Farm property, where they have been observed. Unlikely to nest onsite due to lack of suitable grassland habitat and high degree of human disturbance.
Prairie falcon	*Falco mexicanus*	—	—	WL (nesting)	Grasslands, desert shrubland, tundra, coastal scrub, feedlots, and agricultural fields where they feed on small mammals, insects and birds. Nests on high cliff ledges, steep bluffs, trees, or on buildings or utility poles. Occurs year-round in this area.	**Potential.** They could forage onsite as small mammals were seen, and could nest in the tall Eucalyptus because they are known to tolerate human disturbance in some areas. Red-tailed hawks observed on eucalyptus trees indicated they may have claimed this windrow as their territory. Has been recorded at various locations on the outskirts of city limits.
Sharp-shinned hawk	*Accipiter striatus*	—	—	WL (nesting)	Forages along the edges of dense mixed woodlands and forests where they prey on birds. Nests are in dense forests with closed canopies in conifer trees. Occurs in winter in this area.	**Potential.** Suitable eucalyptus windrow and riparian habitat adjacent to the site. Has been recorded on adjacent properties in eBird. Could occur as a transient while migrating, but does not nest in this area.
Snowy egret	*Egretta thula*	—	—	— (nesting colony)	Lagoons, freshwater wetlands, ponds, temporary pools, and wet fields where they prey on aquatic animals and insects. Nesting colonies are in dense vegetation of islands and marshes. Occurs in this area outside of the breeding season.	**Potential.** Could forage onsite in Wetland or Annual Grassland, and along Acacia Creek. Does not nest in this area. Species forages in upland areas away from water, and there are observations from the general area in eBird.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Tricolored blackbird	*Agelaius tricolor*	—	T	SSC (nesting colony)	Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots. Nests colonially in freshwater marshes with tules or cattails, or in other dense thickets of willow, thistle, blackberry, or wild rose in close proximity to open water. Occurs year-round in this area.	**Potential.** Could occur onsite as a transient while foraging, and potentially could nest offsite in the riparian habitat along Acacia Creek offsite. Could also potentially use large tule patches on neighboring Tank Farm property for nesting and forage onsite. Has been recorded on the Tank Farm property during the breeding season, but no suitable nesting habitat present onsite.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	T	E	—	Riparian, desert riparian, and orchards with dense cover and a water source. Preys primarily on caterpillars, but food includes other invertebrates, amphibians, reptiles, fruits and seeds. Once common in CA's central and coastal valleys, now breeds only along a few inland rivers. Dense willows required for roosting and nesting. Migratory only occurring in CA in summer.	**Not expected.** Riparian habitat is present just outside project boundary, but species has been dramatically reduced and no longer breeds in this area. Historic records from the general area are from 1921 and 1932. Transient individuals recorded only from along the immediate coast.
White-tailed kite	*Elanus leucurus*	—	—	FP (nesting)	Savannas, open woodlands (oak or pine), riparian forest, marshes, desert grasslands, and fields where they prey on small mammals, birds, lizards, and insects. Nests and roosts in the edges of forests or in tall isolated trees. Occurs in this area year-round.	**Potential.** Could nest or roost in the Eucalyptus, but red-tailed hawks observed were observed nesting in the eucalyptus windrow and may preclude white tailed kites from nesting nearby. Species could prey on mammals seen onsite. Has been recorded in eBird at numerous locations surrounding the site, and observed at the Tank Farm site.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Yellow warbler	*Setophaga petechia*	—	—	SSC	Wetland and riparian habitats with willows, cottonwoods, aspens, sycamores and alders where they eat insects. Also uses gardens, orchards and roadside thickets. Nesting is in shrubs or small trees. Occurs year-round in this area.	**Potential.** Could forage or nest in the Eucalyptus or Ornamental habitats onsite since the Acacia Creek corridor is present adjacent to the site. Has been recorded at numerous locations near the site in eBird.
MAMMALS						
American badger	*Taxidea taxus*	—	—	SSC	Open grasslands, fields and the edge of scrub and woodland habitats; requires dry loose soils for burrowing and shelter and feeds on a variety of small mammals such as California ground squirrel and pocket gopher.	**Potential.** A fragment of marginally suitable habitat is present onsite, and some ground squirrel activity was seen during surveys. No dens were observed during the surveys. Has been recorded on the Tank Farm site and potentially could move through the study area and slight chance to den there, but unlikely given the high human presence and degree of disturbance.
Monterey dusky-footed woodrat	*Neotoma macrotis luciana*	—	—	SSC	Builds large stick middens in chaparral and woodland habitats of moderate canopy and moderate to dense understory. Occurs in the Coast Ranges from Monterey Bay to Los Osos/Atascadero. Reaches its eastern extent at Camp Roberts where it contacts *Neotoma fuscipes bullatior* and southern extent where *Neotoma macrotis macrotis* occurs.	**Not expected.** The subspecies of dusky-footed woodrat in the San Luis Obispo area is reported to be *Neotoma macrotis macrotis*. No records of Monterey dusky-footed woodrat were in the CNDDB from the vicinity. No stick nests indicative of woodrats were observed onsite during surveys, and riparian zone along Acacia Creek is offsite to the east.
Pallid bat	*Antrozous pallidus*	—	—	SSC	Open dry habitats including deserts, grasslands, shrublands, woodlands, and forests. Roosts in rocky outcrops, caves, crevasses, mines, hollow trees, and buildings that moderate temperature. Night roosts on porches and open buildings.	**Potential.** Could forage over the site and slight chance to roost in large Eucalyptus. Has been recorded on Camp SLO and the city downtown area.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
San Diego desert woodrat	*Neotoma lepida intermedia*	—	—	SSC	Moderate to dense coastal scrub, especially in rocky areas with slopes.	**Not expected.** No suitable habitat is present. Species has been documented at Cerro San Luis and on Diablo Canyon property, reaching the northern limit of its range in this area. No stick nests indicative of woodrats observed onsite.
Townsend's big-eared bat	*Corynorhinus townsendii*	—	—	SSC	Desert scrub, grassland, sagebrush, chaparral, oak woodlands, riparian and coniferous forests; prefers mesic habitats and closely tied to rock cliffs with crevasses. Roosts in caves, cliffs, mines, tunnels and bridges.	**Potential.** Could forage onsite, but no structures for roosting are present. Roost sites have been recorded nearby at Camp SLO and Chorro Creek, and individuals at Shell Creek.
Western mastiff bat	*Eumops perotis californicus*	—	—	SSC	Desert scrub, coastal scrub, chaparral, oak woodland, and coniferous forest. Roosts colonially in rock crevasses, buildings, tunnels and in trees. Does not undergo seasonal migrations or prolonged hibernation, and is present in this area year-round.	**Potential.** Suitable foraging habitat is present onsite, and could roost in large Eucalyptus. Has been recorded in the San Luis Obispo area.

**E = Endangered; T = Threatened; C = Candidate; SSC = Species of Special Concern; FP = Fully Protected; WL = Watch List; '—' = no status; California Natural Diversity Database (California Department of Fish and Wildlife 2020a); Special Animals List (California Department of Fish and Wildlife 2019); California Wildlife Habitat Relationships System (CDFW 2020d); A Guide to the Amphibians and Reptiles of California (California Herps 2020); eBird (The Cornell Lab of Ornithology 2020a); All About Birds (The Cornell Lab of Ornithology 2020b); Guide to North American Birds (Audubon 2020).*

SENSITIVE NATURAL COMMUNITIES	
Central Coast Arroyo Willow Forest — State Rarity Rank S3.2	**Absent.** Dense closed-canopy forest characterized by arroyo willow (*Salix lasiolepis*) and/or Pacific willow (*S. lasiandra*). Occurs on moist to saturated sandy or gravelly soil in floodplains, low-gradient stream reaches and dune slack ponds. No riparian habitat onsite, but the arroyo willow-dominated riparian habitat along Acacia Creek would be classified as this community.
Central Coast Live Oak Riparian Forest — State Rarity Rank 3.2	**Absent.** Band of riparian on drier, outer floodplains along perennial streams between the more mesic cottonwood or willow-dominated communities and more xeric chaparral. Dominated by coast live oak (*Quercus agrifolia*) with a relatively open understory of grasses. Other species in the understory include coyote brush (*Baccharis pilularis*), California rose (*Rosa californica*), fragrant sumac (*Rhus aromatica*), and blue elderberry (*Sambucus mexicana*). The riparian habitat along Acacia Creek is offsite and more closely aligns with Central Coast Arroyo Willow Forest or Scrub.
Central Coast Riparian Scrub — State Rarity Rank S3	**Absent.** A dense, shrubby streamside thicket dominated by any of several species of willows (*Salix* spp.) and has coyote brush (*Baccharis pilularis*) as a secondary component. Occurs on sand or gravel bars along rivers and streams with ground water close to the surface. Also present around dune slack ponds. The arroyo willow-dominated habitat along Acacia Creek could be classified as this community, which is not on the project site.
Central Dune Scrub — State Rarity Rank S2.2	**Absent.** Restricted to coastal strip on stabilized back dunes. It is composed of low-growing scattered shrubs, subshrubs and herbs and is indicated by the presence of mock heather (*Ericameria ericoides*), beach blue lupine (*Lupinus chamissonis*), and beach sagewort (*Artemisia pycnocephala*). Site is located away from the coastline and this community is not present.
Central Foredunes — State Rarity Rank S1.2	**Absent.** Areas of sand accumulation that are exposed to onshore winds and sparsely vegetated by suffrutescent plant species including sand verbena (*Abronia* sp.), sea rocket (*Cakile* sp.), and primrose (*Camissonia* sp.). Site is located away from the coastline and beaches and this community is not present.
Central Maritime Chaparral — State Rarity Rank S2.2	**Absent.** Occurs on well-drained, sandy soils within the summer fog zone. Composed of sclerophyll shrubs dominated by one or more species of manzanita (*Arctostaphylos* spp.). No manzanita species occur on the site and this community is not present.
Coastal and Valley Freshwater Marsh — State Rarity Rank S2 and S3	**Absent.** Occurs in permanently flooded sites with freshwater and lacking significant flow, dominated by perennial, emergent vegetation such as bulrushes (*Scirpus* sp. and *Schoenoplectus* sp.) and cattails (*Typha* sp.). No areas of perennially ponded water were present, and no emergent vegetation was present onsite.

SENSITIVE NATURAL COMMUNITIES	
Coastal Brackish Marsh — State Rarity Rank S2.1	**Absent.** Occurs along the inland edges of coastal bays, lagoons and estuaries at the interface between saltwater and freshwater. Salinity may vary due to tides and seasonal freshwater runoff. It has dense cover by perennial emergent species such as bulrushes (*Scirpus* sp. or *Schoenoplectus* sp.), broadleaf cattail (*Typha latifolia*), sedges (*Carex* spp.) and saltgrass (*Distichlis spicata*). The site occurs away from the coast and does not have brackish water habitat.
Freshwater Seep — State Rarity Rank S3.2	**Absent.** Occurs in permanently moist or wet soil that seeps from surfacing groundwater or water table, usually within grassland or meadow communities. Composed of mainly perennial herbs, especially sedges (*Carex* spp.) and rushes (*Juncus* spp.). Hydrologic conditions necessary to support this community were not present.
Northern Coastal Salt Marsh — State Rarity Rank S3.2	**Absent.** This community occurs in sheltered inland margins of bays, lagoons and estuaries. These areas are subject to regular tidal inundation of saltwater for at least part of the year. Salt-tolerant hydrophytes up to 1 meter tall for moderate to dense stands. Characteristic species include fleshy jaumea (*Jaumea carnosa*), Pacific cordgrass (*Spartina foliosa*), and pickleweed (*Salicornia* sp.). The site occurs away from the coast and tidally influenced habitat is not present.
Northern Interior Cypress Forest — State Rarity Rank S2.2	**Absent.** Occurs on dry, rocky, and often serpentine soils. Stands are open and scrubby, being maintained by fires. It is dominated by one or more native cypress species (*Hesperocyparis* spp.). Cypress are not present onsite, and this community is restricted to the Cuesta Ridge area north of the project site.
Serpentine Bunchgrass — State Rarity Rank S2.2	**Absent.** Restricted to areas with serpentine soils. Dominated by native perennial bunchgrasses and herbs with low total cover. Characteristic species include needlegrass (*Stipa* spp.), California poppy (*Eschscholzia californica*), and small fescue (*Festuca microstachys*), with a higher percentage of native grasses compared to other California grassland communities. The serpentine area onsite was heavily disturbed by past mining activities and lacked native species characteristic of this habitat type. Serpentine soils offsite to the west on the Tank Farm property had purple needlegrass at sufficient density to be considered this community (Marine Research Specialists 2013).
Valley Needlegrass Grassland — State Rarity Rank S3.1	**Absent.** Often occurs on clay soils that are moist or saturated in winter and very dry in the summer. It is dominated by purple needlegrass (*Stipa pulchra*), but may have higher percent cover overall by native and introduced annual grassland species. No purple needlegrass was present on the subject property, and the grassland habitat was composed mainly of non-native species consistent with Annual Grassland. This community has been documented on the Tank Farm property to the west (Marine Research Specialists 2013).

SENSITIVE NATURAL COMMUNITIES	
Vernal Marsh — State Rarity Rank S2	**Present.** Vegetated by low, annual herbs such as sedges (*Carex* spp.) and rushes (*Juncus* spp.). Has marshy conditions or standing water following winter rains but is reduced or completely dry by summer. Often found at the transition between Coastal and Valley Freshwater Marsh and drier upland grassland. The Wetland habitat in the constructed stormwater basin onsite would be classified as this community type.

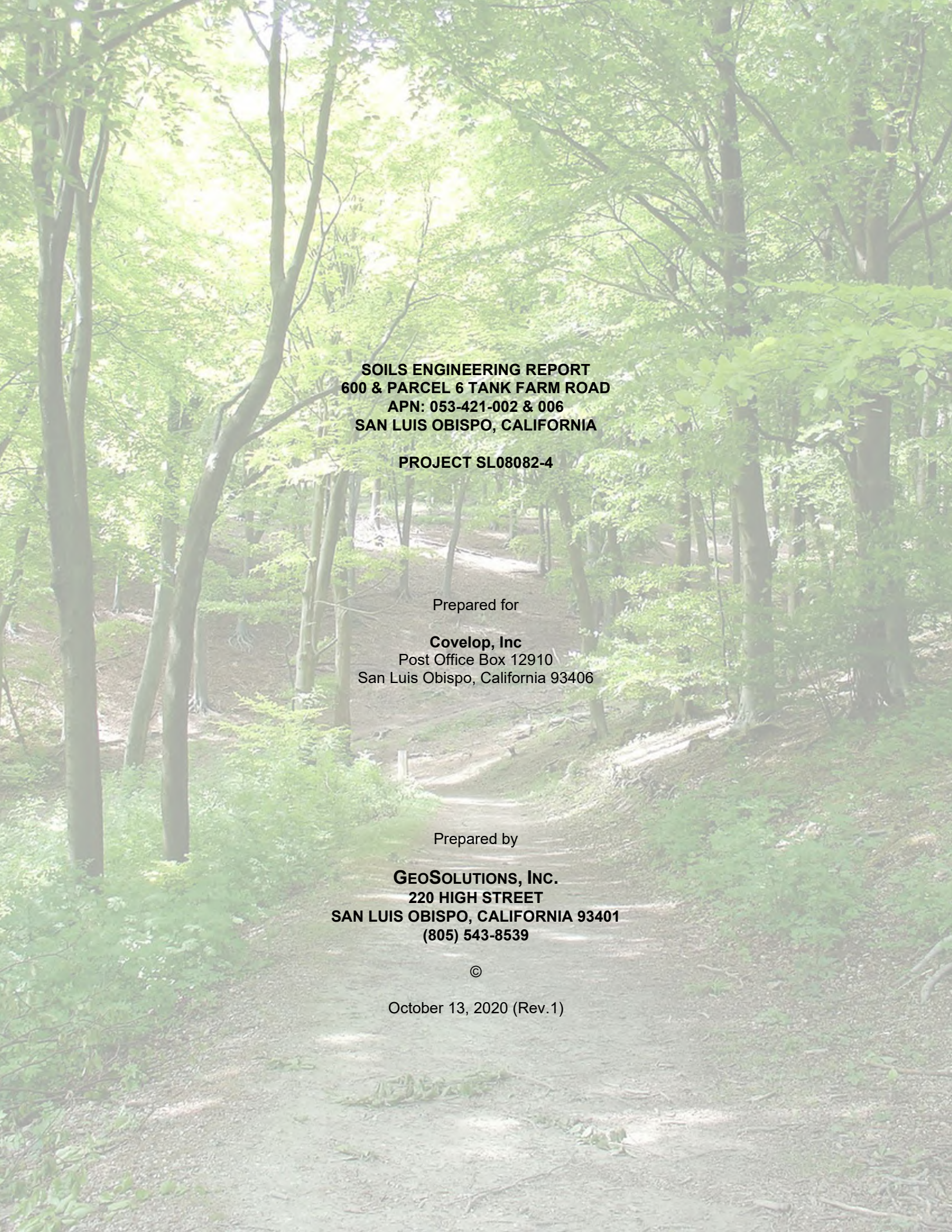
Sources: Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986); California Natural Community List (California Department of Fish and Wildlife 2020b); California Natural Diversity Database (California Department of Fish and Wildlife 2020a).

DESIGNATED CRITICAL HABITAT	
California Red-legged Frog	**Absent.** Unit SLO-3 is present to the north of the site, encompassing the north portion of urban San Luis Obispo and areas to the north, west and east, but does not occur at the study site.
Tidewater Goby	**Absent.** Species is restricted to the lower portions of streams where there is brackish water, and no critical habitat is present onsite.

Source: Threatened and Endangered Species Active Critical Habitat Report (United States Fish and Wildlife Service 2020b).

Appendix B

Soils Engineering Report, GeoSolutions, Inc., March 2020



SOILS ENGINEERING REPORT
600 & PARCEL 6 TANK FARM ROAD
APN: 053-421-002 & 006
SAN LUIS OBISPO, CALIFORNIA

PROJECT SL08082-4

Prepared for

Covelop, Inc
Post Office Box 12910
San Luis Obispo, California 93406

Prepared by

GEOSOLUTIONS, INC.
220 HIGH STREET
SAN LUIS OBISPO, CALIFORNIA 93401
(805) 543-8539

October 13, 2020 (Rev.1)

SOILS ENGINEERING REPORT

DATE
October 13, 2020
(Rev. 1)

PROJECT NUMBER
SL08082-4

CLIENT
Covelop, Inc
Post Office Box 12910
San Luis Obispo, California
93406

PROJECT NAME
600 & Parcel 6 Tank Farm Road
APN: 053-421-002 & 006
San Luis Obispo, California

Dear Covelop, Inc.:

This Soils Engineering Report has been prepared for the proposed mixed-use development at 600 & Parcel 6 Tank Farm Road, APN: 053-421-002 & 006, in San Luis Obispo, California.

The purpose of this revision is to include offsite pavement recommendations.

Geotechnically, the site is suitable for the proposed development provided the recommendations in this report for site preparation, earthwork, foundations, slabs, retaining walls, and pavement sections are incorporated into the design.

It is anticipated that a graded pads will be constructed for the majority of the mixed-use development with all foundations excavated into engineered fill.

Hard rock conditions exist in the rear of the site. In this area, depending on final building elevations and footprints, foundations range in conditions from entirely into shallow rock to 40 feet of alluvial deposits. It is expected drilled cast-in-place caissons will be required for the buildings in this area.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions or require additional assistance, please feel free to contact the undersigned at (805) 614-6333.

Sincerely,
GeoSolutions, Inc.

Patrick B. McNeill, PE
Principal

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600 & PARCEL 6 TANK FARM ROAD
APN: 053-421-002 & 006
SAN LUIS OBISPO, CALIFORNIA

PROJECT SL08082-4

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed mixed-use development to be located at 600 & Parcel 6 Tank Farm Road, APN: 053-421-002 & 006, in San Luis Obispo, California. See Figure 1: Site Location Map for the general location of the project area. Figure 1: Site Location Map was obtained from the website application TopoView (USGS, 2013).

The purpose of this revision is to include offsite pavement recommendations.

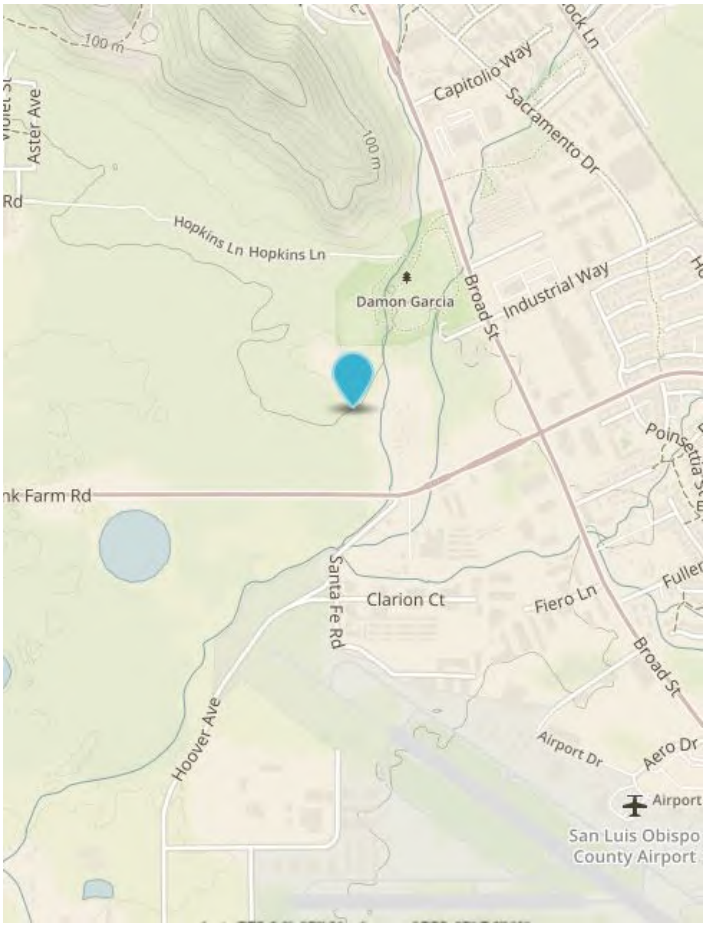

Figure 1: Site Location Map

1.1 Site Description

600 & Parcel 6 Tank Farm Road is located at 35.249 degrees north latitude and 120.649 degrees east longitude at a general elevation of 180 feet above mean sea level. The combined property is approximately 12.6 acres in size. The nearest intersection is where Tank Farm Road intersects Broad Street to the east of the property. The project property will hereafter be referred to as the "Site." See Figure 2: Site Plan for the general layout of the Site.

The Site is comprised of two parcels. The upper parcel is in an area known as an old gravel pit. The upper parcel consists of two (2) terraces where the upper terrace is bounded to the west by a relatively steep cut slope in formational material (rock) and a fill slope that descends down to the east to the lower terrace. The lower terrace is bounded by the fill slope to the west and a small creek to the east. The Site has been greatly altered by past uses and is comprised of exposed cut hard rock, undocumented fill, and alluvial soils with expansive characteristics.

1.2 Project Description

The proposed mixed-use development will consist of residential and commercial buildings with associated parking and site improvements. Retaining walls are expected to be constructed as part of this project. It is anticipated that the proposed mixed-use development will utilize a slab-on-grade lower floor system.

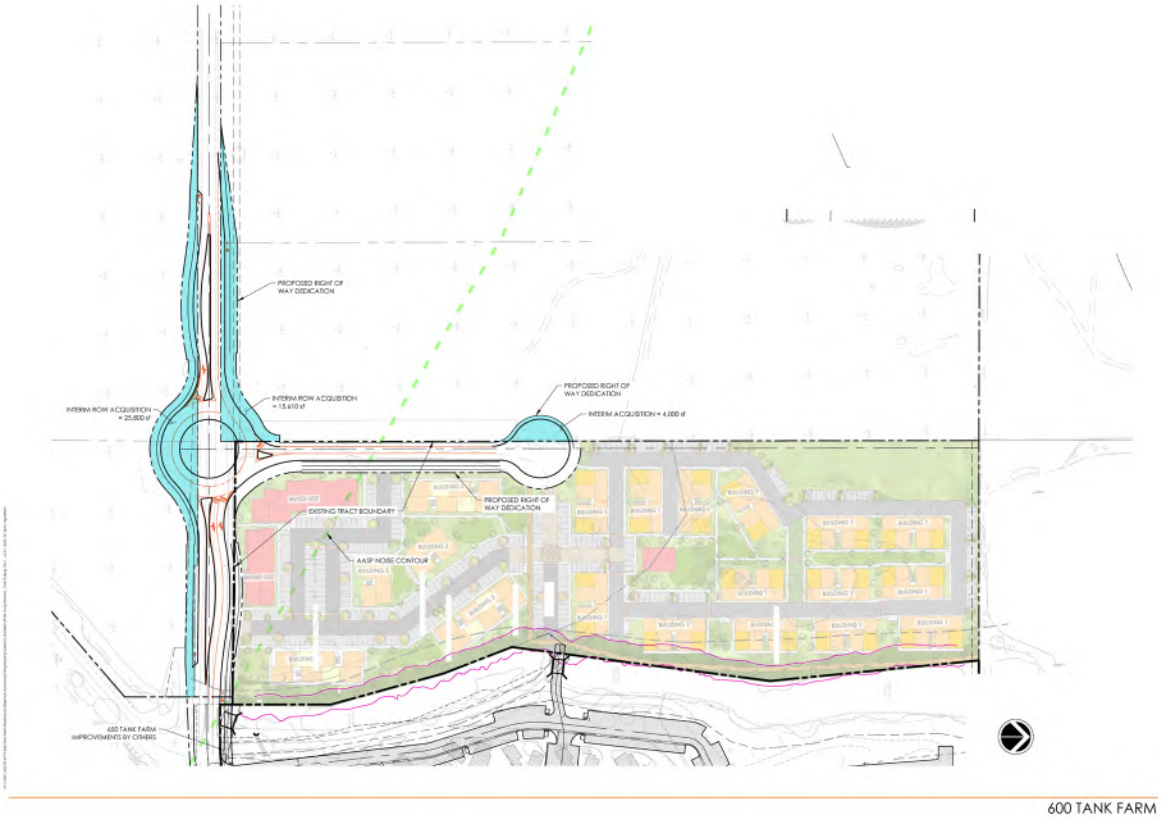

Figure 2: Site Plan

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and sub-surface soil conditions at the Site and to develop geotechnical information and design criteria. The scope of this study includes the following items:

1. A literature review of available published and unpublished geotechnical data pertinent to the project site including geologic maps, and available on-line or in-house aerial photographs.

2. A field study consisting of site reconnaissance and subsurface exploration including exploratory borings in order to formulate a description of the sub-surface conditions at the Site.

3. Laboratory testing performed on representative soil samples that were collected during our field study.

4. Engineering analysis of the data gathered during our literature review, field study, and laboratory testing.

5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for building foundations, retaining walls, pavement sections, underground utilities, and drainage facilities.

3.0 FIELD AND LABORATORY INVESTIGATION

The field investigation was conducted on February 12, 2020 using a track-mounted CME 55 drill rig. Four eight-inch diameter exploratory borings were advanced to a maximum depth of 40 feet below ground

surface (bgs) at the approximate locations indicated on Figure 3: Field Investigation. Sampling methods included the Standard Penetration Test utilizing a standard split-spoon sampler (SPT) without liners and a Modified California sampler (CA) with liners. The CME 55 drill rig was equipped with an automatic hammer, which has an efficiency of approximately 80 percent and was used to obtain test blow counts in the form of N-values.

Data gathered during the field investigation suggest that the soil materials at the Site consist of alluvial soil overlying competent formational material.

The surface material at the Site generally consisted of varying shades of brown sandy Fat CLAYs (CL) encountered in a dry to wet and stiff to very stiff condition at varying depths to 40 feet bgs. Groundwater was encountered in boring B-6 and B-7 at 14 feet bgs.

Regional site geology was obtained from United States Geological Survey MapView internet application (USGS, 2013) which compiles existing geologic maps. Figure 4: Regional Geologic Map presents the geologic conditions in site vicinity as mapped on the *Geologic Map of the Pismo Beach Quadrangle* (Dibblee, 1986).

The majority of all underlying soil material at the Site was interpreted as alluvial soil. The rock was mapped as serpentinite.

Figure 3: Field Investigation

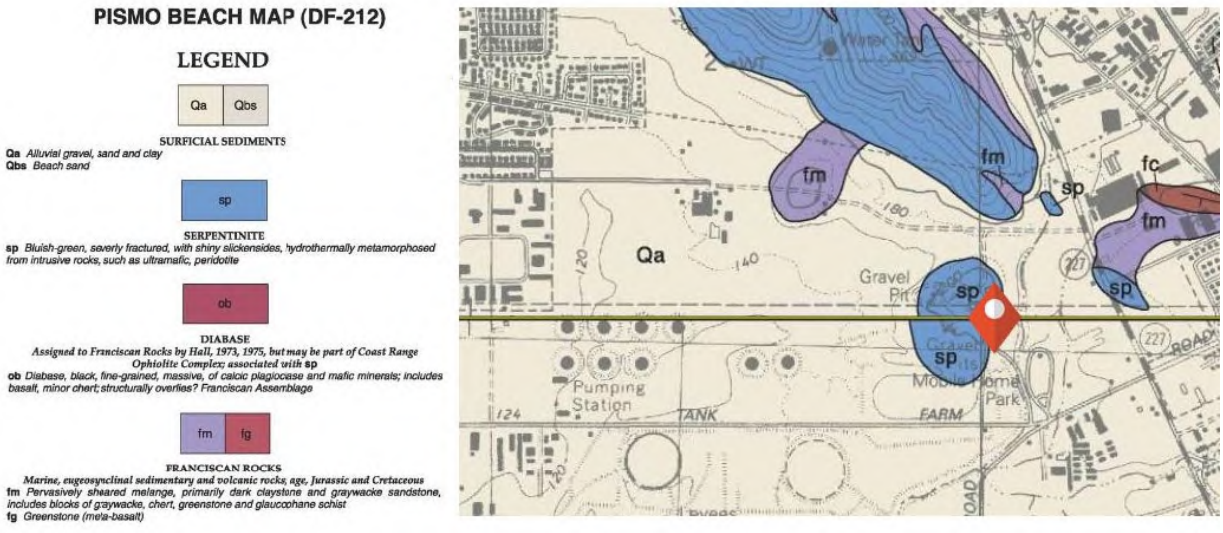

Figure 4: Regional Geologic Map

During the boring operations the soils encountered were continuously examined, visually classified, and sampled for general laboratory testing. A project engineer has reviewed a continuous log of the soils encountered at the time of field investigation. See **Appendix A** for the Boring Logs from the field investigation.

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. The results of these tests are listed below in Table 1: Engineering Properties. Laboratory data reports and detailed explanations of the laboratory tests performed during this investigation are provided in **Appendix B**.

Table 1: Engineering Properties

Sample Name	Sample Description	USCS Specification	Expansion Index	Expansion Potential	Maximum Dry Density, γ_d (pcf)	Optimum Moisture (%)	Angle of Internal Friction, ϕ (deg.)	Cohesion, c (psf)	Plasticity Index	Fines Content (%)	Compression Index, C_c	Recompression Index, C_r
A	Dark Brown Sandy Fat CLAY	CH	62	Medium	116.7	12.5	19.5º	298	38	62	-	-
B	Dark Olive Brown Sandy CLAY	CL	77	Medium	-	-	27.9	205	30	77	-	-
C	Dark Brown Sandy Fat CLAY	CH	85	Medium	-	-	-	-	40	85	-	-

4.0 SEISMIC DESIGN CONSIDERATIONS

Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the ASCE 7: Minimum Design Loads for Buildings and Other Structures, hereafter referred to as ASCE 7-16 (ASCE, 2016). The Site soil profile classification (Site Class) can be determined by the average soil properties in the upper 100 feet of the Site profile and the criteria provided in Table 20.3-1 of ASCE 7-16.

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

Site coordinates of 35.2249 degrees north latitude and -120.649 degrees east longitude were used in the web-based probabilistic seismic hazard analysis (SEAOC, 2019). Based on the results from the in-situ tests performed during the field investigation, the Site was defined as **Site Class C – Very Dense Soil & Soft Rock** profile per ASCE7-16, Chapter 20. Relevant seismic design parameters obtained from the program area summarized in Table 2: Seismic Design Parameters.

Table 2: Seismic Design Parameters

Site Class	**C – Very Dense Soil & Soft Rock**
Seismic Design Category	**D**
1-Second Period Design Spectral Response Acceleration, S_{D1}	**0.391g**
Short-Period Design Spectral Response Acceleration, S_{DS}	**0.849g**
Site Specific MCE Peak Ground Acceleration, PGA_M	**0.564g**

5.0 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction occurs when saturated cohesionless soils lose shear strength due to earthquake shaking. Ground motion from an earthquake may induce cyclic reversals of shear stresses of large amplitude. Lateral and vertical movement of the soil mass combined with the loss of bearing strength can result from this phenomenon. Liquefaction potential of soil deposits during earthquake activity depends on soil type, void ratio, groundwater conditions, the duration of shaking, and confining pressures on the potentially liquefiable soil unit. Fine, poorly graded loose sand, shallow groundwater, high intensity earthquakes, and long duration of ground shaking are the principal factors leading to liquefaction.

Based on the consistency and relative density of the in-situ soils the potential for seismic liquefaction of soils at the Site is low. Assuming that the recommendations of the Soils Engineering Report are implemented, the potential for seismically induced settlement and differential settlement at the Site is considered to be low.

6.0 GENERAL SOIL-FOUNDATION DISCUSSION

It is anticipated that a graded pads will be constructed for the majority of the mixed-use development with all foundations excavated into engineered fill.

Hard rock conditions exist in the rear of the site. In this area, depending on final building elevations and footprints, foundations range in conditions from entirely into shallow rock to 40 feet of alluvial deposits. It is expected drilled cast-in-place caissons will be required for buildings located in this area.

If cuts steeper than allowed by State of California Construction Safety Orders for “Excavations, Trenches, Earthwork” are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the project plans and specifications.

The primary geotechnical concerns at the Site are:

1. The potential of groundwater seepage. Soft and saturated conditions are expected adjacent to the creek

2. The presence of loose surface and subsurface soils.

3. The presence of shallow, hard bedrock materials. Difficult digging/excavation conditions are anticipated during construction.

4. The presence of expansive material. Influx of water from irrigation, leakage from the residence, or natural seepage could cause expansive soil problems. Foundations supported by expansive soils should be designed by a Structural Engineer in accordance with the 2019 California Building Code.

7.1 Preparation of Building Pad

1. It is anticipated that graded engineered fill pads will be developed for the buildings on the southern portion of the site with footings founded in engineered fill. It is anticipated that buildings on the northern portion will be supported on dilled cast-in-place caissons.

2. For the development of an engineered fill pad, the native material should be over-excavated at least 48 inches below existing grade, 24 inches below the bottom of the footings, to competent material, or to two-thirds the depth of the deepest fill (measured from the bottom of the deepest footing); whichever is greatest.

3. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines, or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3% over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material may then be processed as engineered fill. Onsite soil and rock material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and other particles.

4. Imported fill should meet the requirements of the grading plan. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials. Refer to Figure 6: Sub-Slab Detail for under-slab drainage material and **Appendix D** for more details on fill placement.

5. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5 percent slope) for a minimum distance of 10 feet measured perpendicular to the exterior of the structure per Section 1804.3 of the 2019 CBC.

6. If fill areas are constructed on slopes greater than 10-to-1 (horizontal-to-vertical), we recommend that benches be cut every four (vertical) feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of two percent gradient into the slope. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Sub-drains shall be placed in the keyway and benches as required. See **Appendix D**, Detail A, Key and Bench with Backdrain for details on key and bench construction.

7. The recommended soil moisture content should be maintained during construction and following construction of the proposed development. Where soil moisture content is not maintained, desiccation cracks may develop which indicate a loss of soil compaction, leading to the potential for damage to foundations, flatwork, pavements, and other improvements. Soils that have become cracked due to moisture loss should be removed sufficient depth to repair the cracked soil as observed by the soils engineer, and the removed materials should then be moisture conditioned to approximately 3 percent over optimum value, and compacted. (for expansive soil sites)

7.2 Preparation of Pool Area

1. It is anticipated that the proposed pool will be excavated into the existing soils and founded in uniform competent formational material.

2. Flatwork areas for the proposed pool should be prepared by excavating the existing soils to approximate sub-grade elevation or to competent material, whichever is greater. The exposed surface should then be scarified to a depth of 12 inches, moisture conditioned to near optimum moisture content and compacted to a minimum relative density of 90 percent, based on the ASTM D1557-12e1 test method.

7.3 Conventional Foundations

1. Conventional continuous and spread footings with grade beams may be used for support of the proposed structure(s), Buildings 1 and 2 and the commercial buildings. Isolated pad footings are not permitted. Foundations must be designed in accordance to section 1808.6, 2019 CBC, Foundations on Expansive Soils.

2. Minimum footing and grade beam sizes and depths in engineered fill should conform to the following table, as observed and approved by a representative of GeoSolutions, Inc.

Table 3: Minimum Footing and Grade Beam Recommendations

	Perimeter Footings	Grade Beams
Minimum Width	12 inches (one story) 15 inches (two story)	12 inches
Embedment Depth	30 inches	18 inches
Minimum Reinforcing*	6 #5 bars (3 top / 3 bottom)	4 #5 bars (2 top / 2 bottom)
Spacing	-	16 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		

3. Minimum reinforcing for footings should conform to the recommendations provided in Table 3: Minimum Footing and Grade Beam Recommendations which meets the specifications of Section 1808.6 of the 2019 California Building Code for the soil conditions at the Site. Reinforcing steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel in accordance with WRI Design of Slab-on-Ground Foundations, and ACI 318, Section 26.6.6 – Placing Reinforcement.

4. A representative of this firm should observe and approve all foundation excavations for required embedment depth prior to the placement of reinforcing steel and/or concrete. Concrete should be placed only in excavations that are free of loose, soft soil and debris and that have been lightly pre-moistened, with no associated testing required.

5. An allowable dead plus live load bearing pressure of **2,000 psf** may be used for the design of footings founded in engineered fill.

6. Allowable bearing capacities may be increased by one-third when transient loads such as wind and/or seismicity are included.

7. A total settlement of less than 1 inch and a differential settlement of less than 1 inch in 30 feet are anticipated.

8. Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the engineered fill or uniform competent formational material and the bottom of the footings. For resistance to lateral loads, a friction factor of **0.40** may be utilized for sliding resistance at the base of footings extending a minimum of 30 inches into engineered fill or uniform competent formational material. A passive pressure of **350-pcf** equivalent fluid weight may be used against the side of shallow footings in engineered fill or uniform competent formational material. If friction and passive pressures are combined to resist lateral forces acting on shallow footings, the lesser value should be reduced by 50 percent.

9. Foundation excavations should be observed and approved by a representative of this firm prior to the placement of reinforcing steel and/or concrete.

10. Foundation design should conform to the requirements of Chapter 18 of the latest edition of the CBC (CBSC, 2019).

11. The base of all grade beams and footings should be level and stepped as required to accommodate any change in grade while still maintaining the minimum required footing embedment and slope setback distance.

12. The minimum footing setback distance from ascending or descending slope steeper than 3-to-1 (horizontal-to-vertical) but less than 1-to-1 must be maintained. See Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 for the minimum horizontal setback distances from ascending and descending slopes steeper than 3-to-1 but not steeper than 1-to-1.

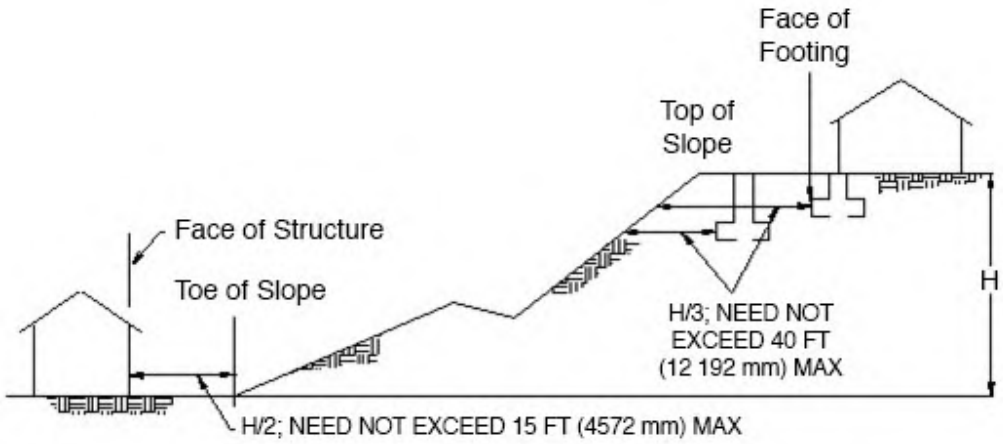

Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1

7.4 Slab-On-Grade Construction

1. Concrete slabs-on-grade and flatwork should not be placed directly on unprepared native materials. Preparation of sub-grade to receive concrete slabs-on-grade and flatwork should be processed as discussed in the preceding sections of this report. Concrete slabs should be placed only over sub-grade that is free of loose, soft soil and debris and that has been lightly pre-moistened, with no associated testing required. (that has been maintained in a moist condition with no desiccation cracks present). (for expansive soils)

2. Concrete slabs-on-grade should be in conformance with the recommendations provided in Table 4: Minimum Slab Recommendations. Reinforcing should be placed on-center both ways at or slightly above the center of the structural section. Reinforcing bars should

have a minimum clear cover of 1.5 inches. Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI Design of Slab-on-Ground Foundations, Steel Placement). The recommended reinforcement may be used for anticipated uniform floor loads not exceeding 200 psf. If floor loads greater than 200 psf are anticipated, a Structural Engineer should evaluate the slab design.

Table 4: Minimum Slab Recommendations

Minimum Thickness	5 inches
Reinforcing*	#4 bars at 16 inches on-center each way
* Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI/CSRI-81 recommendations for Steel Placement, Section 2).	

3. Concrete for all slabs should be placed at a maximum slump of less than 5 inches. Excessive water content is the major cause of concrete cracking. If fibers are used to aid in the control of cracking, a water-reducing admixture may be added to the concrete to increase slump while maintaining a water/cement ratio, which will limit excessive shrinkage. Control joints should be constructed as required to control cracking.

4. Where concrete slabs-on-grade are to be constructed for interior conditioned spaces, the slabs should be underlain by a minimum of four inches of clean free-draining material, such as a ¾ inch coarse aggregate mix, to serve as a cushion and a capillary break. Where moisture susceptible storage or floor coverings are anticipated, a 15-mil Stego Wrap membrane (or equivalent installed per manufacturer's specifications) should be placed between the free-draining material and the slab to minimize moisture condensation under the floor covering. See Figure 6: Sub-Slab Detail for the placement of under-slab drainage material. It is suggested, but not required, that a two-inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete, increasing the depth of the under-slab material to a total of six inches. The sand should be lightly moistened prior to placing concrete.

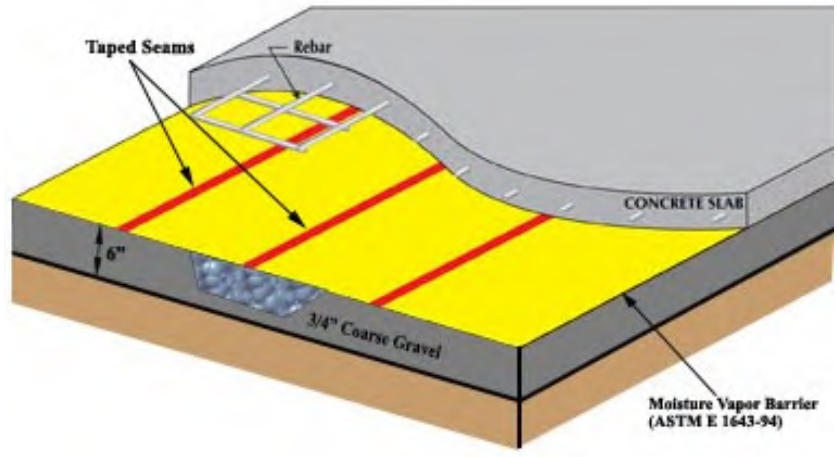

Figure 6: Sub-Slab Detail

5. It should be noted that for a vapor barrier installation to conform to manufacturer's specifications, sealing of penetrations, joints and edges of the vapor barrier membrane are typically required. As required by the California Building Code, joints in the vapor barrier should be lapped a minimum of 6 inches. If the installation is not performed in

accordance with the manufacturer's specifications, there is an increased potential for water vapor to affect the concrete slabs and floor coverings.

6. The most effective method of reducing the potential for moisture vapor transmission through concrete slabs-on-grade would be to place the concrete directly on the surface of the vapor barrier membrane. However, this method requires a concrete mix design specific to this application with low water-cement ratio in addition to special concrete finishing and curing practices, to minimize the potential for concrete cracks and surface defects. The contractor should be familiar with current techniques to finish slabs poured directly onto the vapor barrier membrane.

7. Moisture condensation under floor coverings has become critical due to the use of water-soluble adhesives. Therefore, it is suggested that moisture sensitive slabs not be constructed during inclement weather conditions.

7.5 Drilled Cast-in-Place Caissons

1. For Buildings spanning rock and soil deposits on the northern side drilled pier foundation systems should be used. The following pier design criteria should be incorporated:

2. Pier diameter: Minimum 24 inches.

3. Pier depth: Minimum 5 feet. Depths of 50 feet are possible adjacent to the creek.

4. Maximum allowable skin friction: 400 pounds per square foot (psf) for soil and 1000 pounds per square foot for rock. This value may be increased by 1/3 when considering seismic or wind loads.

5. Exclude the upper 2 feet of the pier shaft from pier load capacity computations. Refer to Figure 7: Caisson Detail.

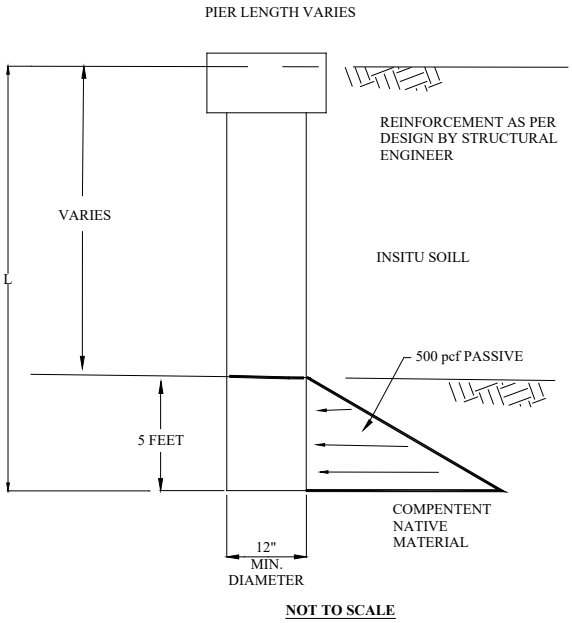

Figure 7: Caisson Detail

6. Minimum pier spacing: 3 pier diameters, center-to-center.

7. For a down sloping foreground condition, the lateral equivalent fluid pressures noted above should continue down the pier shaft to that depth necessary to achieve at least 10 horizontal feet to the nearest slope face, or to at least 2 feet below the bottom of the existing creek channel, where applicable. The lateral earth pressures should span over the tributary width between piers.

8. An equivalent fluid weight of 750 pounds per cubic foot acting on two times the pier diameter may be used to evaluate passive resistance in rock, starting below the depth required for lateral equivalent fluid pressure noted above. The passive pressure may be increased by 1/3 for transient loads such as wind or seismic.

9. Actual pier depths, spacing, and reinforcement should be determined by the wall designer, based on structural design considerations.

10. A 5-foot setback from the face of any slope should be maintained prior to utilizing lateral or frictional design values.

11. Caving and water intrusion are not anticipated to be a concern. If either occurs, the use of temporary casing may be required to facilitate construction. Casing and shaft diameters should be the same diameter. The casing should be progressively placed as drilling advances to design depth. If water intrusion is a problem, the concrete should be placed in the drilled holes prior to retrieving the temporary casing. The bottom of the casing should be maintained not less than 5 feet below the top of the concrete.

12. The Soils Engineer should be present at the Site during the caisson drilling and concrete placement operations to establish conformance with the design concepts, specification requirements, and to provide re-evaluation of these recommendations if site conditions vary from what is anticipated.

7.5 Exterior Concrete Flatwork

1. Due to the presence of expansive surface soils within the proposed development areas, there is a potential for considerable soil movement and distress to reinforced concrete flatwork if conventional measures are used, such as the placement of 4 to 6 inches of imported sand materials placed beneath concrete flatwork. Heaving and cracking are anticipated to occur. To reduce the potential for movement associated with expansive soils, we recommend the placement of a minimum of **24 inches of approved non-expansive import material placed as engineered fill beneath the flatwork**.

2. Minimum flatwork for conventional pedestrian areas should be a minimum of 4 inches thick and consist of No. 3 (#3) rebar spaced at 24 inches on-center each-way at or slightly above the center of the structural section.

3. Flatwork should be constructed with frequent joints to allow for movement due to fluctuations in temperature and moisture content in the adjacent soils. Flatwork at doorways, driveways, curbs and other areas where restraining the elevation of the flatwork is desired, should be doweled to the perimeter foundation by a minimum of No. 3 reinforcing steel dowels, spaced at a maximum distance of 24 inches on-center.

4. As an alternative, interlocking concrete pavers may be utilized for exterior improvements in lieu of reinforced concrete flatwork. Concrete pavers, when installed in accordance with manufacturers' recommendations and industry standards (ICPI), allow for a greater degree of soil movement as they are part of a flexible system. If interlocking concrete pavers are selected for use in the driveway area, the structural section should be underlain by a woven geotextile fabric, such as Mirafi 500x or equivalent, to function as a separation layer and to provide additional support for vehicle tire loads.

7.6 Retaining Walls

1. Retaining walls should be designed to resist lateral pressures from adjacent soils and surcharge loads applied behind the walls. We recommend using the lateral pressures presented in Table 5: Retaining Wall Design Parameters and Figure 8: Retaining Wall Detail for the design of retaining walls at the Site. The Active Case may be used for the design of unrestrained retaining walls, and the At-Rest Case may be used for the design of restrained retaining walls.

Table 5: Retaining Wall Design Parameters

Lateral Pressure and Condition	Equivalent Fluid Pressure, pcf
Static, Active Case, ($\gamma' K_A$)	45
Static, At-Rest Case, ($\gamma' K_O$)	65
Static, Passive Case, ($\gamma' K_P$)	350

2. The above values for equivalent fluid pressure are based on retaining walls having level retained surfaces, having an approximately vertical surface against the retained material, and retaining granular backfill material or engineered fill composed of native soil within the active wedge. See Figure 8: Retaining Wall Detail and Figure 9: Retaining Wall Active and Passive Wedges for a description of the location of the active wedge behind a retaining wall.

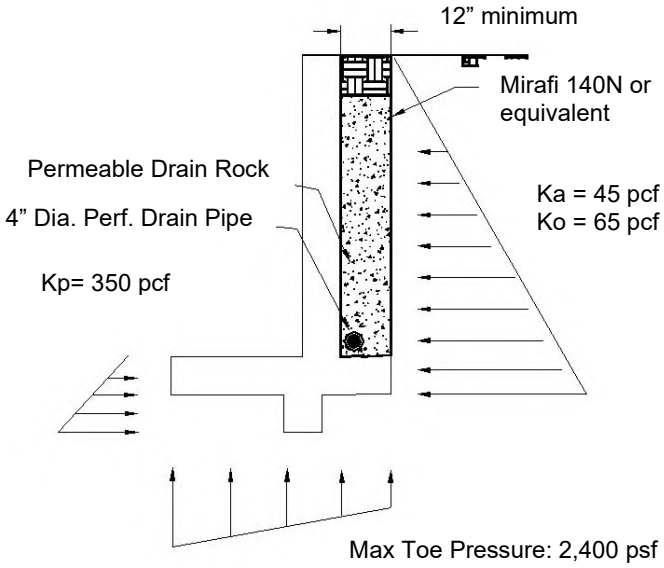

Figure 8: Retaining Wall Detail

3. Proposed retaining walls having a retained surface that slopes upward from the top of the wall should be designed for an additional equivalent fluid pressure of 1 pcf for the active case and 1.5 pcf for the at-rest case, for every degree of slope inclination.

4. We recommend that the proposed retaining walls at the Site have an approximately vertical surface against the retained material. If the proposed retaining walls are to have sloped surfaces against the retained material, the project designers should contact the Soils Engineer to determine the appropriate lateral earth pressure values for retaining walls located at the Site.

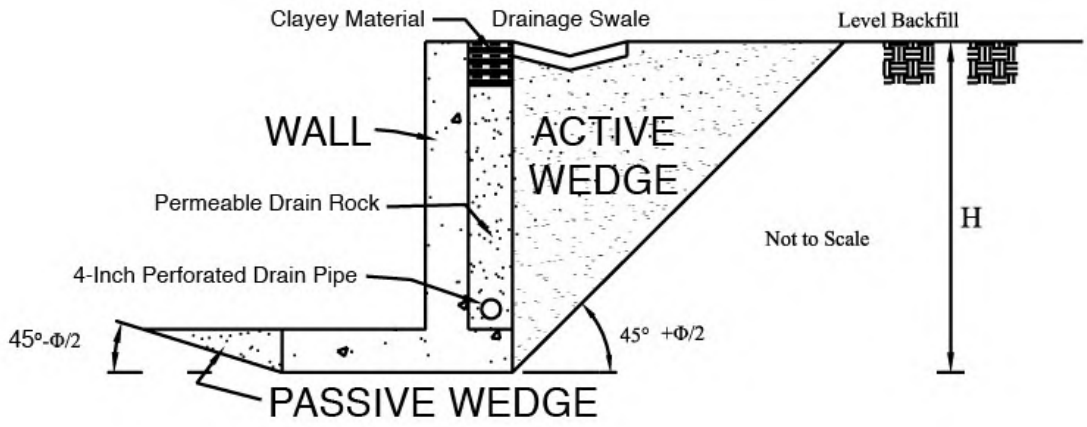

Figure 9: Retaining Wall Active and Passive Wedges

5. Retaining wall foundations should be founded a minimum of 30 inches below lowest adjacent grade in engineered fill as observed and approved by a representative of GeoSolutions, Inc. A coefficient of friction of **0.40** may be used between engineered fill and concrete footings. Project designers may use a maximum toe pressure of **2,400 psf** for the design of retaining wall footings founded in engineered fill.

6. For earthquake conditions, retaining walls greater than 6 feet in height should be designed to resist an additional seismic lateral soil pressure of **35 pcf** equivalent fluid pressure for unrestrained walls (active condition). The pressure resultant force from earthquake loading should be assumed to act a distance of $^1/_3H$ above the base of the retaining wall, where *H* is the height of the retaining wall. Seismic active lateral earth pressure values were determined using the simplified dynamic lateral force component (SEAOC 2010) utilizing the design peak ground acceleration, PGA_M, discussed in Section 4.0 (**PGA_M = 0.564g**). The dynamic increment in lateral earth pressure due to earthquakes should be considered during the design of retaining walls at the Site. Based on research presented by Dr. Marshall Lew (Lew et al., 2010), lateral pressures associated with seismic forces should not be applied to restrained walls (at-rest condition).

7. Seismically induced forces on retaining walls are considered to be short-term loadings. Therefore, when performing seismic analyses for the design of retaining wall footings, we recommend that the allowable bearing pressure and the passive pressure acting against the sides of retaining wall footings be increased by a factor of one-third.

8. In addition to the static lateral soil pressure values reported in Table 5: Retaining Wall Design Parameters, the retaining walls at the Site should be designed to support any design live load, such as from vehicle and construction surcharges, etc., to be supported by the wall backfill. If construction vehicles are required to operate within 10 feet of a retaining wall, supplemental pressures will be induced and should be taken into account in the design of the retaining wall.

9. The recommended lateral earth pressure values are based on the assumption that sufficient sub-surface drainage will be provided behind the walls to prevent the build-up of hydrostatic pressure. To achieve this we recommend that a granular filter material be placed behind all proposed walls. The blanket of granular filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to 12 inches from the ground surface. The top 12 inches should consist of moisture conditioned,

compacted, clayey soil. Neither spread nor wall footings should be founded in the granular filter material used as backfill.

10. A 4-inch diameter perforated or slotted drainpipe (ASTM D1785 PVC) should be installed near the bottom of the filter blanket with perforations facing down. The drainpipe should be underlain by at least 4 inches of filter type material and should daylight to discharge in suitably projected outlets with adequate gradients. The filter material should consist of a clean free-draining aggregate, such as a coarse aggregate mix. If the retaining wall is part of a structural foundation, the drainpipe must be placed below finished slab sub-grade elevation.

11. The filter material should be encapsulated in a permeable geotextile fabric. A suitable permeable geotextile fabric, such as non-woven needle-punched Mirafi 140N or equal, may be utilized to encapsulate the retaining wall drain material and should conform to Caltrans Standard Specification 88-1.03 for underdrains.

12. For hydrostatic loading conditions (i.e. no free drainage behind retaining wall), an additional loading of 45-pcf equivalent fluid weight should be added to the active and at-rest lateral earth pressures. If it is necessary to design retaining structures for submerged conditions, the allowed bearing and passive pressures should be reduced by 50 percent. In addition, soil friction beneath the base of the foundations should be neglected.

13. Precautions should be taken to ensure that heavy compaction equipment is not used adjacent to walls, so as to prevent undue pressure against, and movement of the walls.

14. The use of water-stops/impermeable barriers should be used for any basement construction, and for building walls that retain earth. Damproofing and waterproofing shall meet the minimum standards of Section 1805 of the 2019 California Building Code.

7.7 Preparation of Paved Areas

1. Pavement areas should be excavated 12 inches below sub-grade elevation (Class II Base course) or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 12 inches, moisture conditioned to slightly above optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12 test method).

2. The top 12 inches of sub-grade soil under all pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum.

3. Sub-grade soils should not be allowed to dry out or have excessive construction traffic between moisture conditioning and compaction, and placement of the pavement structural section.

7.8 Pavement Design

1. All paving construction and materials used should conform to applicable sections of the latest edition of the State of California Department of Transportation Standard Specifications.

2. As indicated previously, the top 12 inches of sub-grade soil under asphaltic concrete pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum moisture content. Aggregate bases and sub-bases should also be compacted to a minimum relative density of 95 percent based on the aforementioned test method.

3. The following table provides the recommended Hot Mix Asphalt (HMA) pavement sections based on an assumed **R-Value of 6**.

4. All pavement sections should be crowned for good drainage. All pavement construction and materials used should conform to Sections 25, 26 and 39 of the latest edition of the State of California Department of Transportation Standard Specifications.

5. The structural section with Type 2 biaxial geogrid was determined in accordance with the referenced design guide prepared by the California Department of Transportation, which allows for sub-grade improvement with geogrid when the sub-grade R-Value is below a value of 25. When geogrid that conforms to the minimum property requirements of sub-grade enhancement per the referenced guide is utilized, a design R-value of 25 may be utilized for design of the structural section. This results in a decrease in thickness of the required aggregate base material see Table 6: Recommended Pavement Structural Sections.

Table 6: Recommended Pavement Structural Sections

Traffic Index	Street Section Thickness in Inches	
	HMA	AB
5.0	2.00	12.00
5.5	2.00	13.75
6.0	3.00	13.50
6.5	3.00	15.50
7.0	3.00	17.25
7.5	3.25	18.50
8.0	4.00	19.00
8.5	4.00	21.00
9.0	5.00	21.00
9.5	5.00	23.00
10.0	6.00	24.00
Traffic Index (T.I.)	**Type 2 Geogrid Reinforced Section**	
	HMA	**AB**
10.0 (Tank Farm Road)	6.0 inches	16.5 inches

HMA = Hot Mix Asphalt meeting Caltrans Specification HMA Type A ½ inch mix
AB = Aggregate Base meeting Caltrans Specification for Class 2 aggregate base (R-Value = 78 Min)

8.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by the City of San Luis Obispo, the 2019 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

1. Consultation during plan development.

2. Plan review of grading and foundation documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.

3. Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.

4. Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.

5. Preparation of construction reports certifying that building pad preparation and foundation excavations are in conformance with our geotechnical recommendations.

6. Preparation of special inspection reports as required during construction.

7. In addition to the construction inspections listed above, section 1705.6 of the 2019 CBC (CBSC, 2019) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 7: Required Special Inspections and Tests of Soils:

Table 7: Required Special Inspections and Tests of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

9.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. should be notified immediately and GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.

2. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and incorporated into the project plans and specifications. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Therefore, this report should not be relied upon after a period of 3 years without our review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render sections of this report invalid in less than 3 years.

REFERENCES

REFERENCES

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APPENDIX A

Field Investigation

Soil Classification Chart

Boring Logs (GeoSolutions, Inc., 2012)

Boring Logs

FIELD INVESTIGATION

The field investigation was conducted February 12, 2020 using a track-mounted CME 55 drill rig. The surface and sub-surface conditions were studied by advancing four exploratory borings. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

The CME 55 drill rig with an eight-inch diameter solid-stem continuous flight auger advanced four exploratory borings near the approximate locations indicated on Figure 3: Field Investigation. The drilling and field observation were performed under the direction of the project engineer. A representative of GeoSolutions, Inc. maintained a log of the soil conditions and obtained soil samples suitable for laboratory testing. The soils were classified in accordance with the Unified Soil Classification System. See the Soil Classification Chart in this appendix.

Standard Penetration Tests with a two-inch outside diameter standard split tube sampler (SPT) without liners (ASTM D1586) and a three-inch outside diameter Modified California (CA) split tube sampler with liners (ASTM D3550) were performed to obtain field indication of the in-situ density of the soil and to allow visual observation of at least a portion of the soil column. Soil samples obtained with the split spoon sampler are retained for further observation and testing. The split spoon samples are driven by a 140-pound hammer free falling 30 inches. The sampler is initially seated six inches to penetrate any loose cuttings and is then driven an additional 12 inches with the results recorded in the boring logs as N-values, which area the number of blows per foot required to advance the sample the final 12 inches.

The CA sampler is a larger diameter sampler than the standard (SPT) sampler with a two-inch outside diameter and provides additional material for normal geotechnical testing such as in-situ shear and consolidation testing. Either sampler may be used in the field investigation, but the N-values obtained from using the CA sampler will be greater than that of the SPT. The N-values for samples collected using the CA can be roughly correlated to SPT N-values using a conversion factor that may vary from about 0.5 to 0.7. A commonly used conversion factor is 0.67 ($^2/_3$). More information about standardized samplers can be found in ASTM D1586 and ASTM D3550.

Disturbed bulk samples are obtained from cuttings developed during boring operations. The bulk samples are selected for classification and testing purposes and may represent a mixture of soils within the noted depths. Recovered samples are placed in transport containers and returned to the laboratory for further classification and testing.

Logs of the borings showing the approximate depths and descriptions of the encountered soils, applicable geologic structures, recorded N-values, and the results of laboratory tests are presented in this appendix. The logs represent the interpretation of field logs and field tests as well as the interpolation of soil conditions between samples. The results of laboratory observations and tests are also included in the boring logs. The stratification lines recorded in the boring logs represent the approximate boundaries between the surface soil types. However, the actual transition between soil types may be gradual or varied.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		LABORATORY CLASSIFICATION CRITERIA		GROUP SYMBOLS	PRIMARY DIVISIONS
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retainined on No. 4 (4.75mm) sieve	Clean gravels (less than 5% fines*)	C_u greater than 4 and C_z between 1 and 3	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			Not meeting both criteria for GW	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	GM	Silty gravels, gravel-sand-silt mixtures
			Atterberg limits plot below "A" line and plasticity index greater than 7	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 (4.75mm) sieve	Clean sand (less than 5% fines*)	C_u greater than 6 and C_z between 1 and 3	SW	Well graded sands, gravely sands, little or no fines
			Not meeting both criteria for SW	SP	Poorly graded sands and gravelly and sands, little or no fines
		Sand with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	SM	Silty sands, sand-silt mixtures
			Atterberg limits plot above "A" line and plasticity index greater than 7	SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS AND CLAYS (liquid limit less than 50)	Inorganic soil	PI < 4 or plots below "A"-line	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		Inorganic soil	PI > 7 and plots on or above "A" line**	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit 50 or more)	Inorganic soil	Plots below "A" line	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		Inorganic soil	Plots on or above "A" line	CH	Inorganic clays of high plasticity, fat clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OH	Organic silts and organic clays of high plasticity
Peat	Highly Organic	Primarily organic matter, dark in color, and organic odor		PT	Peat, muck and other highly organic soils

*Fines are those soil particles that pass the No. 200 sieve. For gravels and sands with between 5 and 12% fines, use of dual symbols is required (I.e. GW-GM, GW-GC, GP-GM, or GP-GC).

**If the plasticity index is between 4 and 7 and it plots above the "A" line, then dual symbols (I.e. CL-ML) are required.

the "A" line, then dual symbols (I.e. CL-ML) are required.

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH TON/SQ. FT ++	BLOWS/ FOOT +
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	Over 4	Over 32

RELATIVE DENSITY

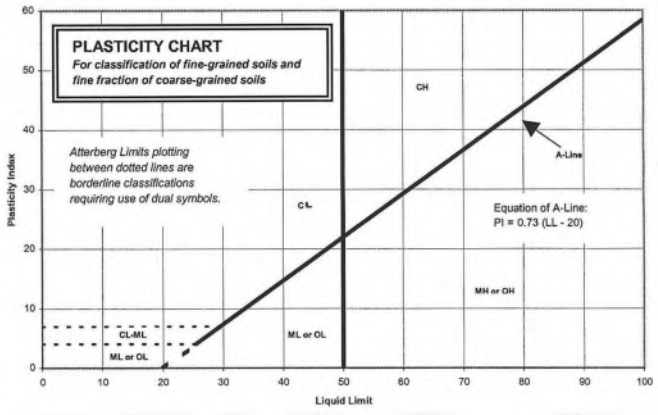
SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/ FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50

+ Number of blows of a 140-pound hammer falling 30-inches to drive a 2-inch O.D. (1-3/8-inch I.D.) split spoon (ASTM D1586).

++ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D1586), pocket penetrometer, torvane, or visual observation.

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

Less than 5%, Pass No. 200 (75mm)sieve)	GW, GP, SW, SP
More than 12% Pass N. 200 (75 mm) sieve	GM, GC, SM, SC
5%-12% Pass No. 200 (75 mm) sieve	Borderline Classification requiring use of dual symbols



Drilling Notes:

1. Sampling and blow counts
   a. California Modified – number of blows per foot of a 140 pound hammer falling 30 inches
   b. Standard Penetration Test – number of blows per 12 inches of a 140 pound hammer falling 30 inches

Types of Samples:
X – Sample
SPT - Standard Penetration
CA - California Modified
N - Nuclear Gauge
PO – Pocket Penetrometer (tons/sq.ft.)

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Santa Maria, CA 93454

BORING LOG

BORING NO. **B-1**

JOB NO. **SL08082-1**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 2, Site Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**July 20, 2012**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**JAP**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **15.0 Feet** Boring Terminated At: **25.0 Feet** Page 1 of 5

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	SAMPLE	BLOWS/ 12 IN	$(N_1)_{60}$	FRICTION ANGLE, (degrees)	COHESION, C (psf)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	EXPANSION INDEX (EI)	FINES CONTENT (%)	PLASTICITY INDEX (PI)
0	SANDY FAT CLAY: dark brown, slightly moist	CH		A			19.5	298	12.5	116.7	62		38
-4	SANDY CLAY: dark olive brown, slightly moist, very stiff	CL		B							77		30
				X	21								
-10				X	22								
-12	very stiff												
-14	SANDY CLAY: light brown, with gravel, saturated, stiff	CL		X	15								
-19	stiff			X	11								
-24	SANDY CLAY: brown, dry, hard	CL		X	50/5"								
-27													

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BORING LOG

BORING NO. **B-2**

JOB NO. **SL08082-1**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 2, Site Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**July 20, 2012**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**JAP**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **Not Encountered** Boring Terminated At: **10.0 Feet**

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	SAMPLE	BLOWS/ 12 IN	$(N_1)_{60}$	FRICTION ANGLE, (degrees)	COHESION, C (psf)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	EXPANSION INDEX (EI)	FINES CONTENT (%)	PLASTICITY INDEX (PI)
0	SANDY FAT CLAY: dark brown, with gravel, slightly moist	CH											
-5	hard			X	33								
-7	SILTY CLAY: light brown, with gravel, very dense	ML											
-10				X	50/6"								
-27													

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BORING LOG

BORING NO. **B-3**

JOB NO. **SL08082-1**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 2, Site Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**July 20, 2012**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**JAP**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **Not Encountered** Boring Terminated At: **10.0 Feet**

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	SAMPLE	BLOWS/ 12 IN	$(N_1)_{60}$	FRICTION ANGLE, (degrees)	COHESION, C (psf)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	EXPANSION INDEX (EI)	FINES CONTENT (%)	PLASTICITY INDEX (PI)
0	SANDY FAT CLAY: dark brown, with gravel, slightly moist	CH		C							85		40
-5	very stiff			X	27								
-9	SANDY CLAY: brown, dry	ML		X	25								

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BORING LOG

BORING NO. **B-4**

JOB NO. **SL08082-1**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 2, Site Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**July 20, 2012**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**JAP**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **Not Encountered** Boring Terminated At: **5.0 Feet**

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	SAMPLE	BLOWS/ 12 IN	$(N_1)_{60}$	FRICTION ANGLE, (degrees)	COHESION, C (psf)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	EXPANSION INDEX (EI)	FINES CONTENT (%)	PLASTICITY INDEX (PI)
0	SANDY FAT CLAY: dark brown, with gravel, slightly moist	CH											
-1													
-2	SANDY CLAY: brown to light gray, dry, hard	ML											
-3													
-4													
-5				X	50/5"								
-6													
-7													
-8													
-9													
-10													
-11													
-12													
-13													
-14													
-15													
-16													
-17													
-18													
-19													
-20													
-21													
-22													
-23													
-24													
-25													
-26													
-27													

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BORING LOG

BORING NO. **B-5**

JOB NO. **SL08082-1**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 2, Site Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**July 20, 2012**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**JAP**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **Not Encountered** Boring Terminated At: **5.0 Feet**

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	SAMPLE	BLOWS/ 12 IN	$(N_1)_{60}$	FRICTION ANGLE, (degrees)	COHESION, C (psf)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	EXPANSION INDEX (EI)	FINES CONTENT (%)	PLASTICITY INDEX (PI)
0	SILTY CLAY: light brown, with gravel, dry	ML											
-1													
-2	SILTY CLAY: light brown to light gray, dry to slightly moist	ML											
-3													
-4													
-5				X	50/5"								
-6													
-7													
-8													
-9													
-10													
-11													
-12													
-13													
-14													
-15													
-16													
-17													
-18													
-19													
-20													
-21													
-22													
-23													
-24													
-25													
-26													
-27													

GEO SOLUTIONS
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Phone: 805-966-2200

BORING LOG

BORING NO. B-6
JOB NO. SL08082-4

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 & Parcel 6 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**8 inches**
DATE DRILLED:	**February 12, 2020**	SAMPLING METHOD:	**SPT & CA**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **14 feet** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0			DECOMPOSED GRANITE (DG)												
1		CH	SANDY FAT CLAY: dark brown, slightly moist	A						38	62	12.5	116.7	298	19.5
2															
3			moist												
4				CA		41									
5		CL	SANDY CLAY: dark olive brown, slightly moist	B						30	77				
6															
7															
8															
9				SPT		29									
10		SC	CLAYEY SAND: dark olive brown, slightly moist												
11															
12															
13															
14	▼		very moist	SPT		11									
15															
16															
17															
18															
19															
20															

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BORING LOG

BORING NO. B-7
JOB NO. SL08082-4

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 & Parcel 6 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**8 inches**
DATE DRILLED:	**February 12, 2020**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **14 feet** Boring Terminated At: **40 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–3		CH	DECOMPOSED GRANITE (DG) SANDY FAT CLAY: dark brown, moist												
4–13		CL	SANDY CLAY: dark olive brown, slightly moist gravels very moist	SPT SPT SPT		16 35 13									
14–28		SC	CLAYEY SAND: dark olive brown, very moist	SPT		14									
29–38		CL	SANDY CLAY: dark yellowish brown, slightly moist	SPT		13									
39–40			SERPENTINE	SPT		50/5"									

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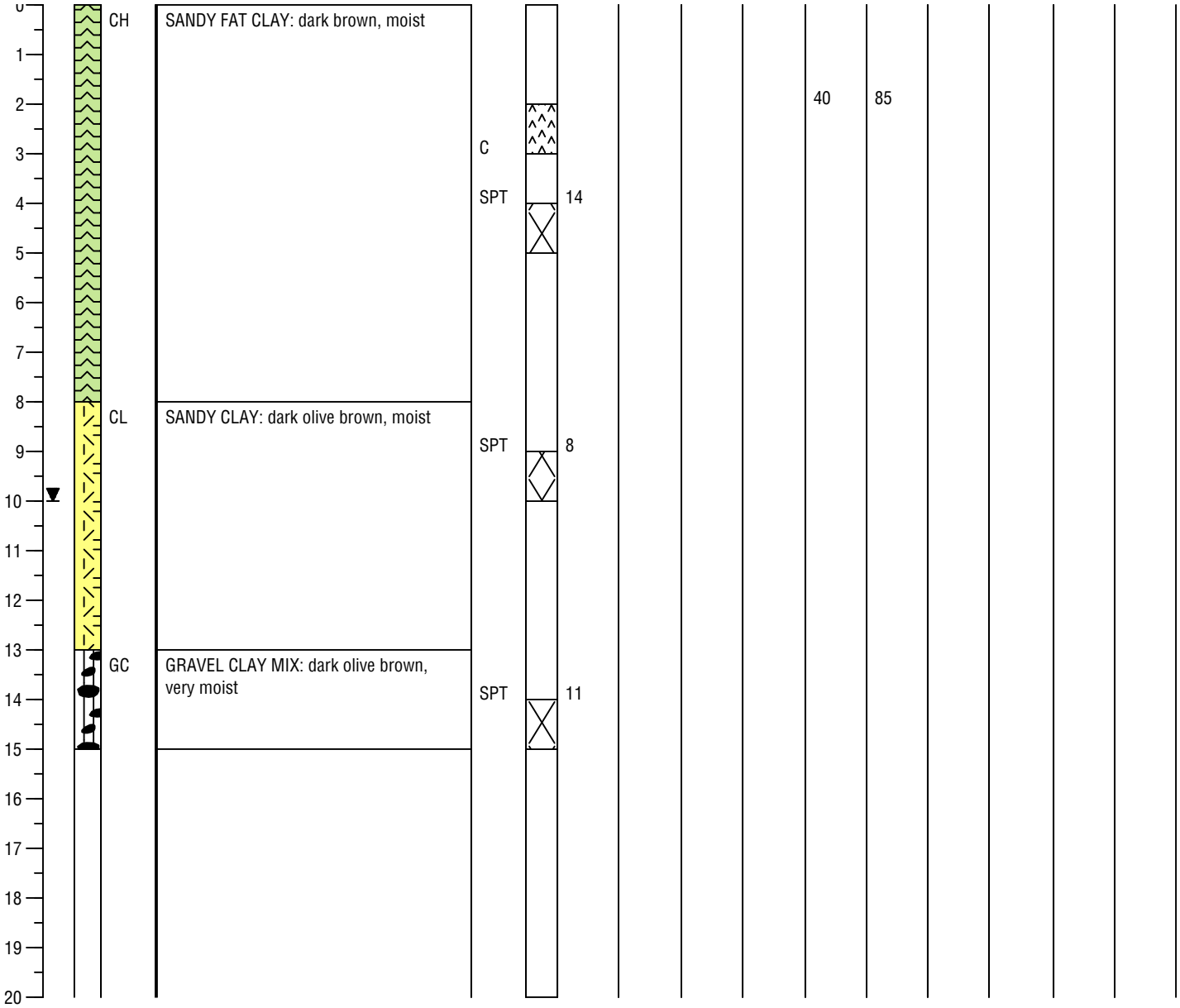
BORING LOG

BORING NO. B-8
JOB NO. SL08082-4

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 & Parcel 6 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**8 inches**
DATE DRILLED:	**February 12, 2020**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **10 feet** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–8		CH	SANDY FAT CLAY: dark brown, moist	C						40	85				
3				SPT		14									
8–13		CL	SANDY CLAY: dark olive brown, moist	SPT		8									
13–15		GC	GRAVEL CLAY MIX: dark olive brown, very moist	SPT		11									



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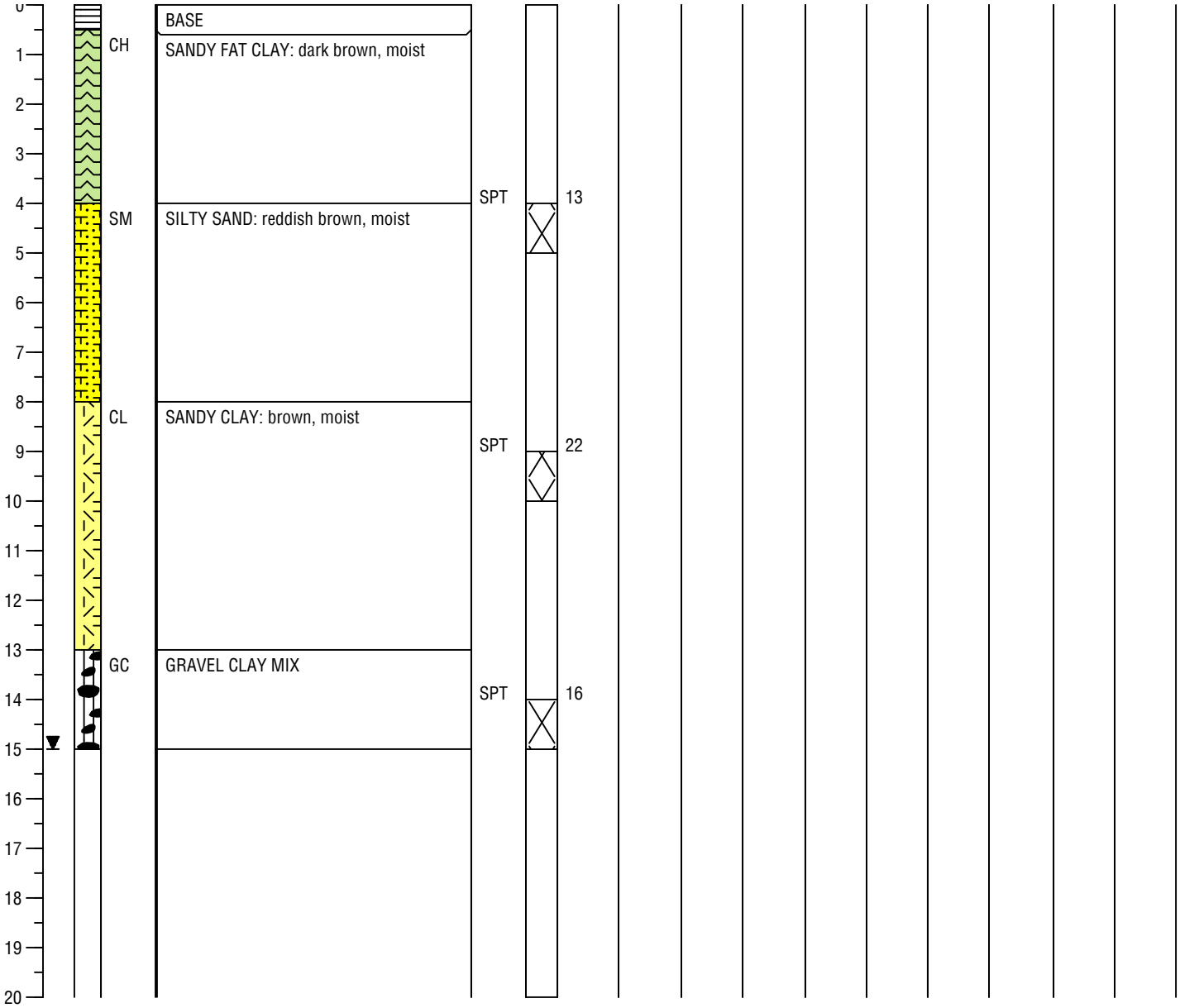
BORING LOG

BORING NO. B-9
JOB NO. SL08082-4

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**600 & Parcel 6 Tank Farm Road**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**8 inches**
DATE DRILLED:	**February 12, 2020**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **15 feet** Boring Terminated At: **15 feet**



APPENDIX B

Laboratory Testing

Soil Test Reports (GeoSolutions, Inc., 2012)

LABORATORY TESTING

This appendix includes a discussion of the test procedures and the laboratory test results performed as part of this investigation. The purpose of the laboratory testing is to assess the engineering properties of the soil materials at the Site. The laboratory tests are performed using the currently accepted test methods, when applicable, of the American Society for Testing and Materials (ASTM).

Undisturbed and disturbed bulk samples used in the laboratory tests are obtained from various locations during the course of the field exploration, as discussed in **Appendix A** of this report. Each sample is identified by sample letter and depth. The Unified Soils Classification System is used to classify soils according to their engineering properties. The various laboratory tests performed are described below:

Expansion Index of Soils (ASTM D4829) is conducted in accordance with the ASTM test method and the California Building Code Standard, and are performed on representative bulk and undisturbed soil samples. The purpose of this test is to evaluate expansion potential of the site soils due to fluctuations in moisture content. The sample specimens are placed in a consolidometer, surcharged under a 144-psf vertical confining pressure, and then inundated with water. The amount of expansion is recorded over a 24-hour period with a dial indicator. The expansion index is calculated by determining the difference between final and initial height of the specimen divided by the initial height.

Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557) is performed to determine the relationship between the moisture content and density of soils and soil-aggregate mixtures when compacted in a standard size mold with a 10-lbf hammer from a height of 18 inches. The test is performed on a representative bulk sample of bearing soil near the estimated footing depth. The procedure is repeated on the same soil sample at various moisture contents sufficient to establish a relationship between the maximum dry unit weight and the optimum water content for the soil. The data, when plotted, represents a curvilinear relationship known as the moisture density relations curve. The values of optimum water content and modified maximum dry unit weight can be determined from the plotted curve.

Liquid Limit, Plastic Limit, and Plasticity Index of Soils (ASTM D4318) are the water contents at certain limiting or critical stages in cohesive soil behavior. The liquid limit (LL or W_L) is the lower limit of viscous flow, the plastic limit (PL or W_P) is the lower limit of the plastic stage of clay and plastic index (PI or I_P) is a range of water content where the soil is plastic. The Atterberg Limits are performed on samples that have been screened to remove any material retained on a No. 40 sieve. The liquid limit is determined by performing trials in which a portion of the sample is spread in a brass cup, divided in two by a grooving tool, and then allowed to flow together from the shocks caused by repeatedly dropping the cup in a standard mechanical device. To determine the Plastic Limit a small portion of plastic soil is alternately pressed together and rolled into a 1/8-inch diameter thread. This process is continued until the water content of the sample is reduced to a point at which the thread crumbles and can no longer be pressed together and re-rolled. The water content of the soil at this point is reported as the plastic limit. The plasticity index is calculated as the difference between the liquid limit and the plastic limit.

Direct Shear Tests of Soils Under Consolidated Drained Conditions (ASTM D3080) is performed on undisturbed and remolded samples representative of the foundation material. The samples are loaded with a predetermined normal stress and submerged in water until saturation is achieved. The samples are then sheared horizontally at a controlled strain rate allowing partial drainage. The shear stress on the sample is recorded at regular strain intervals. This test determines the resistance to deformation, which is shear strength, inter-particle attraction or cohesion c, and resistance to interparticle slip called the angle of internal friction ϕ.

GeoSolutions, Inc. | **SOILS REPORT** | **(805) 543-8539**

Project:	600 Tank Farm Road	Date Tested:	July 31, 2012
Client:		Project #:	SL08082-1
Sample:	A Depth: 1.0 ft.	Lab #:	14990
Location:	B-1	Sample Date:	July 20, 2012
		Sampled By:	PM

Soil Classification
ASTM D2487-06, D2488-06

Result: Dark Brown Sandy Fat CLAY

Specification: CH

Sieve Analysis
ASTM D422-63R02

Sieve Size	Percent Passing	Project Specifications
3"		
2"		
1 1/2"		
1"		
3/4"		
No. 4		
No. 8		
No. 16		
No. 30		
No. 50		
No. 100		
No. 200		

Sand Equivalent Cal 217 (11/1999)

1		SE
2		
3		
4		

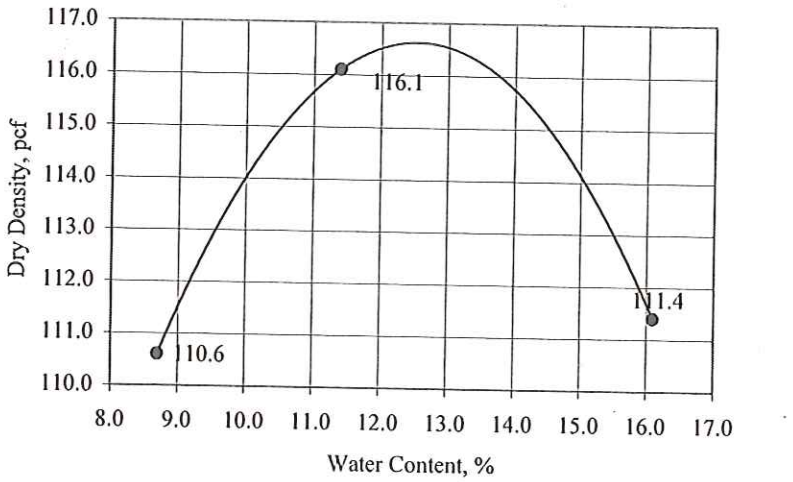
Plasticity Index
ASTM D4318-05

Liquid Limit:	54
Plastic Limit:	16
Plasticity Index:	38

Expansion Index
ASTM D4829-08

Expansion Index:	62
Expansion Potential:	Medium
Initial Saturation, %:	50

Laboratory Maximum Density
ASTM D1557-07



Mold ID	n/a	Mold Diameter, ins.	4.00
No. of Layers	5	Weight of Rammer, lbs.	10.00
No. of Blows	25		

Estimated Specific Gravity for 100% Saturation Curve = 2.55

Trial #	1	2	3	4
Water Content:	8.7	11.4	16.1	
Dry Density:	110.6	116.1	111.4	
Maximum Dry Density, pcf:		116.7		
Optimum Water Content, %:		12.5		

Moisture-Density ASTM D2937-04, **Moisture Content** ASTM D2216-05

Sample	Depth (ft)	Water Content (%)	Dry Density (pcf)	Relative Density	Sample Description

Report By: Aaron Eichman

GeoSolutions, Inc. | **SOILS REPORT** | **(805) 543-8539**

Project:	600 Tank Farm Road	Date Tested:	August 2, 2012
Client:		Project #:	SL08082-1
Sample:	B Depth: 4.0 ft.	Lab #:	14990
Location:	B-1	Sample Date:	July 20, 2012
		Sampled By:	PM

Soil Classification
ASTM D2487-06, D2488-06

Result: Dark Olive Brown Sandy CLAY

Specification: CL

Sieve Analysis
ASTM D422-63R02

Sieve Size	Percent Passing	Project Specifications
3"		
2"		
1 1/2"		
1"		
3/4"		
No. 4		
No. 8		
No. 16		
No. 30		
No. 50		
No. 100		
No. 200		

Sand Equivalent Cal 217 (11/1999)

1		SE
2		
3		
4		

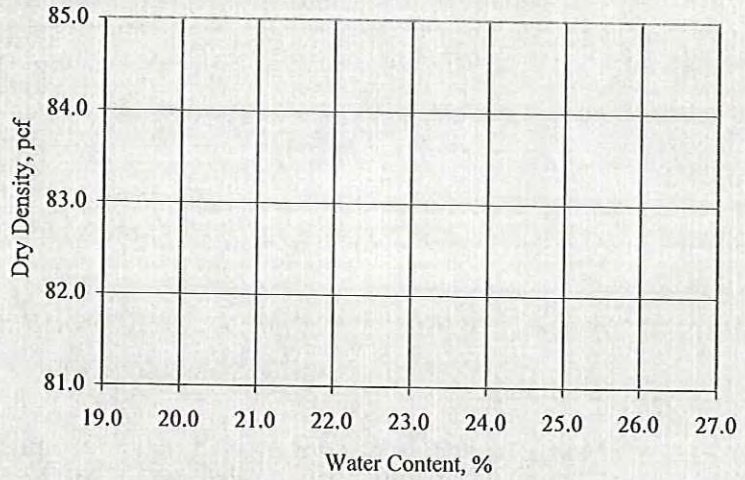
Plasticity Index
ASTM D4318-05

Liquid Limit:	42
Plastic Limit:	12
Plasticity Index:	30

Expansion Index
ASTM D4829-08

Expansion Index:	77
Expansion Potential:	Medium
Initial Saturation, %:	50

Laboratory Maximum Density
ASTM D1557-07



Mold ID	n/a	Mold Diameter, ins.	4.00
No. of Layers	5	Weight of Rammer, lbs.	10.00
No. of Blows	25		

Estimated Specific Gravity for 100% Saturation Curve =

Trial #	1	2	3	4
Water Content:				
Dry Density:				
Maximum Dry Density, pcf:				
Optimum Water Content, %:				

Moisture-Density ASTM D2937-04, **Moisture Content** ASTM D2216-05

Sample	Depth (ft)	Water Content (%)	Dry Density (pcf)	Relative Density	Sample Description

Report By: Aaron Eichman

GeoSolutions, Inc.

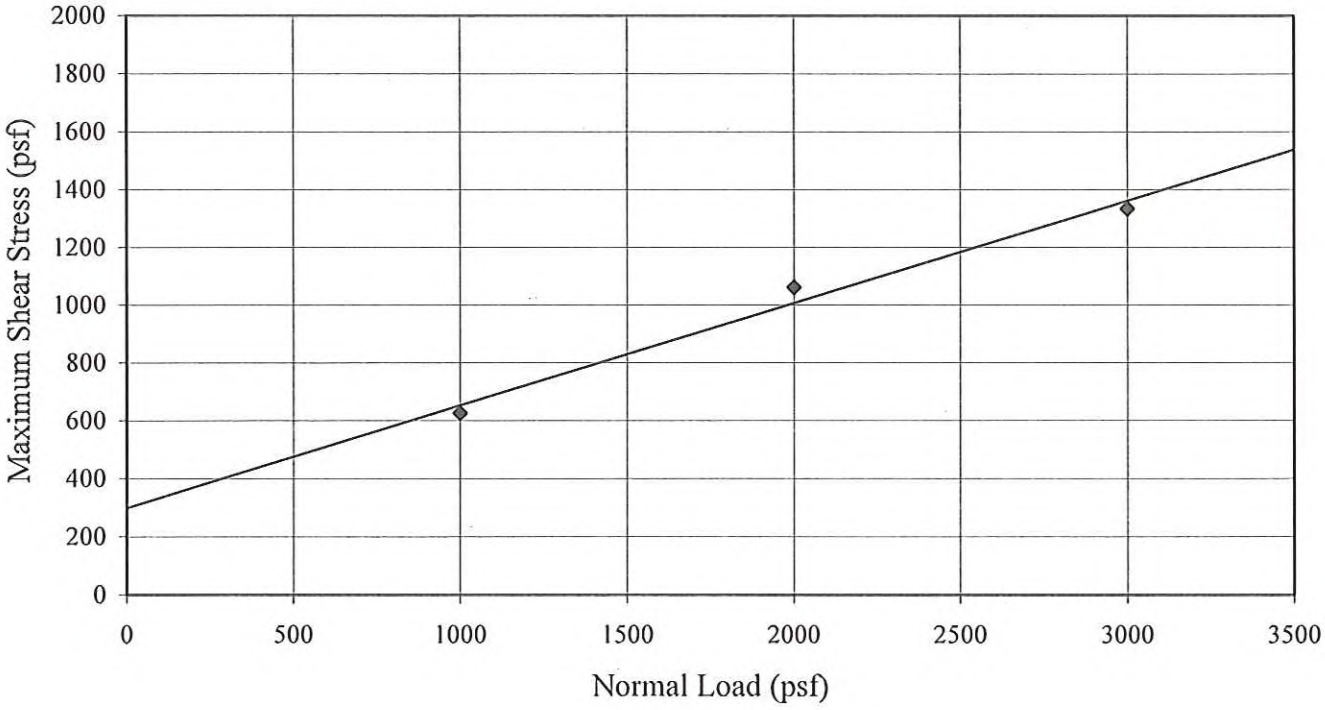
DIRECT SHEAR TEST REPORT
D3080-04

(805) 543-8539

Project:	600 Tank Farm Road	Date Tested:	August 7, 2012
Client:		Project #:	SL08082-1
Sample #:	A Depth: 1.0 ft.	Lab #:	14990
Location:	B-1	Sample Date:	July 20, 2012
Material:	Dark Brown Sandy Fat CLAY (CH)	Sampled By:	PM

Test Data

Specimen Number	Void Ratio	Saturation, %	Normal Load, psf	Max Shear Stress, psf	Water Content, %	Dry Density, pcf	Relative Density*,%
1	-	-	1000	625	27.3	103.3	90
2	-	-	2000	1061	26.0	103.3	90
3	-	-	3000	1333	25.9	103.3	90
4							
5							



*The test specimens were initially remolded at 90% of the maximum dry density (ASTM D1557) and at 2% above the optimum moisture content of the material.

Maximum Dry Density, pcf:	116.7	Optimum Moisture, %:	12.5

Angle of Internal Friction @ 90% Rel. Compaction, Phi:	19.5 °
Cohesion @ 90% Relative Compaction, C:	298 psf

Report By: Aaron Eichman

GeoSolutions, Inc. | **SOILS REPORT** | **(805) 543-8539**

Project:	600 Tank Farm Road	Date Tested:	August 2, 2012
Client:		Project #:	SL08082-1
Sample:	C Depth: 2.0 ft.	Lab #:	14990
Location:	B-3	Sample Date:	July 20, 2012
		Sampled By:	PM

Soil Classification
ASTM D2487-06, D2488-06

Result: Dark Brown Sandy Fat CLAY

Specification: CH

Sieve Analysis
ASTM D422-63R02

Sieve Size	Percent Passing	Project Specifications
3"		
2"		
1 1/2"		
1"		
3/4"		
No. 4		
No. 8		
No. 16		
No. 30		
No. 50		
No. 100		
No. 200		

Sand Equivalent Cal 217 (11/1999)

1		SE
2		
3		
4		

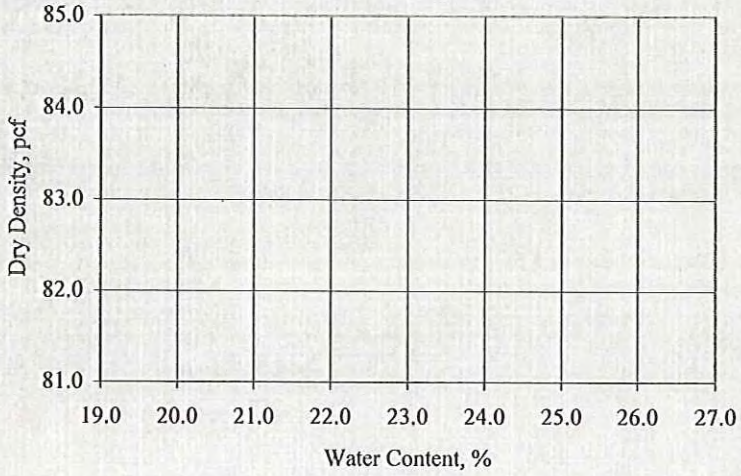
Plasticity Index
ASTM D4318-05

Liquid Limit:	56
Plastic Limit:	16
Plasticity Index:	40

Expansion Index
ASTM D4829-08

Expansion Index:	85
Expansion Potential:	Medium
Initial Saturation, %:	50

Laboratory Maximum Density
ASTM D1557-07



Mold ID	n/a	Mold Diameter, ins.	4.00
No. of Layers	5	Weight of Rammer, lbs.	10.00
No. of Blows	25		

Estimated Specific Gravity for 100% Saturation Curve =

Trial #	1	2	3	4
Water Content:				
Dry Density:				

Maximum Dry Density, pcf:	
Optimum Water Content, %:	

Moisture-Density ASTM D2937-04, **Moisture Content** ASTM D2216-05

Sample	Depth (ft)	Water Content (%)	Dry Density (pcf)	Relative Density	Sample Description

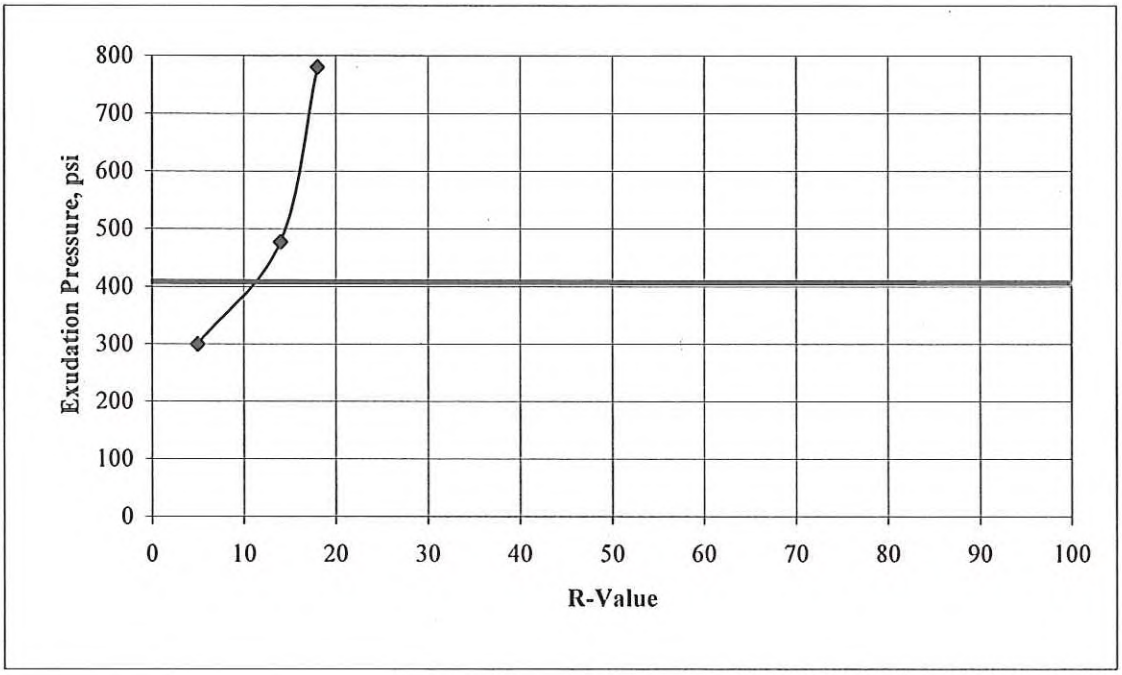
Report By: Aaron Eichman

GeoSolutions, Inc.

R-VALUE TEST REPORT
ASTM D2844-07

(805) 543-8539

Project:	600 Tank Farm Road	Date Tested:	July 26, 2012
Client:		Project #:	SL08082-1
Sample #:	A Depth: 1.0 ft.	Lab #:	14990
Location:	B-1	Sample Date:	July 20, 2012
Material:	Dark Brown Sandy Fat CLAY (CH)	Sampled By:	PM



Specimen No.	A	B	C
Exudation Pressure, psi	299	477	780
Expansion Pressure, psf	0	0	22
R-Value	5	14	18
Moisture Content at test, %	21.4	19.4	17.5
Dry Density at Test, pcf	110.9	113.7	116.7

R-Value @ 300 psi Exudation Pressure:	6

Report By: Aaron Eichman

APPENDIX C

Seismic Hazard Analysis

Design Map Summary (SEAOC, 2019)

SEISMIC HAZARD ANALYSIS

According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7: Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-16 (ASCE, 2016). Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. As per section 1613.2.2 of the 2019 CBC, the Site soil profile classification is determined by the average soil properties in the upper 100 feet of the Site profile and can be determined based on the criteria provided in Table 20.3-1 of ASCE7-16.

ASCE7-16 provides recommendations for estimating site-specific ground motion parameters for seismic design considering a Risk-targeted Maximum Considered Earthquake (MCE_R) in order to determine *design spectral response accelerations* and a Maximum Considered Earthquake Geometric Mean (MCE_G) in order to determine probabilistic geometric mean *peak ground accelerations*.

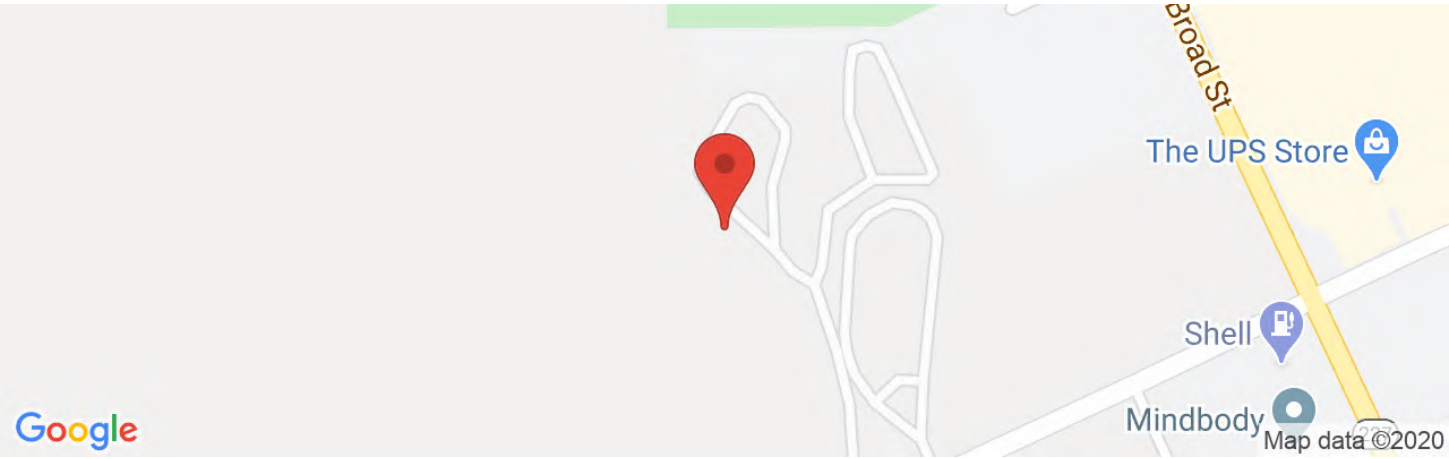
Spectral accelerations from the MCE_R are based on a 5% damped acceleration response spectrum and a 1% probability of exceedance in 50 years. *Maximum* short period (S_s) and 1-second period (S_1) spectral accelerations are interpolated from the MCE_R-based ground motion parameter maps for bedrock, provided in ASCE7-16. These spectral accelerations are then multiplied by site-specific coefficients (F_a, F_v), based on the Site soil profile classification and the maximum spectral accelerations determined for bedrock, to yield the *maximum* short period (S_{MS}) and 1-second period (S_{M1}) spectral response accelerations at the Site. According to section 11 of ASCE7-16 and section 1613 of the 2019 CBC, buildings and structures should be specifically proportioned to resist *design* earthquake ground motions. Section 1613.2.4 of the 2019 CBC indicates the site-specific *design* spectral response accelerations for short (S_{DS}) and 1-second (S_{D1}) periods can be taken as two-thirds of *maximum* ($S_{DS} = 2/3*S_{MS}$ and $S_{D1} = 2/3*S_{M1}$).

Per ASCE7-16, Section 21.5, the probabilistic maximum mean peak ground acceleration (PGA) corresponding to the MCE_G can be computed assuming a 2% probability of exceedance in 50 years (2475-year return period) and is initially determined from mapped ground accelerations for bedrock conditions. The site-specific peak ground acceleration (PGA_M) is then determined by multiplying the PGA by the site-specific coefficient F_h (where F_h is a function of Site Class and PGA).

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

OSHPD

Latitude, Longitude: 35.248878, -120.648620



Date	3/11/2020, 12:47:21 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.061	MCE_R ground motion. (for 0.2 second period)
S_1	0.391	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.273	Site-modified spectral acceleration value
S_{M1}	0.586	Site-modified spectral acceleration value
S_{DS}	0.849	Numeric seismic design value at 0.2 second SA
S_{D1}	0.391	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.47	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.564	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.061	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.183	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.736	Factored deterministic acceleration value. (0.2 second)
S1RT	0.391	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.434	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.951	Factored deterministic acceleration value. (1.0 second)
PGAd	1.114	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.897	Mapped value of the risk coefficient at short periods
C_{R1}	0.901	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

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APPENDIX D

Preliminary Grading Specifications

Key and Bench with Backdrain

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.

2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.

3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.

4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.

2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72 hours' notice.

2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.

3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.

2. The contractor should be responsible for the stability of all temporary excavations.

3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.

2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2019 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.

3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.

2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12$_{e1}$.

2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.

2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.

3. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.

4. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.

5. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.

6. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.

2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for “Excavations, Trenches, Earthwork.” Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12$_{e1}$.

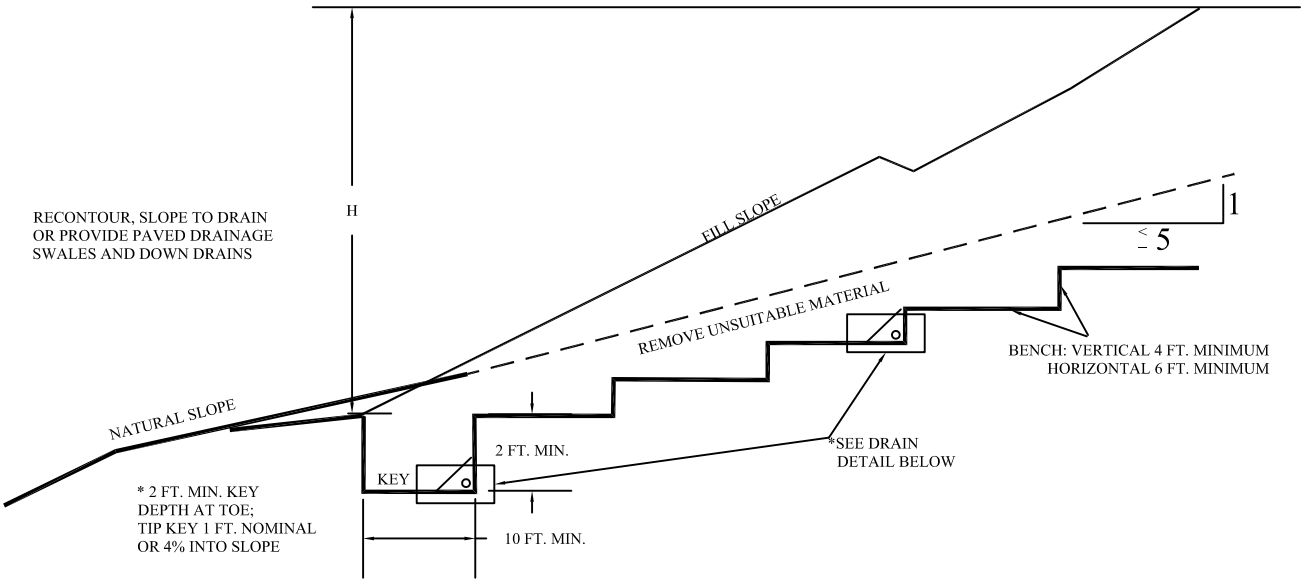
3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12$_{e1}$. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.

2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2019 CBC.

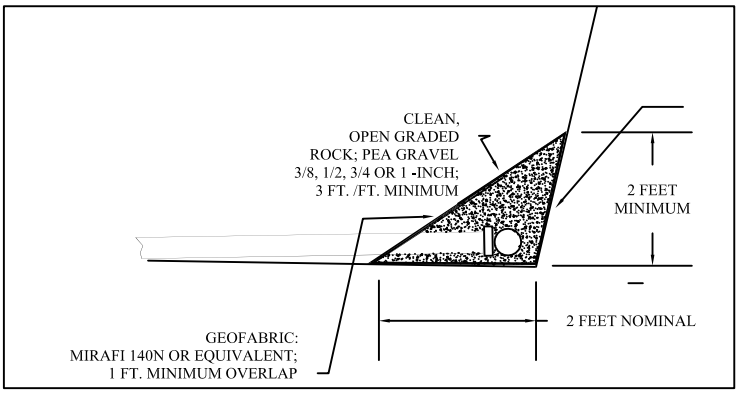
FILL OVER SLOPE



NOTES:

*BACKDRAIN AS RECOMMENDED BY GEOTECHNICAL PER DETAIL.

DRAIN DETAIL



NTS

GeoSolutions, Inc.
220 High Street
San Luis Obispo, CA 93401
(805) 543-8539 Fax: (805) 543-2171

KEY AND BENCH WITH BACKDRAIN

DETAIL
A

Appendix C

Federal Aviation Administration Application, Peck Planning and Development, LLC, August 2020

Federal Aviation Administration

"The system will be going offline at 7pm ET on Thursday, August 27, 2020 for upgrades. We apologize for any inconvenience."

« OE/AAA

Project Submission Success
Project Name: COVEL-000593844-20

Project COVEL-000593844-20 has been submitted successfully to the FAA.

Your filing is assigned Aeronautical Study Number (ASN):

2020-AWP-10093-OE
2020-AWP-10094-OE
2020-AWP-10095-OE
2020-AWP-10096-OE
2020-AWP-10097-OE
2020-AWP-10098-OE
2020-AWP-10099-OE
2020-AWP-10100-OE
2020-AWP-10101-OE
2020-AWP-10102-OE
2020-AWP-10103-OE
2020-AWP-10104-OE
2020-AWP-10105-OE
2020-AWP-10106-OE

Please refer to the assigned ASN on all future inquiries regarding this filing.

Please return to the system at a later date for status updates.

It is the responsibility of each e-filer to exercise due diligence to determine if coordination of the proposed construction or alteration is necessary with their state aviation department. Please use the link below to contact your state aviation department to determine their requirements:
State Aviation Contacts

To ensure e-mail notifications are delivered to your inbox please add noreply@faa.gov to your address book. Notifications sent from this address are system generated FAA e-mails and replies to this address will NOT be read or forwarded for review. Each system generated e-mail will contain specific FAA contact information in the text of the message.

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 10/31/2017

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*
Attn. of:
Name: Covelop
Address: 1135 Santa Rosa, Suite 210
City: San Luis Obispo State: CA Zip: 93401
Telephone: 805-781-3133 Fax: 805-781-3233

2. Sponsor's Representative *(if other than #1):*
Attn. of:
Name: Stephen Peck
Address: 2455 Greenwood Avenue
City: Morro Bay State: CA Zip: 93442
Telephone: 559-731-5778 Fax:

3. Notice of: ☑ New Construction ☐ Alteration ☐ Existing
4. Duration: ☑ Permanent ☐ Temporary (___ months, ____days)
5. Work Schedule: Beginning 2021 End 2025
6. Type: ☐ Antenna Tower ☐ Crane ☑ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other
7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☑ Other
8. FCC Antenna Structure Registration Number *(if applicable)*:

9. Latitude: Exhibit 3 0 ___ , ___ , ___ "
10. Longitude: Exhibit 3 0 ___ , ___ , ___
11. Datum: ☑ NAD 83 ☐ NAD 27 ☐ Other
12. Nearest: City: San Luis Obispo State CA
13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport:
San Luis Obispo Regional (SBP)
14. Distance from #13. to Structure: Varies (Exhibit 3)
15. Direction from #13. to Structure: North (Exhibit 2)
16. Site Elevation *(AMSL)*: Exhibit 1 ft.
17. Total Structure Height *(AGL)*: 37.5 ft.
18. Overall Height (#16 + #17) *(AMSL)*: Exhibit 3 ft.
19. Previous FAA Aeronautical Study Number *(if applicable)*:
___ -OE

20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*

The north side of Tank Farm Road 1,500 feet west of Broad Street in San Luis Obispo. See attached reduced and true scale USGS 7.5-minute quadrangle maps. See Exhibit 4.

21. Complete Description of Proposal:

Twenty-one (21) wood-framed three-story buildings. Buildings range from 190.5' AMSL to 204.50' AMSL. See Exhibit 3.

	Bldg Use	Lat (Decimal)	Long (Decimal)	Height (AMSL)	Distance to Runway (Feet)
1	Residential/Commercial	35.24703	(120.6487)	190.50	1,945
2	Residential/Commercial	35.24700	(120.6485)	190.50	1,811
3	Residential	35.24754	(120.6483)	192.50	2,016
4	Residential	35.24777	(120.6488)	193.50	2,141
5	Residential	35.24715	(120.6478)	192.50	1,935
6	Residential	35.24792	(120.6480)	193.50	2,191
7	Residential	35.24858	(120.6487)	198.50	2,361
8	Residential	35.24859	(120.6482)	198.50	2,393
9	Residential	35.24913	(120.6488)	202.00	2,542
10	Residential	35.24891	(120.6479)	200.00	2,523
11	Residential	35.24927	(120.6489)	204.50	2,663

Frequency/Power (kW)

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature
August 26, 2030	Stephen J. Peck, AICP	Stephen Peck

Exhibit 1
Civil Site Plan with Building Numbers

rrm design group

600 TANK FARM ROAD

600 TANK FARM ROAD, SAN LUIS OBISPO, CA 93401

PRELIMINARY CIVIL SITE PLAN

1622-01-LP19 FEBRUARY 19, 2020

A3

SUBMISSION PACKAGE

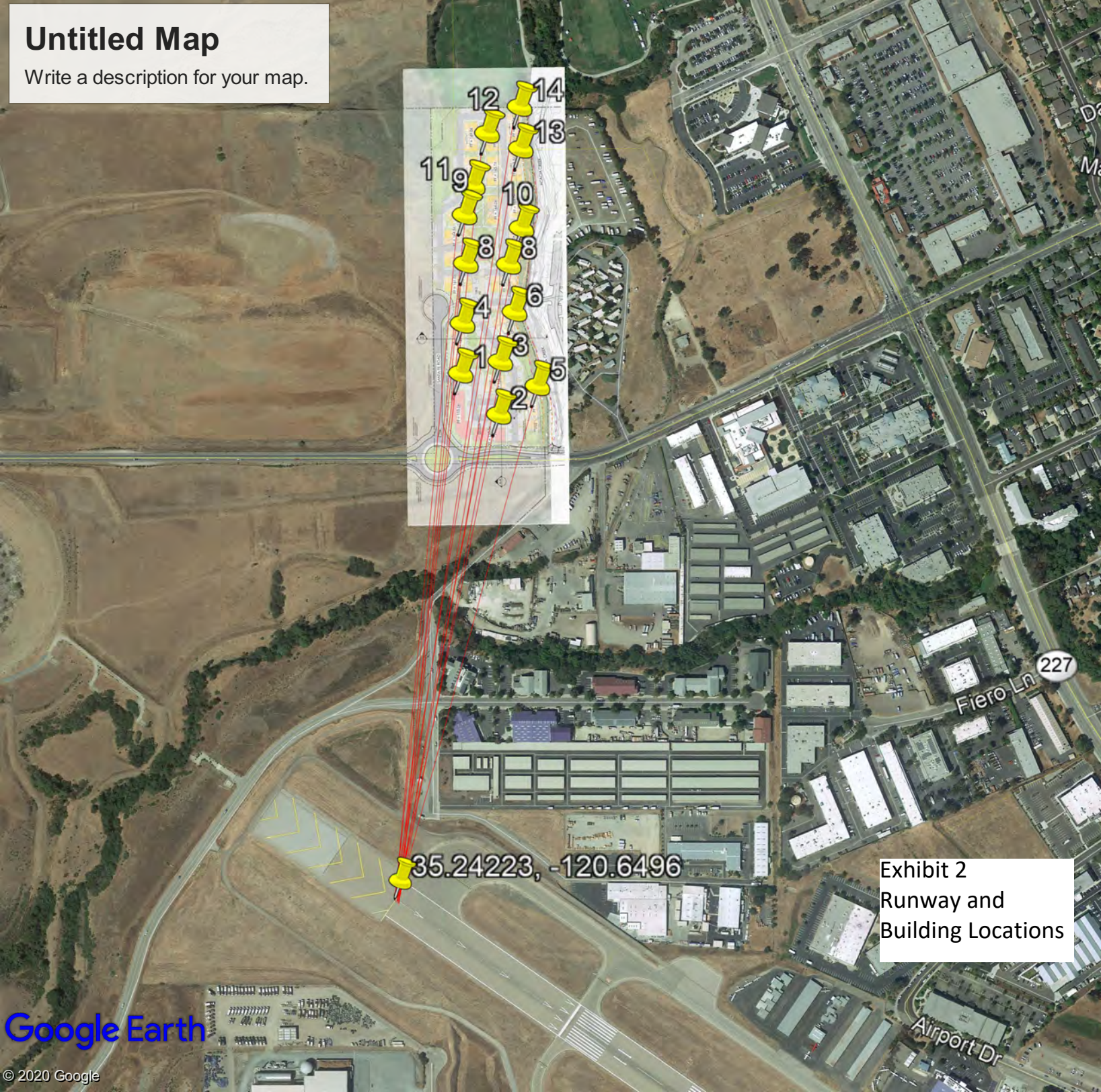


Exhibit 2
Runway and
Building Locations

Bldg Number	Use	Latitude	Longitude	Maximum Building Elevation (AMSL)	Distance to Runway
1	Residential/Commercial	35.24703	(120.6487)	190.50	1,945
2	Residential/Commercial	35.24700	(120.6485)	190.50	1,811
3	Residential	35.24754	(120.6483)	192.50	2,016
4	Residential	35.24777	(120.6488)	193.50	2,141
5	Residential	35.24715	(120.6478)	192.50	1,935
6	Residential	35.24792	(120.6480)	193.50	2,191
7	Residential	35.24858	(120.6487)	198.50	2,361
8	Residential	35.24859	(120.6482)	198.50	2,393
9	Residential	35.24913	(120.6488)	202.00	2,542
10	Residential	35.24891	(120.6479)	200.00	2,523
11	Residential	35.24927	(120.6489)	204.50	2,663
12	Residential	35.24968	(120.6485)	206.50	2,872
13	Residential	35.24973	(120.6480)	203.00	2,807
14	Residential	35.25014	(120.6481)	204.50	2,980

Exhibit 3

Building Locations, Building Height and Distance to Runway


Project Site
PISMO BEACH QUADRANGLE
CALIFORNIA–SAN LUIS OBISPO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
120°37'30"
35°15'
San Luis Obispo
Trailer Park
Pumping Station
Trailer Park
San Luis Obispo
SOUTHERN PACIFIC
CORPORATE
COUNTY AIRPORT
East Santa Fe Sch
640 000 FEET
Davenport
Creek
Spring
Spring
Spring
Spring
Drill Hole
Drill Hole
Drill Holes
Drill Hole
Indian Knob
Airway Beacon
Water Tank
GOLF COURSE
PEDRA
12'30"
Exhibit 4
Project Site Location
7.5-Minute USGS

Appendix D

Acoustical Analysis, 45dB Acoustics, March 2020

45dB Acoustics
CONSULTANTS IN SOUND AND VIBRATION

David Lord, PhD dl@45dB.com
Sarah Taubitz, MSME st@45dB.com

California | Colorado
www.45dB.com

March 30, 2020
Project# 19034
Revision 4

Acoustical Analysis:	**Client:**
Mixed-Use Residential 600 Tank Farm Road San Luis Obispo, CA	Covelop, Inc. ATTN: Damien Mavis, dmavis@covelop.net 1135 Santa Rosa St. Suite 210 San Luis Obispo, CA 93401

1 Executive Summary

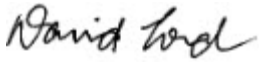
The proposed mixed-use project is a 22-building development with 2 commercial buildings fronting Tank Farm Road and 19 residential buildings to the north. A new feeder road for the development has been added to this Revision. A residential mobile home park is currently located immediately to the east, and commercial uses are located further to the east and to the immediate south, across Tank Farm Road. Traffic noise from Tank Farm Road and Broad Street are the prominent noise sources at this location. Runway 11-29 of the San Luis Obispo regional airport (SBP) is located approximately 1,500 feet to the southwest. Airport traffic noise was also considered in this analysis. The site is in the Airport Area Specific Plan area of the City of San Luis Obispo, and also in the Planning Area of the Airport Land Use Plan for the San Luis Obispo County Regional Airport. Each of these jurisdictions will review the acoustical analysis.

24-hour CNEL measurements for the area were performed and agree well with our predictive modeling based upon published traffic counts.

Our study concludes that the proposed mixed-use project will result in Community Noise Equivalent Levels of up to approximately 68 dBA at the Commercial buildings facing Tank Farm Road, and up to 54 dBA CNEL at the residential building elevations toward Tank Farm Road. Levels further north for the residential buildings are as low as 42 dBA. With a maximum exterior noise level of 54 dBA for the residential buildings of the project, normal/typical construction practices and designs will be sufficient to maintain interior noise levels of habitable spaces in all the residential buildings of the project. Additionally, even if residential units are placed in the Commercial buildings facing Tank Farm Road, normal/typical construction practices and designs will be acoustically sufficient to meet City noise standards for interior habitable spaces. The courtyard outdoor activity area of Building 3, with its northern location and sound attenuation from intervening buildings, is well below the Noise Element's outdoor noise level limit of 60 dBA. In conclusion, this analysis determines that the project can fully comply with applicable noise standards.

for ***45dB Acoustics, LLC***
A California Limited Liability Company

Sarah Taubitz, MSME



David Lord, Ph.D.

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2 Description

The project is located north of Tank Farm Road and west of Broad Street. The project will consist of two (2) commercial buildings at the south end of the project along Tank Farm Road, and nineteen (19) multifamily residential buildings to the north (Figure 1). A community building will be located near the middle of the development.

The nearby roads—Tank Farm Road and Broad Street, and the San Luis Obispo Regional Airport—are the principal transportation noise sources. Ambient noise levels due to traffic are moderately high here.

The purpose of this study is to quantify the existing noise environment around the project, calculate the future CNEL noise contours resulting from the future project, and evaluate potentially significant noise impacts with respect to Airport Land Use Plan ("ALUP") and City Ordinance noise standards. Commercial and residential properties exist around the project. The airport sits approximately 1,500 feet to the south of the project, directly across Tank Farm Road.

Figure 1: Preliminary proposed site plan

3 Acoustical Criteria

3.1 State Regulations

The California Airport Noise Regulations defines airport noise compatibility as follows:

"The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dBA for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep and community reaction."

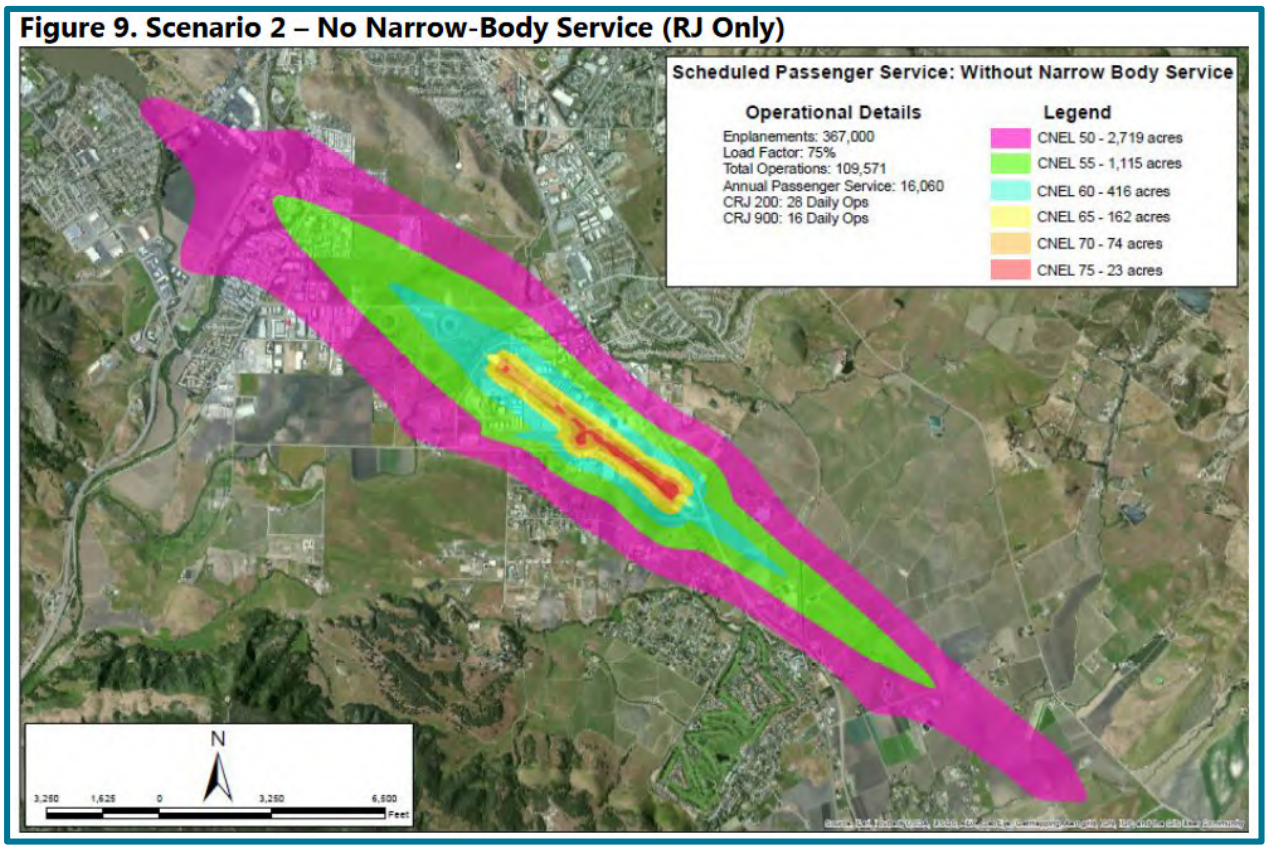
It is important to understand, however, that the compatibility criterion (i.e., 65 dBA CNEL) identified in the Airport Noise regulations is only mandated for a few airports (less than a dozen) that have been formally declared to have a "noise problem", the regulations do not establish a mandatory criterion for evaluating the compatibility of proposed land use development around other airports.

24-hour metric CNEL is also used to describe noise around airports. The U.S. Environmental Protection Agency identified CNEL as the most appropriate measure of evaluating airport noise based on the following considerations:

1. It is applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time.
2. It correlates well with known effects of noise on individuals and the public.
3. It is simple, practical, and accurate. In principal, it is useful for planning as well as for enforcement or monitoring purposes.
4. The required measurement equipment, with standard characteristics, is commercially available.
5. It is closely related to existing methods currently in use.

The CNEL levels (for aircraft-related noise only) published in the ALUP are shown in **Error! Reference source not found.**. The site lies within the 55-61 dBA CNEL range. However, more recent contours as reported by RS&H (Reference 3) are approximately 5 dB lower and agree better with our results, shown in the next section.

Figure 2: Airport CNEL Contours (RS&H)



4 Existing Noise Environment

4.1 Measured Existing Noise Levels

Sound levels (Leq, Lmax, Lmin, etc.) were measured by **45dB** from 5pm on September 10 through 5pm September 11, 2019 at two locations on the project site (Figure 3) and two locations in the "Serra Meadows" residential neighborhood northwest of the site (Figure 4). These two neighborhood locations were chosen because they still lie almost directly under the flight path of aircraft departing to the NW from the SBP airport.

Figure 3: Project measurement locations

Figure 4: Serra Meadows subdivision measurement locations

Figure 5 shows 1-minute averaged A-weighted Leq for all four sites.

Figure 6 shows the corresponding hourly equivalent Leq for all four sites in solid lines, along with the maximum 1-second Lmax that occurred during each hour, to show how instantaneous levels can be 10 to 25dB higher than the hourly Leq, depending upon the noise sources in the area. The CNEL is notated for each location on this graph, and listed in Table 1 as well.

Figure 5: 1-min Laeq for 24 hours at 4 locations

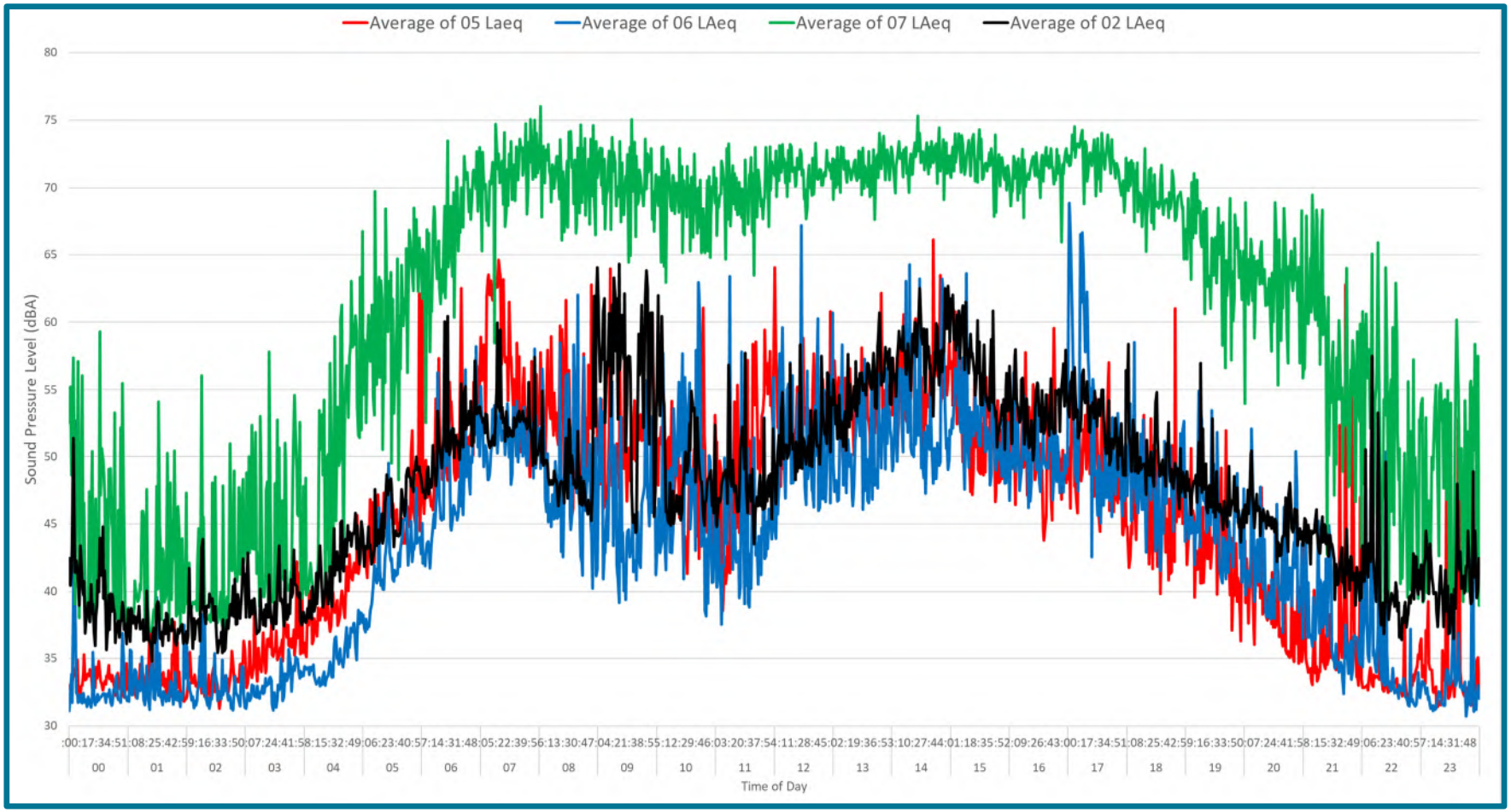
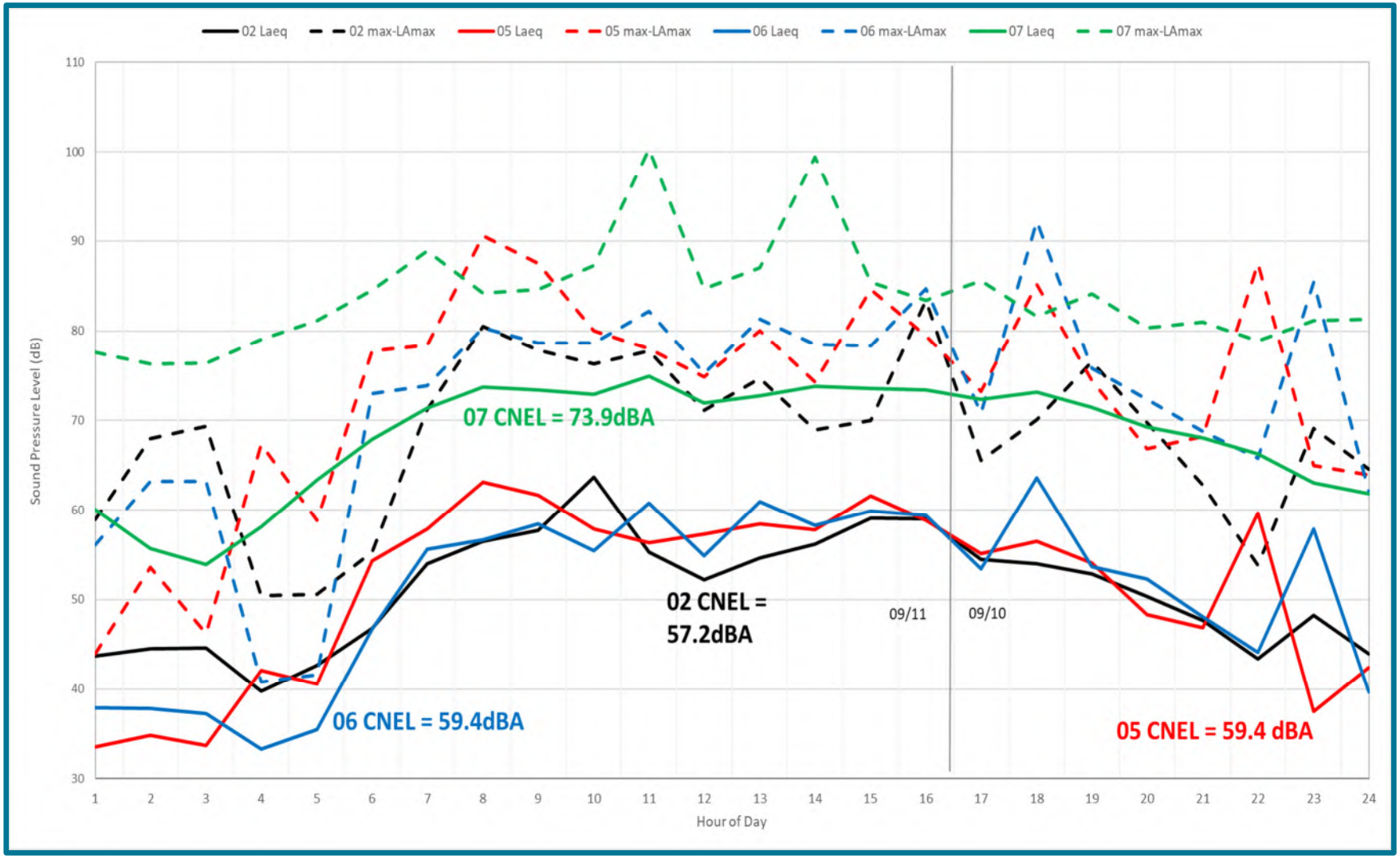


Figure 6: Hourly LAeq and max-LAmax for 24 hours at 4 locations (with CNEL noted)



One-second sampled acoustic data allow for energy- or logarithmic-averaging to find hourly levels, as well as determination of SENEL of an example flyover event from a jet aircraft departure from the SBP airport (Figure 7). The SENEL results at each location are included in the rightmost column of Table 1.

This jet aircraft fly-over example is positively identified firstly by using audio recording from location 02, near the airport where background noise from traffic is low, and then inspecting 1-second data for all four locations. It is further confirmed by the commercial aircraft flight schedule for SBP. The approximate 30-second flyover event occurs at all four locations when positively identified, and there is an approximate 27-second delay from locations 02 and 07 (near the airport runway's end) until the aircraft noise is picked up at locations 05 and 06, which are approximately 4,700 ft/ 0.9 miles away. An aircraft traveling at 120MPH would reach location 06 approximately 27 seconds after reaching location 07.

Figure 7: Example 1-second data of flyover at four locations

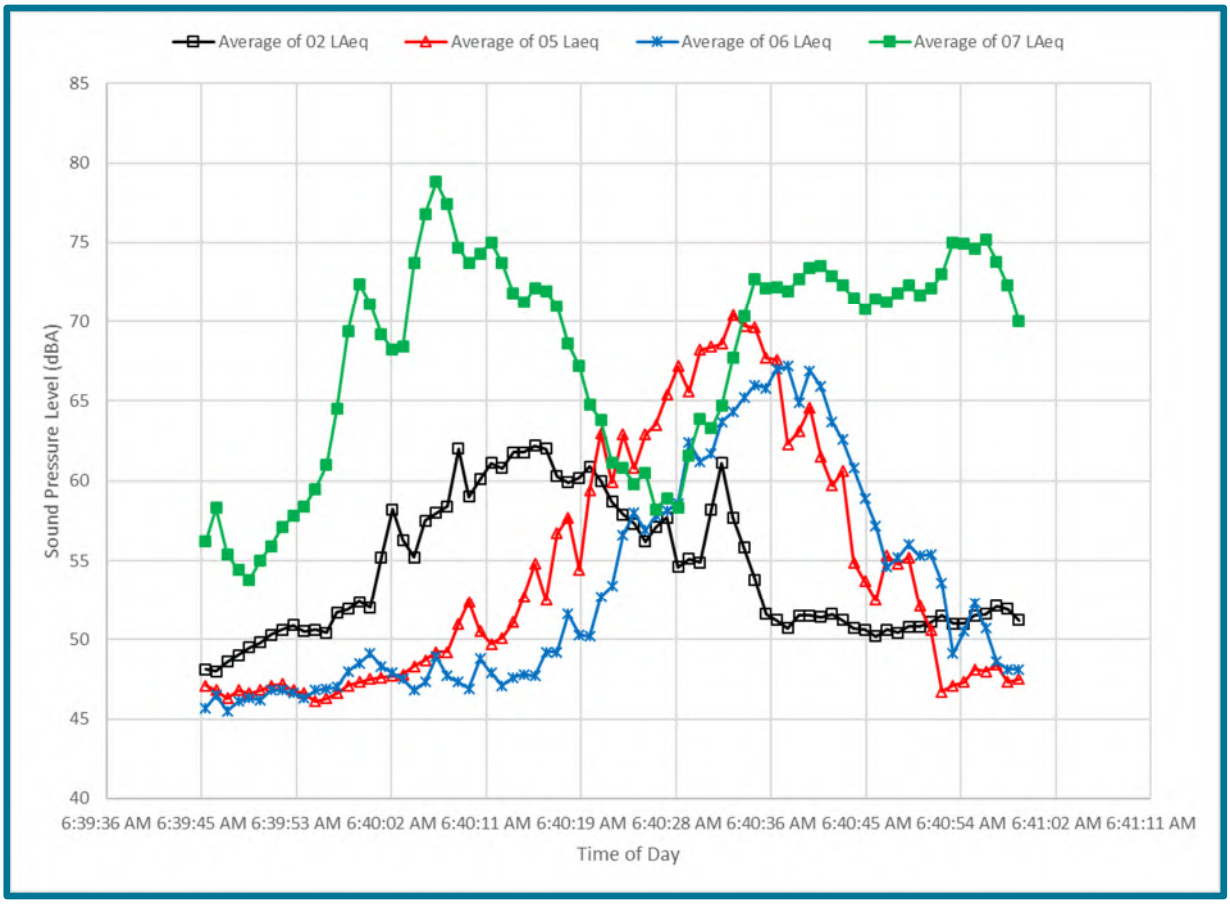


Table 1 also shows the range of hourly Leq levels for each of the four measurement locations. Locations 05 and 06, in the neighborhood just south of South Hills Open Space, have quiet nighttime levels of 33-34 dBA. Location 02 is slightly louder at nighttime, but this was primarily due to wind causing vegetation rustling noise during nighttime hours on this date.

The representative SENEL levels at the four sites (Table 1) show that the north end of Tank Farm Rd (location 02) experiences aircraft flyover noise levels very similar to those of the neighborhoods to the northwest near South Hills Open Space (locations 05 and 06). The south end of the 600 Tank Farm Road project—where commercial space is planned—will experience higher aircraft noise levels, than at project locations north, where the residential buildings are planned.

Location 02 daytime levels are slightly elevated due to ongoing industrial operations, e.g., back-up beeping from forklifts which dominated some of the daytime noise levels at location 02. Even so, hourly Leq and CNEL levels at location 02 are similar to those of the residential neighborhood near South Hills Open Space. When this industrial operation is replaced by the 600 Tank Farm Road residential project, we expect that the planned residential buildings of the 600 Tank Farm Road project site will be very similar in acoustic environment to the residential neighborhood near South Hills Open Space, including during aircraft flyover events.

Table 1: Measured Sound Level Results (in dBA)

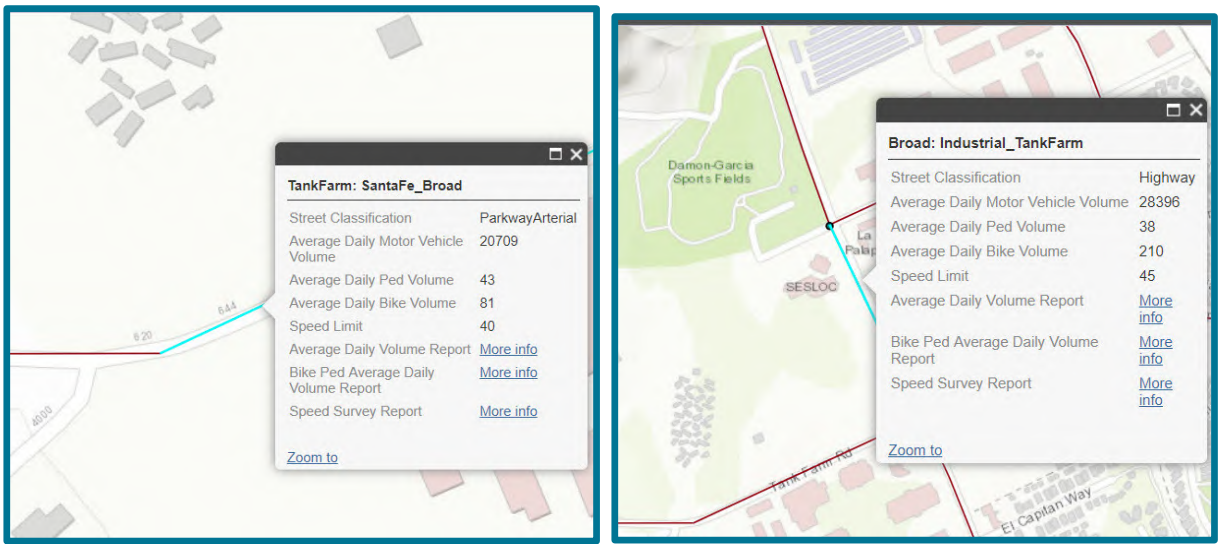
Location	Hourly LAeq Range	CNEL	Highest 1-second LAmax due to 06:40am aircraft pass-by	1-minute LAeq at 06:40am	1-hour LAeq for 6:00-7:00am
02: North end of 600 Tank Farm Rd.	40 to 64	57	62	70	67
07: South end of 600 Tank Farm Rd.	54 to 75	74	79	55	51
05: Calle Malva & Lupita	34 to 62	59	70	56	49
06: Serra Meadows Rd. & Junipero	33 to 61	59	67	55	48

4.2 Existing Modeled Noise Levels

The nearest railroad line, Union Pacific Railroad, lies approximately 3,800ft (1.2km) away from the site, and is not a significant noise source at this location. Noise levels modeled from road traffic alone are presented first. Aircraft noise from San Luis Obispo Regional Airport (SBP) is then added to the road noise analysis.

Road noise levels for the existing environment for this location can be accurately predicted using current Annual Average Daily Traffic (AADT) traffic counts published by the City of San Luis Obispo's website (Figure 8).

Figure 8: San Luis Obispo traffic counts for Tank Farm Road (l.) and Broad Street (r.)



Existing noise level sound contours are shown below in plan view in Figure 9. CNEL Noise levels range from approximately 42 dBA at the north end, to 68 dBA at the south end facing Tank Farm Road.

Airport noise is a minor factor in the overall noise portrait of the site; road noise dominates the levels at the project site.

The noise levels are shown through a vertical cross-section, slicing through Tank Farm Road and the first two rows of buildings in Figure 10. The commercial buildings act as a noise barrier, reducing noise levels for residential buildings located further north.

So, for building locations not along Tank Farm Road—i.e., the ten multifamily residential buildings—noise levels are expected to be significantly quieter than the ALUP's published contours would lead one to expect.

Figure 9: CNEL sound level contours for road traffic only, in plan view

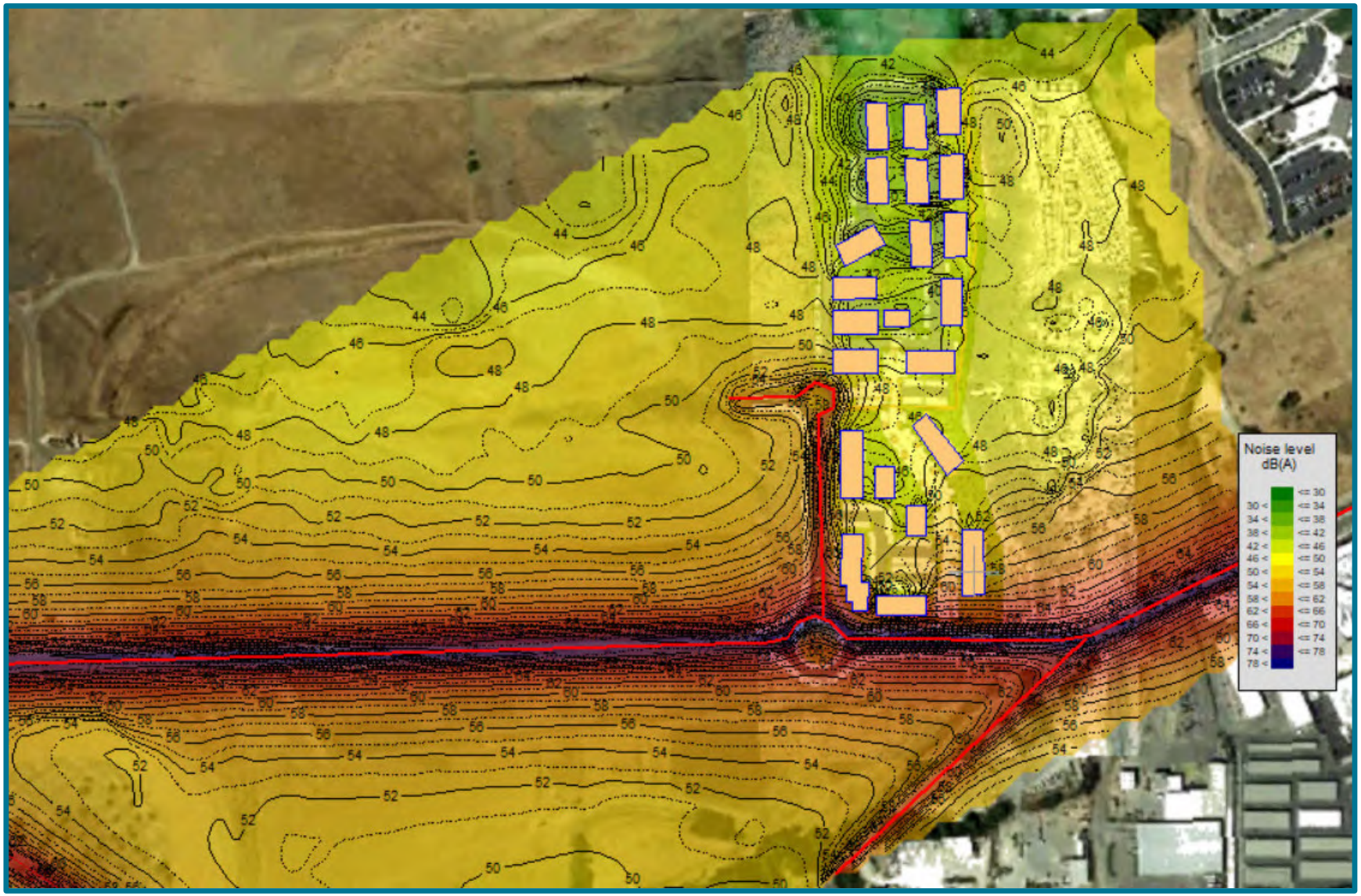
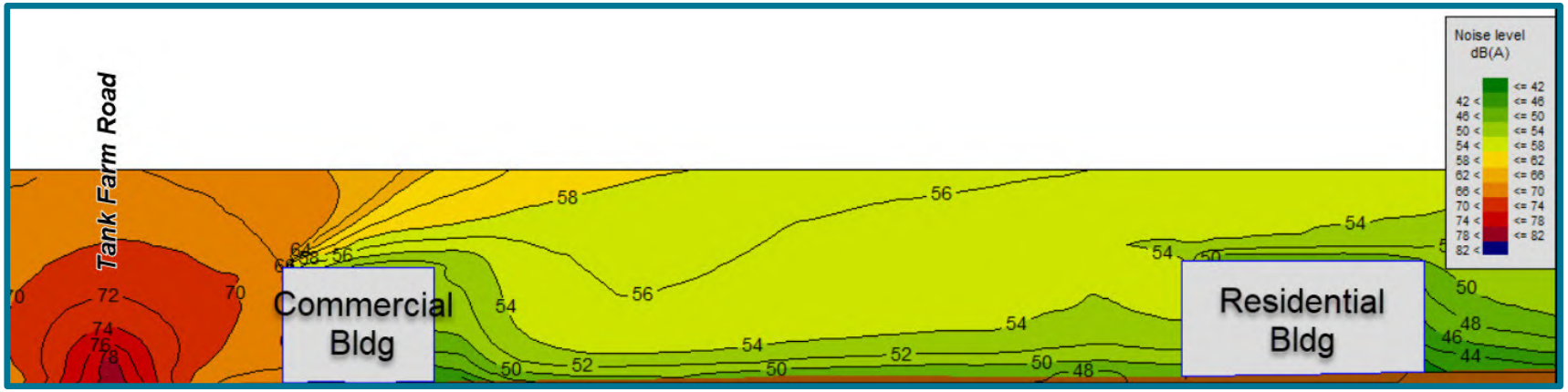


Figure 10: Vertical north-south cross-section through Tank Farm Road, commercial building, and nearby residential building



5 Future Modeled Noise Levels

The calculated future Ldn/CNEL (year 2039) for the site, assuming a traffic growth rate of 1% per year, is expected to increase by approximately 1dB, a less-than-significant amount.

6 Conclusions

With a maximum exterior noise level of 54 dBA for the southernmost residential buildings of the project, normal/typical construction practices and designs will be sufficient in maintaining the interior noise levels of habitable spaces in all the residential buildings of the project. (Typical construction assumes dual-paned glazing, wood- or steel-stud walls with fiberglass insulation of 3" thickness or more, gypsum wall board on the interior, and any exterior finish, including stucco and exterior siding on a suitable base.) Additionally, even if residential units get put into the Commercial buildings facing Tank Farm Road, normal/typical construction practices and designs will be acoustically sufficient there as well to meet City noise standards for interior spaces. The courtyard outdoor activity area of Building 3 is well below the Noise Element's limit of 60 dBA.

Measurements at the north and south ends of the project sight and in the neighborhood south of South Hills Open Space were conducted. Noise levels at the project site away from Tank Farm Road have levels similar to those at the South Hills Open Space neighborhood locations. The project's commercial buildings facing tank farm act as effective noise barrier walls, reducing the noise levels for the residential buildings within the project by approximately 5 dB.

In conclusion, this analysis determine that the project can fully comply with City noise standards.

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9 Appendix

9.1 Characteristics of Sound

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The normal range of human hearing extends from approximately 0 to 140 dBA. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Because of the physical characteristics of noise transmission and of noise perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 2 below presents the subjective effect of changes in sound pressure levels.

Table 2: Sound Level Change Relative Loudness/Acoustic Energy Loss

0 dBA	Reference 0%
-3 dBA	Barely Perceptible Change 50%
-5 dBA	Readily Perceptible Change 67%
-10 dBA	Half as Loud 90%
-20 dBA	1/4 as Loud 99%
-30 dBA	1/8 as Loud 99.9%

Source: Highway Traffic Noise Analysis and Abatement Policy and Guidance, U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, June 1995.

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as spreading loss. Generally, sound levels from a point source will decrease by 6 dBA for each doubling of distance. Sound levels for a highway line source vary differently with distance because sound pressure waves propagate along the line and overlap at the point of measurement. A closely spaced, continuous line of vehicles along a roadway becomes a line source and produces a 3 dBA decrease in sound level for each doubling of distance. However, experimental evidence has shown that where sound from a highway propagates close to “soft” ground (e.g., plowed farmland, grass, crops, etc.), a more suitable drop-off rate to use is not 3.0 dBA but rather 4.5 dBA per distance doubling (FHWA 2010).

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. The Leq is the most common parameter associated with such measurements. The Leq metric is a single-number noise descriptor that represents the average sound level over a given period of time. For example, the L50 noise level is the level that is exceeded 50 percent of the time. This level is also the level that is exceeded 30 minutes in an hour. Similarly, the L02, L08 and L25 values are the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. Other values typically noted during a noise survey are the Lmin and Lmax. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet-time noise levels in a 24-hour noise descriptor called the CNEL or Ldn. This increment is incorporated in the calculation of CNEL or Ldn, described earlier.

9.2 Terminology/Glossary

A-Weighted Sound Level (dBA)
The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made. A-weighting de-emphasizes the low and very high frequency components of the sound in a manner similar to the response of the average human ear. A-weighted sound levels correlate well with subjective reactions of people to noise and are universally used for community noise evaluations. An A-weighted Leq is designated as "LAeq".

Air-borne Sound
Sound that travels through the air, differentiated from structure-borne sound.

Ambient Sound Level
The prevailing general sound level existing at a location or in a space, which usually consists of a composite of sounds from many sources near and far. The ambient level is typically defined by the Leq level.

Apparent Sound Transmission Class (ASTC)
A single number rating similar to STC, except that the transmission loss values used to derive the ASTC are measured in the field. All sound transmitted from the source room to the receiving room is assumed to be through the separating wall or floor-ceiling assembly.

Background Sound Level
The underlying, ever-present lower level noise that remains in the absence of intrusive or intermittent sounds. Distant sources, such as Traffic, typically make up the background. The background level is generally defined by the L90 percentile noise level.

Coherent Noise Source
Coherent sources have exactly the same frequency and a definite phase relationship between the two waves, whereas incoherent sources do not. An example of coherent sources is two speakers with the amp set to mono. Another is direct and reflected sound from the same source.

Community Noise Equivalent Level (CNEL)
The Leq of the A-weighted noise level over a 24-hour period with a 5-dB penalty applied to noise levels between 7 p.m. and 10 p.m. and a 10-dB penalty applied to noise levels between 10 p.m. and 7 a.m. CNEL is similar to Ldn.

Day-Night Average Sound Level (L_{dn} or DNL)
Day-Night Average Sound Level (Ldn or DNL) – A descriptor established by the U.S. Environmental Protection Agency to represent a 24-hour average noise level with a 10dB penalty applied to noise occurring during the nighttime hours (10 p.m. to 7 a.m.) to account for the increased sensitivity of people during sleeping hours.

Decibel (dB)

The decibel is a measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

DBA or dB(A)
A-weighted sound level. The ear does not respond equally to all frequencies and is less sensitive at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound level of a noise containing a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are dBA. The A-weighted sound level is also called the noise level.

Energy Equivalent Level (L_{eq}) or Leq
Because sound levels can vary markedly in intensity over a short period of time, some method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, one describes ambient sounds in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. In this report, an hourly period is used. Therefore, Leq is the equivalent steady-state sound level (in decibels) that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period of time.

Effective perceived noise in decibels (EPNdB)
A measure of the relative loudness of an individual aircraft pass-by event. Separate ratings are stated for takeoff, overflight and landing phases, and represent the integrated sum of loudness over the period within which the noise from the aircraft is within 10 dB of the maximum noise (usually at the point of closest approach.) It is defined in Annex 16 of the Convention on International Civil Aviation and in Part 36 of the US Federal Aviation Regulations. The scaling is such that the EPNdB rating represents the integrated loudness over a ten-second period; EPNdB of 100 dB means that the event has the same integrated loudness as a 100 dB sound lasting ten seconds. The EPNdB rating of an aircraft is used to estimate how much contribution a given aircraft operation will make to the noise impact of an airport in a community, which is estimated using the https://en.wikipedia.org/wiki/Day-night_average_sound_level metric. Detailed information on measurement of aircraft acoustic signature to meet the requirements of Annex 16 is found in ICAO Document 9501 and IEC 61265. Data acquisition in one-third-octave bands is required, followed by processing to yield a logarithmically-scaled value in decibels relative to a sound pressure of 20 micropascals, approximately the threshold of hearing.

Incoherent Noise Source
Incoherent noise sources do not share the same frequency and phase relationship between the two waves. Broadband noise sources without tones are incoherent.

Outdoor-Indoor Transmission Class (OITC)
A single number classification, specified by the American Society for Testing and Materials (ASTM E 1332 issued 1994), that establishes the A-weighted sound level reduction provided by building facade components (walls, doors, windows, and combinations thereof), based upon a reference sound spectrum that is an average of typical air, road, and rail transportation sources. The OITC is the preferred rating when exterior façade components are exposed to a noise environment dominated by transportation sources. Apparent OITC (AOITC) is the field-measured OITC.

Percentile Sound Level, Ln
The noise level exceeded during *n* percent of the measurement period, where *n* is a number between 0 and 100 (e.g., L10 or L90)

Sound Transmission Class (STC)
STC is a single number rating, specified by the American Society for Testing and Materials, which can be used to measure the sound insulation properties for comparing the sound transmission capability, in decibels, of interior building partitions for noise sources such as speech, radio, and television. It is used extensively for rating sound insulation characteristics of building materials and products.

Structure-Borne Sound
Sound propagating through building structure. Rapidly fluctuating elastic waves in gypsum board, joists, studs, etc.

Sound Exposure Level (SEL), or Sound Exposure Noise Equivalent Level (SENEL)
SEL is the sound exposure level, defined as a single number rating indicating the total energy of a discrete noise-generating event (e.g., an aircraft flyover) compressed into a 1-second time duration. This level is handy as a consistent rating method that may be combined with other SEL and Leq readings to provide a complete noise scenario for measurements and predictions. However, care must be taken in the use of these values since they may be misleading because their numeric value is higher than any sound level which existed during the measurement period.

Sound Pressure Level (p or SPL)
The acoustic pressure level, typically in units of decibels relative to 20 micropascals (μPa), at any given receiver location due to all noise sources affecting that location. It is a property of the field at a point in space.

Sound Power Level (P, L_{WA}, or SWL)

The level, typically in units of decibels relative to 1 Watt, at which sound energy is emitted by a source. For a sound source, unlike sound pressure, sound power is neither room-dependent nor distance-dependent. Sound power is a property of a sound source, equal to the total power emitted by that source in all directions.

Subjective Loudness Level
In addition to precision measurement of sound level changes, there is a subjective characteristic which describes how most people respond to sound:

- A change in sound level of 3 dBA is *barely perceptible* by most listeners.
- A change in level of 6 dBA is *clearly perceptible*.
- A change of 10 dBA is perceived by most people as being *twice* (or *half*) as loud.

9.3 Traffic Noise Model

The Federal Highway Administration Traffic Noise Model (TNM) used within SoundPLAN® software for the sound level analysis in this study, contains the following components:

1. Modeling of five standard vehicle types, including automobiles, medium trucks, heavy trucks, buses, and motorcycles, as well as user-defined vehicles.
2. Modeling both constant- and interrupted-flow traffic using a field-measured data base.

3. Modeling effects of different pavement types, as well as the effects of graded roadways.
4. Sound level computations based on a one-third octave-band data base and algorithms.
5. Graphically-interactive noise barrier design and optimization.
6. Attenuation over/through rows of buildings and dense vegetation.
7. Multiple diffraction analysis.
8. Parallel barrier analysis.
9. Contour analysis, including sound level contours, barrier insertion loss contours, and sound-level difference contours.

These components are supported by a scientifically founded and experimentally calibrated acoustic computation methodology, as well as a flexible data base, made up of over 6000 individual pass-by events measured at forty sites across the country.

9.4 SoundPLAN® Acoustics Software

SoundPLAN, the software used for this acoustic analysis, is an acoustic ray-tracing program dedicated to the prediction of noise in the environment. Noise emitted by various sources propagates and disperses over a given terrain in accordance with the laws of physics. Worldwide, governments and engineering associations have created algorithms to calculate acoustical phenomena to standardize the assessment of physical scenarios. Accuracy has been validated in published studies to be + / - 2.7 dB with an 85% confidence level.

The software calculates sound attenuation of environmental noise, even over complex terrain, uneven ground conditions, and with complex obstacles.

The modeling software calculates the sound field in accordance with many optional standards depending on the noise source type, including the FHWA's TNM described in the previous subsection, and ISO 9613-2 "*Acoustics - Attenuation of sound during propagation outdoors, Part 2: General Method of Calculation*." This standard states that "this part of ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors, in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level under meteorological conditions favorable to propagation from sources of known sound emissions. These conditions are for downwind propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs at night."

Appendix E

CEQA Transportation Impact Analysis, Central Coast Transportation Consulting, October 2020

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

MEMORANDUM

Date: October 26, 2020

To: Luke Schwartz, Transportation Manager, City of San Luis Obispo

From: Travis Low and Joe Fernandez, CCTC

Subject: 600 Tank Farm Road – CEQA Transportation Impact Analysis

This memorandum summarizes the findings of the CEQA Transportation Impact Analysis for the proposed development project at 600 Tank Farm Road in the City of San Luis Obispo. The project is within the Airport Area Specific Plan (AASP) area and includes 12,500 square feet of commercial space and 280 multifamily residential dwelling units. Two alternatives are under consideration for the commercial component: (A) 100% Retail Commercial, or (B) 50% General Office and 50% Medical Office. In addition, an alternative without the commercial component was evaluated to show the change resulting from the commercial components. The project site plan is included as **Attachment A**.

This analysis is intended to support the project's environmental document. A full Transportation Impact Study (TIS) is underway and will incorporate this analysis as well as other non-CEQA transportation issues. The full TIS includes more detailed multimodal circulation and operations analysis to identify potential deficiencies and improvements needed for local policy conformance outside of CEQA.

SUMMARY

The project would have a less than significant impact to VMT. There was one study location, the intersection of Broad Street/Industrial Way, identified as a priority collision location in the City's latest Traffic Safety and Operations Reports with an observed pattern of rear end collisions. Recommendations from the 2017 Report include installing an additional signal head and a warning beacon, both for the southbound approach. The project would not substantially increase hazards or exacerbate the current pattern of collisions and is consistent with applicable transportation plans.

EXISTING CIRCULATION NETWORK

The existing roadways adjacent to the proposed project are described below. Bicycle facilities in the study area consist of Class I, II, and III bikeways. A Class I bikeway (bike path) provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. A Class II bikeway (bike lane) provides a striped lane for one-way bicycle travel on the side of the street adjacent to vehicle traffic. A Class III bikeway (bike route) consists of a roadway that is shared between bicycle and vehicle traffic.

- *Tank Farm Road* is a parkway arterial with two to four travel lanes, Class II bike lanes, no on-street parking, and intermittent sidewalks. East of Righetti Ranch Road, Tank Farm intersects with and then becomes Orcutt Road. The City's 2013 Bicycle Transportation Plan includes Class I paths on both the north and south sides of Tank Farm Road from Horizon Lane to Santa Fe Road and continuing north to the Damon-Garcia Sports Fields.
- *South Higuera Street* is an arterial with four travel lanes, Class II bike lanes, and sidewalks. There is no on-street parking.

- *Long Street* is a local roadway with two travel lanes and no existing bikeways that connects Tank Farm Road with Hind Lane and with Cross Street. Long Street has on-street parking and sidewalks.
- *Santa Fe Road* is a local roadway with two travel lanes, no existing bikeways, no on-street parking, and no sidewalks. Santa Fe Road is proposed to be realigned as a commercial collector with Class II bikeways and extended from Tank Farm Road north to Prado Road. There is a proposed Class I bikeway south of Tank Farm Road.
- *Broad Street* is a highway/regional route with two to four travel lanes, Class II bike lanes, sidewalks, and no on-street parking. Heading south Broad Street becomes Edna Road (SR 227).
- *Mindbody* is a local roadway that provides access to the Mindbody commercial parking lot. There is a planned roadway connection forming a new north leg of the Tank Farm Road/Mindbody intersection, which will provide north-south connectivity between Tank Farm Road and Industrial Way.
- *Industrial Way* is a commercial collector with two travel lanes, Class III bikeways, sidewalks, and on-street parking. There are proposed Class II bikeways east of Broad Street.
- *Aerovista Place* is a local roadway that provides secondary access to the San Luis Obispo County Airport. Aerovista Place has two travel lanes, no existing bikeways, sidewalks, and on-street parking.
- *Aero Drive* is a local roadway that provides primary access to the San Luis Obispo County Airport. Aero Drive has two travel lanes, a two-way left turn lane, Class II bike lanes, and no on-street parking.
- *Farmhouse Lane* is a local roadway that provides access to commercial spaces. Farmhouse Lane has two travel lanes, no existing bikeways, sidewalks, and on-street parking.
- *Buckley Road* is an arterial with two travel lanes, no existing bikeways, no sidewalks, and no on-street parking. Buckley Road has proposed Class I and II bikeways and is a County road.

The existing crosswalks at the study intersections are described below.

- Tank Farm Road/South Higuera Street (#1): Marked crosswalks with pedestrian signals on all legs.
- Tank Farm Road/Long Street (#2): No marked crosswalks, side-street stop controlled.
- Tank Farm Road/Santa Fe Road (#3-4): No marked crosswalks, side-street stop controlled.
- Tank Farm Road/Mindbody (#5): No marked crosswalks or pedestrian signals.
- Broad Street/Industrial Way (#6): Marked crosswalks with pedestrian signals on all legs.
- Broad Street/Tank Farm Road (#7): Marked crosswalks with pedestrian signals on all legs.
- Broad Street/Aerovista Place (#8): No marked crosswalks, side-street stop controlled.
- Broad Street/Aero Drive (#9): Marked crosswalks on all but the south and east legs with pedestrian signals on all but the south leg.
- Broad Street/Farmhouse Lane (#10): No marked crosswalks, side-street stop controlled.
- Edna Road (SR 227)/Buckley Road (#11): Marked crosswalks with pedestrian signals on all but the north leg.

Transit

SLO Transit operates transit service in the City of San Luis Obispo. *SLO Transit Route 1A* is a weekday and weekend bus service that travels from the Downtown Transit Center to the San Luis Obispo Regional Airport via Broad Street, Marsh Street, Johnson Avenue, Laurel Lane, Orcutt Road, and Tank Farm Road in a clockwise direction with 60-minute headways. The closest stops to the project site are approximately one-half mile away on Broad Street near Tank Farm Road and near Industrial Way.

SLO Transit Route 1B is a weekday bus service similar to Route 1A but traveling in a counterclockwise direction. The closest stops to the project site are also located approximately one-half mile away on Broad Street near Tank Farm Road and near Industrial Way. Connections to San Luis Obispo Regional Transit Authority (SLORTA) routes and other SLO Transit routes are available at the Downtown Transit Center.

PROJECT SITE ACCESS AND CIRCULATION

The project would construct an interim section of the Santa Fe Road extension north of Tank Farm Road. This interim section would include one auto lane per direction, a northbound vertically separated Class IV bikeway, a southbound Class II bikeway, and a sidewalk on the east side fronting the project site. The roadway would terminate with a temporary cul-de-sac. In the future, neighboring developments would convert this terminus to a roundabout and provide a connection to the Prado Road extension.

Under existing conditions, Tank Farm Road east of the project site has one westbound auto lane, two eastbound auto lanes, and Class II bike lanes. The south side has intermittent sidewalks, and the north side has no sidewalks. A second westbound auto lane, a physically separated bike lane, and a sidewalk are planned as part of the frontage improvements for the adjacent development projects. West of the project site there is currently one auto lane per direction, Class II bike lanes, and no sidewalks. An additional auto lane per direction and a Class I bike path on each side are proposed as long-term improvements.

The project proposes to widen the westbound direction of Tank Farm Road to include a center turn lane and two westbound auto lanes, sidewalks, and a separated Class I or IV bike lane. The project would construct a roundabout or interim signal on Tank Farm Road at the realigned Santa Fe Road intersection as well as an on-site Class I bike path from the Santa Fe Road extension to the Damon-Garcia Sports Fields.

The project proposes full access driveways on the Santa Fe Road extension and a right-in-right-out driveway on Tank Farm Road. Under existing conditions, pedestrian access would be via the Damon-Garcia Sports Fields connection. Bicycle access would also be via this connection, in addition to bikeways on Tank Farm Road and the Santa Fe Road extension. As a pedestrian using sidewalks, the closest transit stops would be those on Broad Street near Industrial Way. After neighboring projects to the east are developed, additional pedestrian and bicycle access would be available via a bridge connection with 650 Tank Farm Road. Since sidewalks along the north side of Tank Farm Road will also be constructed with these neighboring projects, a second pedestrian access route would be available via Tank Farm Road and the transit stops on Broad Street near Tank Farm Road would also serve the project.

VEHICLE MILES TRAVELED (VMT)

The City's Travel Demand Model (TDM) was used to estimate VMT with and without the project as described in the City's 2020 Transportation Impact Study Guidelines (TISG). The TISG describes thresholds and approaches to evaluate a variety of project types. **Table 1** summarizes the City's impact thresholds, which were derived from the TDM to be 15 percent below baseline regional VMT.

Table 1: Vehicle Miles Traveled Thresholds

VMT Thresholds of Significance	
Project Type	**Threshold**
Residential	14.25 home-based VMT per capita[1]
Office/Industrial	12.45 home-based work VMT per employee[1]
Retail/Hotel/School/Redevelopment	Net increase in regional (County) VMT
Mixed-Use	Use dominant use or individual thresholds above as appropriate
Transportation Projects	Measurable and substantial increase in VMT

1. Threshold calculated as 15 percent below baseline regional (County) VMT.
Source: SLO City TIS Guidelines, 2020

Table 2 shows the project's trip generation estimate. Detailed trip generation is only provided for Alternative B, the worst-case option in terms of VMT and traffic generation.

Table 2: Trip Generation Estimate

Weekday Trip Generation: Alternative B									
			Daily	AM Peak Hour			PM Peak Hour		
Land Use	**Size**		**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Multifamily Housing[1]	280	DU	1,524	24	70	94	73	46	119
General Office[2]	6,250	SF	72	6	1	7	1	7	8
Medical Office[3]	6,250	SF	153	15	4	19	6	17	23
Gross Vehicle Trips			**1,749**	**45**	**75**	**120**	**80**	**70**	**150**
Residential Vehicular Baseline[4]	Mode Share			96.2%	97.8%		97.3%	96.2%	
	Occupancy			1.13	1.09		1.15	1.21	
Office Vehicular Baseline[4]	Mode Share			99.0%	100.0%		100.0%	99.0%	
	Occupancy			1.06	1.06		1.11	1.07	
Residential Person Trips			1,719	28	78	106	86	58	144
Commercial Person Trips			234	22	5	27	8	26	34
Total Person Trips			**1,953**	**50**	**83**	**133**	**94**	**84**	**178**
Internal Capture[5]						2%			3%
Internal Person Trips			*30*	*1*	*1*	*2*	*3*	*3*	*6*
External Person Trips			**1,923**	**49**	**82**	**131**	**91**	**81**	**172**
Site Mode Split for External Person Trips[6]	Vehicle	82.8%	1,592	41	68	109	75	67	142
	Bicycle	10.3%	198	5	8	13	9	8	17
	Pedestrian	5.8%	112	3	5	8	5	5	10
	Transit	1.2%	23	1	1	2	1	1	2
Site Vehicle Occupancy[7]	1.61								
External Vehicle Trips			**990**	**26**	**42**	**68**	**47**	**42**	**89**
Net New Vehicle Trips			**990**	**26**	**42**	**68**	**47**	**42**	**89**

DU = Dwelling Unit; SF = Square Feet; ITE = Institute of Transportation Engineers.
1. ITE Land Use Code #221, Multifamily Housing (Mid-Rise). Fitted curve equations used.
2. ITE Land Use Code #710, General Office Building. Fitted curve equations (Daily and PM) and average rate (AM) used.
3. ITE Land Use Code #720, Medical-Dental Office Building. Fitted curve equations used.
4. Baseline data obtained from Trip Generation Handbook, Appendix B.
5. AM and PM percentages from TripGen 10 software; Daily internal trips assumed five times PM internal trips.
6. Mode split based on City's Travel Demand Model with site calibration based on existing counts.
7. Vehicle occupancy based on City's Travel Demand Model.
Source: ITE Trip Generation Manual, 10th Ed. and Trip Generation Handbook, 3rd Ed., 2017; GHD, 2020; CCTC, 2020.

Under Alternative B, the residential component generates 87 percent of the daily gross vehicular trips and is therefore the dominant use, so the impact determination focuses on residential VMT. The residential component is also the dominant use under Alternative A, generating 76 percent of the daily gross vehicular trips. The with project scenarios include the proposed frontage improvements to the roadway network.

Table 3 presents the regional VMT with and without the project alternatives.

Table 3: Regional VMT

Regional VMT Summary		
Scenario[1]	**Total Regional VMT**	**Residential VMT**
Baseline	8,488,043	4,267,998
Baseline+Project A	8,482,616	4,261,383
Change from Baseline	*-5,427*	*-6,615*
Baseline+Project B	8,481,574	4,260,917
Change from Baseline	*-6,469*	*-7,081*
Baseline+Res Only	8,481,009	4,260,367
Change from Baseline	*-7,034*	*-7,631*

1. Project A includes **residential plus retail**; Project B includes residential plus office; Residential only does not include retail or office.

2. Total regional VMT is total daily miles driven within SLO County and residential VMT tracks all home-based trips.

Source: CCTC, 2020

All three project alternatives reduce regional overall VMT and residential VMT. The residential only alternative shows the largest reduction in both VMT categories.

Residential VMT

The project is located in an area identified in the City's TISG screening maps[1] as having residential VMT per capita below 85 percent of the regional average, the City's impact threshold for residential projects. The project produces 7.7 residential VMT per capita, well below the City's impact threshold of 14.25. The residential component of the project would have a less than significant impact on VMT.

This result is intuitive given the City's current jobs:housing imbalance which results in longer commute trips for many employees working in the City. Adding housing within the City shortens trips, reducing VMT. The project would be well connected to the City's bicycle and pedestrian network which also serves to reduce VMT.

Induced Demand

Induced demand occurs when new roadway capacity induces additional vehicular travel. Guidance from the State Office of Planning and Research (OPR) notes that "if a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce." The City's TISG note that no standardized thresholds have been defined for

[1] https://www.slocity.org/home/showdocument?id=26883

induced travel impacts and recommends a case-by-case evaluation. Potential roadway widenings and their effect on VMT are discussed below.

Tank Farm Road

The project proposes to widen the westbound direction of Tank Farm Road along the project frontage to include a center turn lane and two westbound auto lanes, sidewalks, and a separated Class I or IV bike lane. The widening would transition to tie back to the adjoining segment. The VMT results in Table 3 reflect this proposed frontage widening and show a net decrease in regional VMT with the project. This widening is short and would substantially improve conditions for cyclists and pedestrians and would have an insubstantial effect on VMT.

The City's Circulation Element plans the widening of Tank Farm Road to four lanes between Santa Fe Road and Old Windmill Lane. The project does not propose this widening, but it is possible that the TIS currently underway would conclude that this widening is needed to provide acceptable traffic operations. The City's TDM was applied to test the impact of this widening under year 2040 conditions. Model runs were conducted that included the proposed project with and without the widening. Widening this segment increases total regional VMT by 1,130 miles, an increase of 0.01 percent, an insubstantial amount. If included as part of the project, regional VMT would still be reduced from the no project condition due to the improved jobs:housing balance within the City resulting from the proposed project land uses. This widening would also include improved conditions for pedestrians and cyclists in the City.

Santa Fe Road

The Circulation Element plans a new commercial collector segment of Santa Fe Road to connect the future Prado Road extension to Tank Farm Road. The project proposes to construct the first segment north of Tank Farm Road to provide project access. The Airport Area Specific Plan (AASP) identifies Santa Fe Road north of Tank Farm Road with an interim two-lane configuration and an ultimate four-lane configuration plus center median/turn lane. However, preliminary year 2040 forecasts show these segments carry daily volumes well below the practical capacity of a two-lane roadway, suggesting the four-lane section may be unnecessary. This issue will be examined in more detail in the TIS. The project proposes a two-lane section with modifications to enhance the bikeway by upgrading from Class II to IV, which is substantially consistent with the AASP.

OPR guidance notes that the addition of roadway capacity on local or collector streets is not likely to lead to a substantial or measurable increase in vehicle travel provided the project also substantially improves conditions for pedestrians and cyclists. The Santa Fe Road extension would provide bicycle and pedestrian facilities where none currently exist. This widening, should it be required, would not substantially increase VMT.

EMERGENCY ACCESS

The project proposes three driveways: two with full access on Santa Fe Road and one for right-in-right-out on Tank Farm Road. An additional access point from Santa Fe Road is proposed with bollards. The neighboring 650 Tank Farm Road project is expected to install a new bridge with bollards between the sites which would serve as an emergency access route. Emergency access is adequate as proposed.

COLLISIONS

The City's 2016 and 2017 Traffic Safety and Operations Reports, the two most recent versions, were reviewed to determine if any study locations have been identified as having higher-than-average collision rates. The intersection of Broad Street/Industrial Way is ranked as the fourth highest collision rate for arterial/collector intersections in the 2016 Report and the fifth highest in the 2017 Report. A rear end collision pattern was

identified in both Reports. Recommendations from the 2017 Report include installing an additional signal head and a warning beacon, both for the southbound approach. The project is expected to add 45 vehicle trips to this intersection during the PM peak hour, an increase of 1.4%. This increase would not substantially increase hazards or exacerbate the current pattern of collisions.

The following study locations were also ranked, either in one or both Reports: Tank Farm Road/South Higuera Street, Broad Street/Tank Farm Road, and the segment of Broad Street from Tank Farm Road to Fuller Road. However, each of these locations was ranked below the top five in its respective category and no further discussion was provided.

CONCLUSIONS

The proposed project would not conflict with applicable transportation plans and would not substantially increase hazards associated with transportation. The project would produce VMT levels below the City's threshold and would therefore be consistent with CEQA Guidelines section 15064.3, subdivision (b).

ATTACHMENTS

Attachment A: Project Site Plan

REFERENCES

California Governor's Office of Planning and Research (OPR). December 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA.

City of San Luis Obispo. 2014. Bicycle Transportation Plan.

_____. 2014. Circulation Element of the General Plan.

_____. 2016. Short Range Transit Plan.

_____. 2018. Engineering Standards and Specifications.

_____. 2019. Zoning Regulations.

_____. 2020. Transportation Impact Study Guidelines.

Institute of Transportation Engineers (ITE). 2017. Trip Generation Manual, 10th Edition.

_____. 2017. Trip Generation Handbook, 3rd Edition.

CONCEPTUAL SITE PLAN

SCALES: 1" = 100'- 0" *(12"X18" SHEET)* 0' 50' 100' 200' 300'

1"=50'-0" *(24"X36" SHEET)* 0' 25' 50' 100' 150'

NORTH

rrm design group

CoVelop Collaborative Development