SEAL COVE/MOSS BEACH AREA ROADS IMPROVEMENT PROJECT

Draft Initial Study/Mitigated Negative Declaration

Prepared for
County of San Mateo Department of
Public Works

February 2014

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SECTION 1
Project Description

1.1 Introduction

San Mateo County (County) Department of Public Works proposes to implement the Moss Beach/Seal Cove Area Roads Improvement Project (proposed project) within unincorporated San Mateo County, California. The proposed project includes improvements to approximately 1,500 linear feet of existing dirt roads within the County's right-of-way (ROW). In addition, to satisfy the County's requirements under the California Regional Water Quality Control Board (RWQCB) San Francisco Bay Region Municipal Regional Stormwater Permit (MRSP), the County proposes to construct a total of approximately 0.3 acres of bioretention facilities and pervious paving to capture and treat stormwater. The project would be constructed in two locations, both of which occur within the rural residential community of Moss Beach, between the communities of Montara and Princeton by the Sea (**Figure 1**).

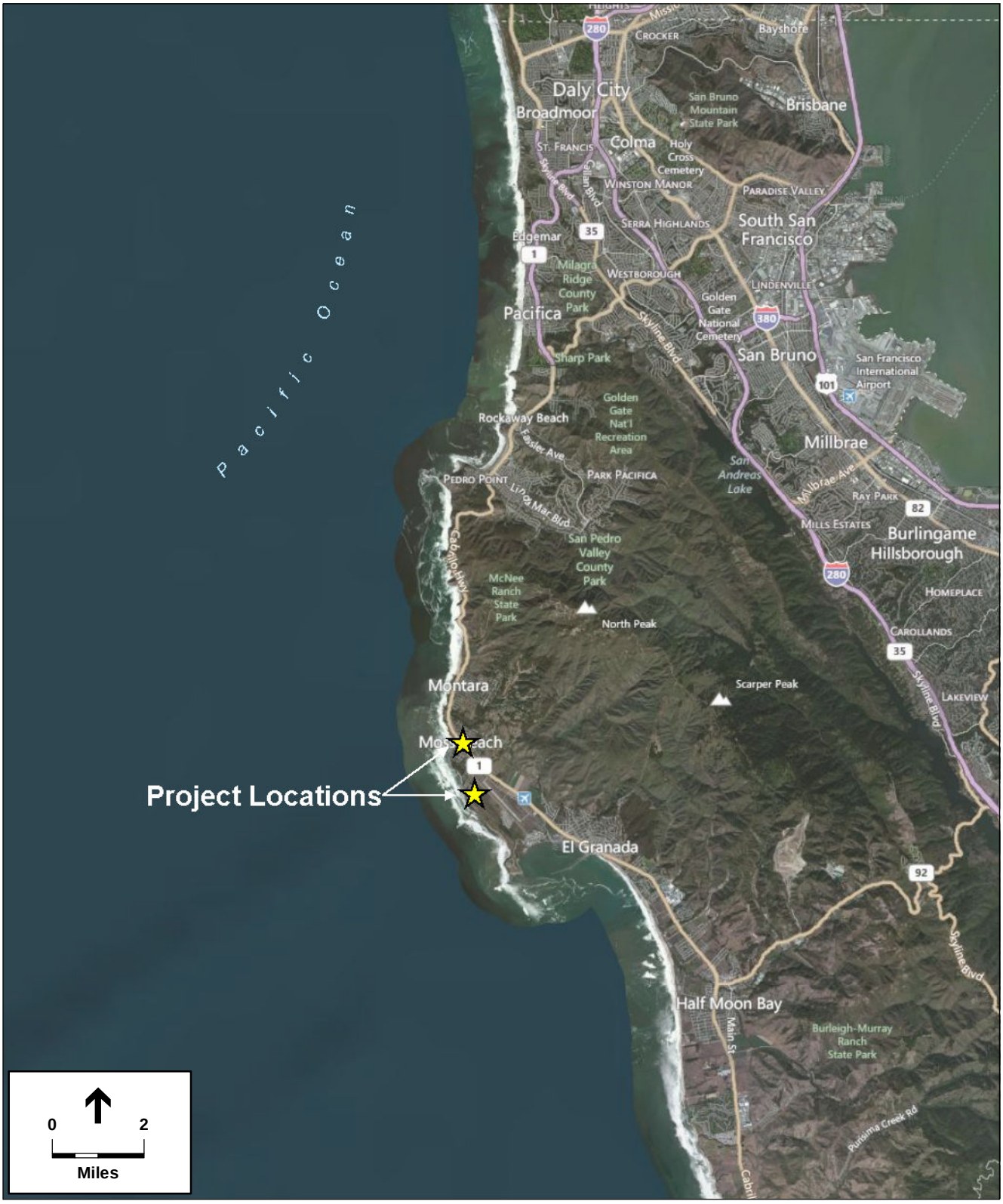
This document is an Initial Study/Mitigated Negative Declaration (IS/MND) that analyzes the potential environmental impacts of the road improvements and stormwater treatment measures. This IS/MND is prepared in compliance with Public Resources Code Section 21000 et seq., California Environmental Quality Act (CEQA) of 1970 (as amended), and Title 14, Chapter 3 of the California Administrative Code. In accordance with the CEQA Guidelines, California Code of Regulations Title 14, Chapter 3, Section 15070, a Mitigated Negative Declaration shall be prepared if the following criteria are met:

- There is no substantial evidence that the project may have a significant effect; or
- Where there may be a potentially significant effect, revisions to the project would avoid or mitigate the effects to a point where clearly no significant effects would occur.

In accordance with Section 15073 of the CEQA Guidelines, this document is being circulated to local, state and federal agencies and to interested organizations and individuals who may wish to review and comment on the report. Comments can be submitted as follows:

By email: SealCoveISMND@smcgov.org

By mail: Zack Azzari
County of San Mateo, Department of Public Works
555 County Center, 5th Floor
Redwood City, CA 94063-1665



SOURCE: ESRI, 2013

Moss Beach/Seal Cove Road Improvements Project IS/MND . 2120603.02

Figure 1

Regional Overview Map

1.2 Project Background

The San Mateo County Department of Public Works proposes improvement of three existing dirt roads in a rural residential area of Moss Beach, an unincorporated community within San Mateo County, California. The proposed project would provide community residents with an access alternative to Ocean Boulevard, which is presently the only paved road connecting San Lucas Avenue with Madrone, Precita, and Bernal Avenues. Ocean Boulevard, which runs adjacent to coastal bluffs south and west of the project area, is closed in some areas west of San Lucas Avenue due to bluff erosion. The existing alternative access routes, which include the road segments to be improved, are not designed to County road standards, and therefore are not maintained by the County. As such, they are presently in fair to poor condition, some with large potholes that impede direct passage.

The County's Municipal Regional Stormwater Permit (MRSP; Order No. R2-2009-0074, as amended by Order No. R2-2011-0083), Section C.3, requires the inclusion of source control, site design, and stormwater treatment measures in new development to address stormwater runoff pollutant discharges and increases in new flows from new development (RWQCB, 2009). The MRSP generally calls for the inclusion of such treatment measures on the same site as the proposed new development. However, in some cases the permittee may satisfy a portion of the treatment requirement at an alternative location within the same watershed as the new development site. Due to space limitations and potential conflicts with existing driveways, the County proposes to satisfy a portion of the treatment requirement onsite and a portion of the treatment requirement offsite.

1.3 Project Objectives

The primary project objectives are to provide residents of the Seal Cove/Moss Beach area with alternative paved access routes between San Lucas Road and Madrone, Precita, and Bernal Avenues, through improved travel surfaces and site drainage, within the County's existing ROW.

1.4 Proposed Project

1.4.1 Project Location

The project is proposed for two locations, both of which occur in the area of Moss Beach, San Mateo County, California. The first is located within the community of Seal Cove/Moss Beach, approximately one-half mile west of Highway 1, between the Half Moon Bay Airport and the Pacific Ocean (Figure 1). The second is located on Carlos Street, approximately one-half mile north of the Half Moon Bay Airport, and landward (east) of Highway 1. The project would occur entirely within the State's Coastal Zone boundary, as defined under California Public Resources Code Section 30103, and therefore is subject to the provisions of the County of San Mateo Local Coastal Program (LCP).

Moss Beach is generally located at the northern terminus of Pillar Ridge, in the Midcoast area of San Mateo County. Natural communities in the project vicinity include grasslands, coastal scrub, and intermittent wetlands and occasional large native and ornamental trees. The Seal Cove site is located within the Dennison Creek watershed. However, due to its proximity to the Pacific Ocean, surface water runoff may drain to Pillar Point Marsh, north of Dennison Creek, or directly west to the ocean. The Carlos Street site is within the Dean Creek watershed, and is located just north of and drains into Dean Creek. The James V. Fitzgerald Marine Reserve is located along the shoreline and offshore areas between the community of Moss Beach, to the north of the project area, and Pillar Point to the south.

Seal Cove is a rural residential subdivision of Moss Beach (**Figure 2**). The Seal Cove site is bounded by development to the north and west, and open space – including Pillar Point Bluff County Park – to the east and south. Parcels adjacent to the project site have General Plan land use designations of Low and Medium Density Residential; Zoning designations of Residential R-1/S-105 (minimum parcel size of 20,000 square feet) and R-1/S-17 (minimum parcel size of 5,000 square feet), respectively. The Carlos Street site (Figure 2) is presently covered entirely in asphalt paving. The site is bounded to the north by the San Mateo County Sheriff's North Coast Substation, to the south by a grassy median and Highway 1, and to the east and west by the Coastside Market and Joy of Being yoga studio, respectively. Dean Creek, part of which is underground and part of which is open channel, flows approximately 100 feet southeast of the Carlos Street site. Surface water runoff from Cabrillo Highway and Carlos Street flows into the grassy median, which is connected by a catch basin and culvert at its south end to the underground pipes of Dean Creek. Surface runoff at the Carlos Street site may also flow into a grated catchbasin in the center of Virginia Avenue, which also discharges to Dean Creek. Lands adjacent to the alternative treatment site have General Plan land use designations of Neighborhood Commercial and Medium Density Residential, and zoning designations of Commercial (C-1) and R-1/S-17 (minimum parcel size of 5,000 square feet), respectively.

1.4.2 Proposed Improvements

At the Seal Cove site, the County proposes approximately 1,500 linear feet of roadway improvements within the County's ROW. Specific road segments to be improved include: (1) San Ramon Avenue, between San Lucas Road and Bernal Avenue (737 linear feet); (2) Del Mar Avenue, between Madrone Avenue and Bernal Avenue (472 linear feet); and (3) Madrone Avenue, between Decota Avenue and Del Mar Avenue (275 linear feet). The above described road segments would be improved by construction of 16-foot-wide paved road sections comprised of approximately three inches of asphalt concrete and nine inches of cement-treated base. Surface drainage features, consisting of bioretention facilities separated by check dams, would be constructed on either side of the roadway to capture and treat stormwater runoff. The biotreatment areas would measure approximately five feet wide and approximately six inches deep. At the Carlos Street site, the County proposes to replace an approximately 1,100-square-foot paved area of County ROW with a combination of vegetated biotreatment facility (60 square feet) and pervious paving (1,040 square feet). Upon completion of construction, the County would assume maintenance responsibility for these road segments and treatment areas.

SOURCE: ESRI, 2013

Moss Beach/Seal Cove Road Improvements Project IS/MND . 2120603.02

Figure 2
Project Area Map

1.4.3 Project Construction

The project would require ground disturbance of an approximately 38,000 square-foot area, including all road grading, pervious paving, and biotreatment areas. Excavation of roadside areas, to an estimated depth of one to one and a half feet, would also be required for biotreatment facility construction. At the Seal Cove site, the proposed improvements would require removal of one tree (Monterey cypress) and trimming of up to two trees that have grown into the County ROW. The project may require temporary disconnection or relocation of utility lines. No relocation or construction of sidewalks, lighting, or other service improvements is anticipated.

Construction equipment required for work at the Seal Cove site would include the following: backhoe, blade (for grading), rollers, cement-treat machine, and several utility trucks (for water, asphaltic emulsion, etc.). Construction equipment and materials staging would occur on Los Banos Avenue, a paved road. All construction equipment to be used at the Seal Cove site would be stored in this area when not in use. Any necessary on-site maintenance or refueling would also occur within this area. Construction equipment required for work at the Carlos Street site would include the following: backhoe, blade (for grading), jackhammers, and utility trucks. Construction equipment and materials staging would occur on Carlos Street, a paved road. All construction equipment to be used at the Carlos Street site would be staged in this area when not in use. On-site maintenance and refueling would also occur in this area.

A workforce of up to 12 people is expected for the project – up to seven at the Seal Cove site and up to five at the Carlos Street site. The workforce would generally be comprised of a foreman, laborers, equipment operators, and resource monitors.

Project construction would require approximately five truck trips per day – three from the Seal Cove site and two from the Carlos Street site – up to a total of 75 (50 at the Seal Cove site and 25 at the Carlos Street site) round trips for both sites. These trips would be required for the import of asphalt and concrete for road improvements (approximately 400 cubic yards), and off-haul of asphalt waste and soil excavated for biotreatment facility construction (approximately 280 cubic yards). Any excavated materials that cannot be reused onsite would be deposited at either an approved sanitary landfill or private receiving site outside of the Coastal Zone.

Construction is expected to occur over a period of two months in Summer/Fall 2014. While the Carlos Street work may trail behind the Seal Cove work, and even occur in a subsequent year, this analysis conservatively assumes all work would be undertaken concurrently. Work at the Seal Cove site would require approximately 45 days; work at the Carlos Street site would require approximately 22 days. All construction activities would occur during the daytime, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. No work would occur on weekends or holidays.

1.4.4 Project Operation

Upon completion of improvements, road and bioretention facility maintenance, including periodic inspections and necessary repairs, would be conducted by the County Department of Public Works' Road Services Division, in a manner and schedule similar to that for other County-maintained roads.

1.5 Report Organization

This report is organized as follows:

Section 1, **Project Description**, provides an introduction to the project with project background, needs and objectives, and discusses the proposed facilities.

Section 2, **Environmental Checklist Form**, presents the CEQA Initial Study Environmental Checklist, and analyzes environmental impacts resulting from the project and describes the mitigation measures that would be incorporated into the project to avoid or reduce impacts to less-than-significant levels.

Section 3, **Mitigation Measures and Monitoring Program**, lists the mitigation measures that are recommended in Section 2.

1.6 Other Approvals

The proposed project would require local and state permits and approvals. Based on the current understanding of the project, the following is a list of the agencies and approvals likely to be required for the Seal Cove/Moss Beach Area Road Improvements Project:

- San Mateo County Planning Commission certification of the IS/MND and adoption of the Mitigation Monitoring and Reporting Program, and
- San Mateo County Planning Commission issuance of Coastal Development Permit for the roadway improvements.

The project may also require the following additional State approvals:

- Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System (NPDES) permit coverage and compliance for storm- and non-stormwater waste discharges, and
- California Department of Fish and Wildlife (CDFW) compliance with Section 2080 of the California Fish and Game Code for project activities that could impact species listed by the State of California as threatened or endangered.

References

Regional Water Quality Control Board (RWQCB) San Francisco Bay Region, 2009. Municipal Regional Stormwater NPDES Permit Order R2-2009-0074 NPDES Permit No. CAS612008. Available online at: http://www.swrcb.ca.gov/rwqcb2/board_decisions/adopted_orders/2009/R2-2009-0074.pdf. Accessed March 2013.

San Mateo County, 2001. Priority Watersheds for Restoration of Habitat and Recovery of Coho Salmon and Steelhead Trout Populations. Environmental Services Agency, Planning and Building Division. Available online at: http://www.co.sanmateo.ca.us/vgn/images/portal/cit_611/16579688Salmon%20&%20Steelhead%20PDF%20Map.pdf. Accessed on December 4, 2013.

SECTION 2
Environmental Checklist

1. **Project Title:** Seal Cove/Moss Beach Area Road Improvements Project

2. **Lead Agency Name and Address:** Zack Azzari
County of San Mateo Public Works Department
555 County Center, 5th Floor
Redwood City, CA 94063

3. **Contact Email:** **SealCoveISMND@smcgov.org**

4. **Project Location:** Seal Cove/Moss Beach Area of Unincorporated San Mateo County

5. **Project Sponsor's Name and Address:** County of San Mateo Department of Public Works

6. **General Plan Designation(s):** Adjacent parcels are designated as Low/Medium Density Residential and Neighborhood Commercial

7. **Zoning Designation(s):** Adjacent parcels are zoned Residential (R-1/S-105, R-1/S-17) and Neighborhood Business (C-1)

8. **Description of Project:** The proposed project involves improvements to three existing dirt roads and installation of biotreatment facilities and pervious paving in rural residential and commercial areas of unincorporated San Mateo County, California (See Section 1, Project Description).

9. **Surrounding Land Uses and Setting:** Land uses surrounding the project site include residential, commercial, public, and open space area (See Section 1, Project Location).

10. **Other public agencies whose approval is required:** Required approvals include the County Planning Commission's certification of the IS/MND and adoption of the MMRP and the County Planning and Building Department's issuance of a CDP and grading permit. Other agencies whose approval may be required include: California Department of Fish and Wildlife, and Regional Water Quality Control Board.

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

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

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Signature _____ Date 2/20/2014

ZACK AZZARI

Printed Name _____ For

Environmental Checklist

2.1 Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS — Would the project:**				
a)	Have a significant adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?	☐	☐	☒	☐
b)	Significantly damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Significantly degrade the existing visual character or quality of the site and its surroundings, including significant change in topography or ground surface relief features, and/or development on a ridgeline?	☐	☐	☒	☐
d)	Create a new source of significant light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
e)	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?	☐	☐	☒	☐
f)	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?	☐	☐	☒	☐
g)	Visually intrude into an area having natural scenic qualities?	☐	☐	☒	☐

Discussion

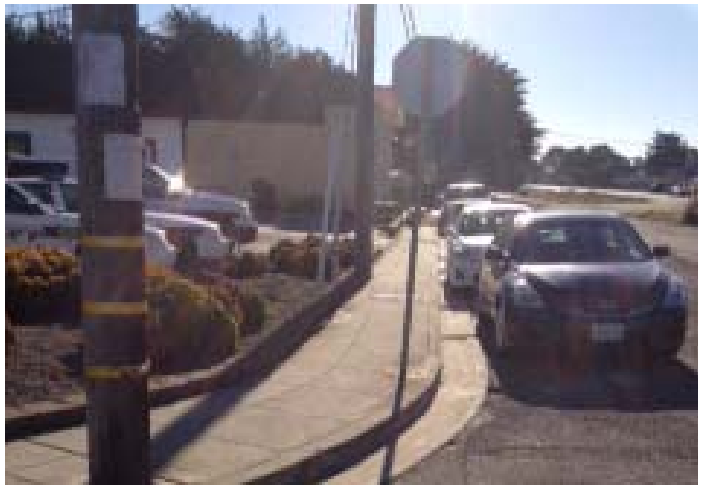
a, b) There are no identified scenic vistas in the immediate vicinity of the Seal Cove project sites, which is shown in **Figure 3**. The Seal Cove project site is located adjacent to the western extent of the County-designated Highway 1 scenic corridor. The Carlos Street site (see Figure 3) is located within this scenic corridor (County of San Mateo, 2010). This segment is also identified as an eligible state scenic highway, but has not been designated as such at this time (Caltrans, 2007). The proposed work at the Seal Cove site would include approximately 0.85 acre of site disturbance, including grading of existing dirt roads and excavation of approximately 200 cubic yards of soil for bioretention facility construction. Work at the Carlos Street site would entail removal of approximately 1,100 square feet of asphalt surface and excavation of approximately 81 cubic yards of soil for bioretention facility construction and installation of pervious paving. Neither would include a significant change in site topography. No project components would occur on a ridgeline.

The proposed improvements at the Seal Cove site involve the paving of three segments of existing dirt road. Work at the Carlos Street site involves removal of existing asphalt surface. Because the project construction activities would be temporary, and would

Eastward view of Del Mar Avenue from Madrone Avenue

Westward view of Madrone Avenue from Del Mar Avenue

Northward view of San Ramon Avenue from Bernal Avenue



Southward view of Carlos Street from California Avenue

Figure 3
Site Photographs

include minimal grading and only short-term presence of construction equipment, construction activities would not substantially affect views from existing residential or public land areas. The project would be located within existing developed areas and among other paved roads. As such, the change in roadways from unimproved dirt roads to paved roads at the Seal Cove site, and removal of paving at the Carlos Street site, would not substantially change the quality of views from nearby public vantage points, including from the Highway 1 scenic corridor.

The visual character of the Seal Cove project site would be changed through the removal of one Monterey cypress tree and trimming of up to two other trees within the ROW. However, the project site is within a rural area that lies along a transition zone between coastal scrub and urban development, where the landscape is characterized by both low-lying scrub vegetation and intermittent native and ornamental trees. Removal of a tree and trimming of up to two other trees would not open views to areas or structures that are currently screened from public views. Therefore, the overall scenic quality of the area would not be affected by tree removal and trimming implemented as part of the project. For these reasons, the project's impacts on scenic vistas and views from existing residential and public vantage points would be **less than significant**.

c) As noted in 1a, above, removal of one Monterey cypress and trimming of trees within the ROW at the Seal Cove site would not be expected to significantly degrade the existing visual character or quality of the site. At both project locations, construction equipment would remain on site temporarily and stored within the Los Banos Avenue and Carlos Street staging areas when not in use. As such, the project's impact with respect to the visual character of the project sites would be **less than significant**.

d) There would be **no impact** as the project does not include nighttime construction that would require lighting, permanent lighting such as street lights, or include any material or surfaces that would constitute a new source of glare.

e) The project sites are situated approximately eight miles north of designated State Scenic Highway 1 segment that is within San Mateo County (Caltrans, 2007), and within a segment eligible for listing as a state scenic highway. A County scenic corridor extends along the Midcoast portion of Highway 1, generally from Junipero Serra Freeway to the northern limits of the City of Half Moon Bay (County of San Mateo, 1986). The Seal Cove project site is located to the west of the County-designated Highway 1 scenic corridor; the Carlos Street site is located within this corridor (County of San Mateo, 2010).

The project would not include any vertical elements that would obstruct views to or within this scenic corridor. General Plan Policy 4.43 calls for new road construction to be sensitive to the visual qualities and character of the scenic corridor, including through consideration of width, alignment, grade, slope, grading, and drainage facilities. The proposed road improvements would be consistent with this policy. First, none of the Seal Cove road improvements would be visible from a designated scenic roadway. The Carlos

Street work would not likely be noticeable from the scenic corridor. If noticed briefly by motorists passing the site, it is likely that the project would slightly improve the scenic character of the area by replacing existing asphalted areas with vegetation and pervious paving. The Seal Cove roads would be limited to 16 feet in width, smaller than the 22 foot standard for this area (County of San Mateo, 1985, 2004). The road alignments would generally follow existing dirt roadways, and not involve steep slopes or grades. Grading would be limited to that necessary for roadway and bioretention facility construction (approximately one to one and a half feet below ground surface). For these reasons, the project would have a **less-than-significant impact** on a scenic highway or within a state or county scenic corridor.

f) The Local Coastal Program (2013) calls for the application of the Design Review (DR) district standards to urbanized areas of the Coastal Zone (Policy 8.12.a). The project area is located within a designated urban area within the Coastal Zone. Design review requirements apply to all activities requiring a grading permit, unless otherwise determined exempt by the DR Administrator. While the design standards generally pertain to structures, they may be applicable to the portion of the project involving tree removal. According to the Zoning Regulations (1999), within a DR district, trees and other vegetative land cover may be removed only where necessary for the construction of structures or paved areas in order to reduce erosion and impacts on natural drainage channels and maintain surface runoff at acceptable levels (Section 6565.17.E).

However, pursuant to California Government Code sections 53090 and 53091, which exempt County government agencies from county zoning regulations, the proposed project would be exempt from the requirements of the DR district. Nevertheless, a primary purpose of the proposed project, as envisioned through the Montara-Moss Beach-El Granada Area Plan (1985), is to improve site drainage and the travel surface (Issue II.B.2). As such, even if the project were not exempt from the DR district regulations, removal from the Seal Cove site of the Monterey cypress for the purpose of improving site drainage and surface runoff would be consistent with the DR district standards. Further, the construction of bioretention facilities planted with native vegetation would provide a transition between the project and adjacent open areas, as also required by the DR district standards (Section 6565.17.F). For these reasons, the project's impacts on community design would be **less than significant**.

g) While rural in character, the project sites are located within a County-designated urban area, adjacent to an existing residential subdivision and commercial development. However, open space areas having natural scenic qualities do occur near the project sites. The paving of existing dirt roads at the Seal Cove site would not substantially change the natural scenic qualities of the adjacent open space lands. And, as noted above, the construction of bioretention facilities adjacent to the paved road segments would provide a transition to existing, adjacent open space areas. The resulting impact on the natural scenic quality of the area would be **less than significant**.

References

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2.2 Agricultural and Forest Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?	☐	☐	☐	☒
e) Result in damage to soil capability or loss of agricultural land?	☐	☐	☐	☒
f) 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))? Note to reader: This question seeks to address the economic impact of converting forest land to a non-timber harvesting use.	☐	☐	☐	☒

Discussion

a) As the project area is located entirely within the Coastal Zone, there would be **no impact** related to land outside the Coastal Zone.

b) As the project is not located within an area designated or zoned for agriculture, an Open Space Easement, or a Williamson Act contract, there would be **no impact** on lands with any such characteristic.

c) The project would occur within areas of existing residential and commercial development, zoned for low to medium density residential and neighborhood commercial

land uses. Improvement of San Ramon Avenue may increase the development potential of vacant parcels adjacent to the project area. These parcels are also located within an area zoned for low-density residential development (County of San Mateo, 2013). Beyond the project area to the north and east, past Park Avenue and Bernal Avenue, the lands are zoned for agricultural use; however, they are not presently under agricultural production. The Seal Cove road improvements may increase development potential of lots in the immediate project vicinity. However, the adjacent lands to the north are steeply sloping and include large wetlands areas, while those to the south are owned by Peninsula Open Space Trust and serve as Pillar Point Bluff County Park. As such, increased development potential within the project area is not expected to result in a conversion of adjacent agriculturally zoned land to non-agricultural uses. For these reasons, there would be **no impact**.

d) Even though located within the Coastal Zone, the project sites do not include lands identified as Class I or Class II Agricultural Soils, or Class III soils rated good or very good for artichokes or Brussels sprouts. Therefore, the project would have **no impact** on lands with such designation.

e) For the reasons identified in response to criteria 2c), above, there would be **no impact**.

f) The project areas are not zoned as forest land, timberland, or Timberland Production. Therefore, there would be **no impact** on lands with such designations.

References

County of San Mateo, 1999. Zoning Regulations. Available online at: http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/9441580Zregs-wp.pdf. Accessed March 2013.

County of San Mateo, 1986. General Plan Background Issues and Maps. Available online at: http://www.co.sanmateo.ca.us/planning/genplan/index.html. Accessed March 2013.

County of San Mateo, 2013. Local Coastal Program Policies (Amended through August 8, 2012). Available online at: http://www.co.sanmateo.ca.us/Attachments/planning/PDFs/LCP/SMC_Midcoast_LCP_2013.pdf. Accessed on December 5, 2013.

2.3 Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute significantly to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to significant pollutant concentrations, as defined by the BAAQMD?	☐	☐	☒	☐
e) Create objectionable odors affecting a significant number of people?	☐	☐	☒	☐
f) Generate pollutants (hydrocarbon, thermal odor, dust or smoke particulates, radiation, etc.) that will violate existing standards of air quality on-site or in the surrounding area?	☐	☐	☒	☐

Discussion

The Bay Area Air Quality Management District (BAAQMD) adopted thresholds of significance (BAAQMD thresholds) on June 2, 2010, to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released CEQA Guidelines in May 2011, which advise lead agencies on how to evaluate potential air quality impacts with the adopted new thresholds of significance. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that BAAQMD had failed to comply with CEQA when it adopted its 2010 thresholds of significance. While the court did not determine whether or not the thresholds were valid, it did find that the adoption of the thresholds was a project under CEQA, and therefore that BAAQMD should have conducted environmental review. As a result, the court set aside the thresholds and ordered BAAQMD to cease dissemination of them until it had complied with CEQA. BAAQMD appealed the court's decision and the Court of Appeal of the State of California, First District, reversed the trial court's decision. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending there.

In compliance with the trial court's order, which remains in place pending final resolution of the case, BAAQMD is no longer recommending that the thresholds be used as a generally applicable measure of a project's significant air quality impacts, and lead agencies are not required to use these thresholds in their environmental documents. However, nothing in the court's decision

prohibits an agency's use of the thresholds to assess the significance of a project's air quality impacts. Therefore, based on substantial evidence, the analysis herein uses the BAAQMD thresholds and methodologies in its *CEQA Air Quality Guidelines* (BAAQMD, 2011) to determine the significance of project-related impacts with respect to air pollutant emissions.

a) The project sites are within the San Francisco Bay Area Air Basin (Bay Area), which is currently designated as a nonattainment area for State and national ozone standards, State particulate matter (PM10 and PM2.5) standards, and federal PM2.5 (24-hour) standard. The BAAQMD's 2010 Clean Air Plan (BAAQMD, 2010) is the applicable Clean Air Plan (CAP) that has been prepared to address ozone nonattainment issues.

The BAAQMD CEQA Air Quality Guidelines (BAAQMD, 2011) identify a three-step methodology for determining a project's consistency with the current CAP. If the responses to these three questions can be concluded in the affirmative and those conclusions are supported by substantial evidence, then BAAQMD considers the project to be consistent with air quality plans prepared for the Bay Area.

The first question to be assessed in this methodology is "does the project support the goals of the Air Quality Plan (currently the 2010 CAP)?" The BAAQMD-recommended measure for determining project support for these goals is consistency with BAAQMD thresholds of significance. If a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation measures, the project would be consistent with the goals of the 2010 CAP. As indicated in the following discussion with regard to air quality impact questions 3b and 3c, both construction and operation of the project, with mitigation incorporated, would result in less than significant air quality impacts. Therefore, the project would be considered to support the primary goals of the 2010 CAP and, therefore, consistent with the 2010 CAP.

The second question to be assessed in this consistency methodology is "does the project include applicable control measures from the CAP?" The 2010 CAP contains 55 control measures aimed at reducing air pollution in the Bay Area. These measures have been developed primarily for projects that involve existing traffic or would generate new vehicle trips, and other projects involving transit and other non-automobile transportation options. However, the general focus of the CAP is to reduce emissions through, among other measures, improved efficiency of the transportation network. The proposed project would not be expected to generate new trips and, therefore, most of the TCMs identified in the 2010 CAP are not applicable to this project. However, the project would be a transportation improvement project and would improve circulation within the project area. At present, San Ramon Avenue is impassable to all but high clearance vehicles due to ruts and potholes. The proposed project would be consistent with the *Montara-Moss Beach-Granada Area Plan*, which notes that while the dirt roads contribute to the community's character, "they need to be paved in order to control drainage and provide an adequate all weather travel surface" (San Mateo County, 1985). Improving circulation

of the affected roadways would serve to improve the efficiency of the local transportation system, and therefore would be consistent with the CAP.

The third question to be assessed in this consistency methodology is "does the project disrupt or hinder implementation of any control measures from the CAP?" Examples of how a project may cause the disruption or delay of control measures include a project that precludes an extension of a transit line or bike path, or proposes excessive parking beyond parking requirements. The project would not create any barriers or impediments to planned or future improvements to transit or bicycle facilities and does not include additional parking areas, and therefore would not hinder implementation of CAP control measures. The responses to all three of the questions with regard to CAP consistency are affirmative and the project would not conflict with or obstruct implementation of the 2010 CAP, and thus would have a **less-than-significant** impact.

b) The project consists of improvement of approximately 1,500 linear feet of roadway along three public dirt roads that are not maintained by San Mateo County, along with construction of biotreatment measures to treat stormwater runoff. Construction would involve use of equipment and materials that would emit ozone precursor emissions (i.e., reactive organic gases or ROG, and nitrogen oxides, or NOx). Construction activities would also result in the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for these activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NOx from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project development. Emissions were estimated using the Roadway Construction Emissions Model (RoadMod), version 7.1.2 (Sacramento Metropolitan Air Quality Management District, 2012), which BAAQMD recommends for linear construction projects. Results of this modeling are depicted below in **Table 1**. Additional assumptions and information are included in **Appendix A**.

TABLE 1
PEAK DAY CONSTRUCTION-RELATED POLLUTANT EMISSIONS (Pounds/Day)[a]

Year	ROG	NOx	CO	Exhaust PM10[b]	Exhaust PM2.5[b]
2014 (Unmitigated Emissions)	4	48	22	2	2
BAAQMD Construction Threshold	54	54	None	82	54
Significant Impact?	No	No	No	No	No

[a] Emissions were modeled using RoadMod with default assumptions in most cases. It was assumed that construction would occur for 45 working days (about 2 months) in the year 2014 and that there would be a maximum of 15 daily workers and 5 daily haul trips needed for asphalt/concrete import and/or soil export. Additional information is included in Appendix A.

[b] BAAQMD's proposed construction-related significance thresholds for PM10 and PM2.5 apply to exhaust emissions only and not to fugitive dust.

Although the project would not generate emissions during the short-term construction phase that would exceed the BAAQMD thresholds, due to the non-attainment status of the air basin with respect to ozone, PM10, and PM2.5, the BAAQMD recommends that projects implement a set of Basic Construction Mitigation Measures as best management practices regardless of the significance determination. Implementation of **Mitigation Measure AIR-1, BAAQMD's Basic Construction Mitigation Measures,** would reduce impacts to a **less-than-significant** level.

In regards to long-term operations, the proposed project would improve circulation within the project area. The project would not be expected to generate new trips, except for occasional maintenance trips following project implementation. Operational impacts of the project would, therefore, be **less-than-significant** without mitigation.

Mitigation Measure AIR-1: BAAQMD's Basic Construction Mitigation Measures. The County shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below:

- Dust control watering shall be implemented, as necessary, for all exposed surfaces (e.g., parking areas, soil piles, graded areas, and unpaved access roads) up to two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways to be paved shall be completed as soon as possible following grading.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

c) According to the BAAQMD, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In addition, according to the BAAQMD *CEQA Air Quality Guidelines*, if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2011). Alternatively, if a project does not exceed the identified significance thresholds, as would be the case with the proposed project, then the project would not be considered cumulatively considerable and would result in **less-than-significant** cumulative impacts on the air quality environment.

d) Land uses in the project vicinity consist of rural residential, neighborhood commercial, and public land uses. Construction of the project would result in short-term diesel exhaust emissions (DPM), which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction would generate DPM emissions from the use of off-road diesel equipment required for construction activities. Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities (approximately two months) would only constitute a small percentage of the total 70-year exposure period. Furthermore, the use of diesel powered construction equipment would be temporary and episodic, affecting only a few nearby receptors for a limited period of time. Due to the nature of the project, once the construction phase is completed, there would be no continued emissions of TACs associated with project operation.

   In conclusion, the proposed project would not expose sensitive receptors to substantial pollutant concentrations during construction or operations. Therefore, impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be considered **less-than-significant**.

e) As a general matter, the types of land uses that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities, and transfer stations. No such uses would occupy the project sites. Although some odors may occur during construction due to the use of diesel-fueled engines and asphalt paving, construction activities would be temporary and would only affect a few nearby receptors for a limited period of time. Upon completion of the proposed project, objectionable odors would not occur. Therefore, the project would not create objectionable odors that

would affect a substantial number of people and this impact would be considered **less-than-significant**.

f) As discussed for criteria 3b, above, the project would not cause a violation of air quality standards. Also, as discussed for criteria 3d and 3e, above, the project would not expose sensitive receptors to substantial pollutant concentrations or objectionable odors. Thus, the project would not generate pollutants that would violate existing standards of air quality on-site or in the surrounding area. This impact would be considered **less-than-significant**.

References

Bay Area Air Quality Management District (BAAQMD), 2010. Bay Area 2010 Clean Air Plan, adopted September 15, 2010. Available online at http://www.baaqmd.gov. Accessed March 2013.

Bay Area Air Quality Management District (BAAQMD), 2011. CEQA Air Quality Guidelines, revised May 2011. Available online at: http://www.baaqmd.gov. Accessed March 2013.

Sacramento Metropolitan Air Quality Management District, 2012. Roadway Construction Emissions Model, Version 7.1.2. September 2012.

2.4 Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4. BIOLOGICAL RESOURCES — Would the project:				
a) Have a significant adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a significant adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a significant adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere significantly with the movement of any native resident or migratory fish or wildlife species or with established native resident 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 (including the County Heritage and Significant Tree Ordinances)?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒
g) Be located inside or within 200 feet of a marine or wildlife reserve?	☐	☐	☐	☒
h) Result in loss of oak woodlands or other non-timber woodlands?	☐	☐	☐	☒

Discussion

A site visit was conducted by ESA ecologist C. Rogers on February 28, 2013 to assess the potential biological resources in the project area, including special-status[1] species and their habitats; riparian habitats or other sensitive natural communities[2]; wetlands; wildlife corridors and nursery sites; and heritage and landmark trees.

1 Special-status species are plants and animals that are listed as endangered or threatened under Federal or California Endangered Species Acts; listed as rare under the California Native Plant Protection Act; birds protected under the Migratory Bird Treaty Act; are considered sensitive by the scientific community and included in the following CDFW Lists: Special Animals List; Special Vascular Plants, Bryophytes, and Lichens List; Fully Protected Animals List; Amphibian Species of Special Concern List; Reptile Species of Special Concern List; Bird Species of Special Concern List; and Mammal Species of Special Concern List.

2 Sensitive natural communities are those identified as high priority natural community element or vegetation type (designated as S1, S2, or S3) in CDFW's *Natural Communities List* (CDFW, 2010).

a) The following evaluation of the project's potential impacts on biological resources considers vegetation communities observed on or adjacent to the project site relative to general habitat requirements of special-status plants and animals that are known to reside in the project vicinity or that have the potential to seasonally or periodically occur in the project area.

The project has the potential to impact directly or indirectly through habitat modifications species identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). The CNDDB recognizes 74 special-status plant and wildlife species that occur along the coast from the Golden Gate Bridge south to Santa Cruz, California. The California Native Plant Society recognizes 33 plants that occur within the Montara Mountain USGS 7.5-minute quadrangle, which encompasses both project areas (CDFW, 2013). Many of these species are aquatic or marine species for which suitable habitat is absent from the project areas. The remaining species with potential to occur in the project areas are described below.

The project sites are located within one mile from known populations of the following special-status species: coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), rose leptosiphon (*Leptosiphon rosaceus),* coast yellow leptosiphon (*L. croceus*), Hickman's cinquefoil (*Potentilla hickmanii*), monarch butterfly (*Danaus plexippus*), salt marsh common yellow-throat (*Geothlypis trichas sinuosa*), California red-legged frog (*Rana draytonii*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*).Western (=Pacific) pond turtle (*Actinemys marmorata*) may also occur in the area. San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) is commonly found throughout coastal San Mateo County, including along nearby Denniston and San Vicente Creeks (Foster, 2013) and may be present in coastal scrub habitat near the project area. Coastal marsh milk-vetch, rose leptosiphon, and coast yellow leptosiphon are not listed under federal or state endangered species acts, but are jointly identified by the CDFW and the California Native Plant Society (CNPS) as Rare Plant Ranks[3] 1B.2, 1B.1, and 1B.1, respectively. Hickman's cinquefoil is listed as "endangered" under both the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA); it is also identified by CDFW and CNPS as Rare Plant Rank 1B.1.

Overwintering sites of monarch butterflies are protected by CDFW, although monarchs themselves have no listing status. Salt marsh common yellowthroat is not listed under FESA or CESA, but is designated by CDFW as a California Species of Special Concern (SSC). California red-legged frog is listed as "threatened" under FESA and is a California SSC. San Francisco garter snake is listed as "endangered" under both FESA and CESA, and is a "fully-protected" species under California Department of Fish and Game Code

[3] Rare Plant Rank (RPR) 1B refers to species that are rare, threatened, or endangered in California or elsewhere. The .1 and .2 extensions further refer to species that are seriously endangered in California and fairly endangered in California, respectively.

Section 5050. San Francisco dusky-footed woodrat and western pond turtle are also California SSC.

Seal Cove Site

Based on the coastal scrub habitat found at the Seal Cove site and the proximity to known populations or occurrences, there is potential for coastal marsh milk-vetch, rose leptosiphon, coast yellow leptosiphon, Hickman's cinquefoil, California red-legged frog, San Francisco garter snake, western pond turtle, and San Francisco dusky-footed woodrat to occur in or pass through the project area, along with additional species of special-status plants that grow in coastal scrub and remnant coastal bluff habitat. The Seal Cove site is located approximately 500 feet from a 2005 reported occurrence of California red-legged frog (*Rana draytonii*). In 2005, during surveys performed for the Pillar Point Bluff Trail Project, a California red-legged frog was observed in abandoned agricultural ponds located approximately 500 feet northeast of San Ramon Avenue; in June 2012, San Mateo County Biologist Carole Foster observed two adult red-legged frogs in an outlet pool at the southwest end of the airport runway, approximately one mile from the Seal Cove site (County of San Mateo, 2007; Foster, 2013).

During the nesting bird season, there is potential for salt-marsh common yellow-throat to nest in coastal scrub habitat along San Ramon Avenue and for other species of nesting birds to occur in coastal scrub, trees, and ruderal vegetation throughout the project area. California red-legged frog may migrate through or forage anywhere within the Seal Cove project site, and San Francisco garter snake may migrate through or forage in coastal scrub habitat or bask along San Ramon Avenue. Like California red-legged frog and San Francisco garter snake, western pond turtle may be encountered in upland areas as they move among aquatic habitats in the region. San Francisco dusky-footed woodrat may nest in coastal scrub adjacent to San Ramon Road. Monarch butterfly overwintering sites are absent from the project areas. Monarch butterflies typically overwinter in one or more select trees within a grove of large trees, and groves of large trees do not occur within or adjacent to the project areas.

Aside from the monarch butterfly, these other species are generally associated with coastal scrub and have the potential to be encountered at the Seal Cove site, particularly along San Ramon Avenue. This road is presently a narrow dirt road with undeveloped, yet disturbed coyote bush scrub and non-native grassland habitat on both sides. Beyond the Seal Cove project site, lands to the north consist of undeveloped coastal scrub and wetlands. These open space lands have unimpeded habitat connectivity to areas where special status species are known to occur northwest and southeast of the project area. The lands adjacent to the Seal Cove project site could support the species, or could provide a movement corridor for terrestrial wildlife species.

The project could have a potentially significant impact with regard to these special-status species and their habitats. Widening and paving of San Ramon Avenue would occur from the end of existing pavement east to its intersection with Bernal Avenue, a distance of

approximately 737 linear feet. Within a 50-foot right-of-way the road would be paved with a 16-foot wide travel way. On each side of the road, vegetated biotreatment facilities measuring approximately five feet in width would be constructed or enhanced.

To better understand the potential for impacts on special-status plant species, San Mateo County Biologists Carole Foster and Adam Remmel surveyed the Seal Cove site for rare plants in April and May 2013. The surveys were conducted during the peak blooming periods for special-status plant species known to occur within one mile of the Seal Cove project site, including coastal marsh milk-vetch, coast yellow leptosiphon, Hickman's cinquefoil, and rose leptosiphon. The project site was surveyed extensively over a period of three days. None of these species was identified within the area of proposed disturbance, and the final report, included as **Appendix B**, concluded the project would have no impact with respect to these special-status plant species (County of San Mateo, 2013a). Discussed more fully in Impact 2.4(b), the surveys did identify patches of wild strawberry, which the County's LCP identifies as a "unique species."

However, grading activities and tree-felling could affect other special-status species. Migrating California red-legged frog, western pond turtle, and San Francisco garter snake could be injured or crushed by heavy equipment or the felling of large trees limbs. Construction disturbance could also cause these species to avoid the area, resulting in increased exposure to predators or decreased foraging opportunities. Tree-trimming, tree removal, and grading activities could result in destruction of an active bird nest. Noise and disturbance could cause nesting birds to abandon their nests or reduce the attention they give their young, resulting in insufficient incubation, feeding, or protection, possibly resulting in nest failure. Construction disturbance could increase the exposure of nesting birds and their young to predators. Potential clearing of coastal scrub during widening of San Ramon Avenue and the use of heavy equipment also has the potential to destroy woodrat nests, displacing individual nest occupants and exposing them to predators.

Implementation of **Mitigation Measures BIO-1, Protection of Nesting Birds, and BIO-2, Survey, Flag and Relocate Dusky-footed Woodrat Nests,** would determine whether any non-listed special-status birds or other animals occur within the project disturbance area prior to and during construction and, if so, the need for resource agency consultation and additional mitigation and/or compensation measures. Implementation of these measures would reduce potential impacts to these resources from project activities at the Seal Cove site to **less-than-significant** levels. **Mitigation Measure BIO-3**, **Avoid, Minimize, and Mitigate for Impacts to California Red-legged Frog, San Francisco Garter Snake, Western (=Pacific) Pond Turtle, and their Habitat**, including preconstruction surveys, the presence of biological monitors, work windows, exclusionary fencing, and seeking technical guidance from the U.S. Fish and Wildlife Service would ensure direct and indirect effects on these species is avoided and minimized. With implementation of **Mitigation Measure BIO-3**, the potential impact on California red-legged frog, San Francisco garter snake, and western pond turtle at the Seal Cove site would be reduced to a **less-than-significant** level.

Carlos Street Site

The Carlos Street project site is presently covered entirely in asphalt paving, and is bordered on all sides by developed or highly disturbed areas. However, construction activities at the Carlos Street site could still affect sensitive or special-status species. Trees within 250 feet of the site provide potential habitat for nesting birds. Stormwater occasionally ponds within the vegetated median between Highway 1 and Carlos Street, in the segment north of California Avenue. San Mateo County Public Works staffers have, on various occasions year-round, observed California red-legged frogs in this drainage area north of California Street (Chen 2013). Due to the project site's proximity to the grassy median along Highway 1 and other potential habitat areas within their dispersal range, including Dean Creek (100 feet to the south), California red-legged frog, San Francisco garter snake, and western pond turtle could pass through the project area. Due to the developed condition of the site, the likelihood of encountering one of these species is expected to be less than at the Seal Cove site. For this same reason, construction activities at the Carlos Street site would not be expected to affect any rare plants or any other vegetation.

While no trees occur within the latter project site, construction activities would still generate noise and disturbance that could adversely affect birds nesting in trees near the project site. With **Mitigation Measure BIO-1, Protection of Nesting Birds,** which calls for avoidance of the nesting season and, as necessary, a nesting bird survey and construction buffers, the potential for impacts on nesting birds would be reduced to a **less-than-significant** level.

While no habitat occurs within the Carlos Street site, California red-legged frogs, San Francisco garter snakes, and western pond turtles migrating through the area could be injured or destroyed by construction equipment during project implementation. Discussed above, **Mitigation Measure BIO-3, Avoid, Minimize, and Mitigate for Impacts to California Red-legged Frog, San Francisco Garter Snake, Western (=Pacific) Pond Turtle, and their Habitat,** would reduce the potential for such impacts through construction monitoring, timing of construction, and installation of exclusionary fencing, among other measures. With **Mitigation Measure BIO-3**, the potential for impacts on these special status species from project activities at the Carlos Street site would be reduced to a **less-than-significant** level.

In summary, project-related construction activities at the Seal Cove and Carlos Street sites could have a potentially significant impact on nesting birds, California red-legged frog, San Francisco garter snake, and western pond turtle through habitat modification or direct injury or death. Project activities at the Seal Cove site could also impact dusky-footed woodrat or its habitat. With **Mitigation Measures BIO-1** and **BIO-3**, as applicable, the potential for adverse impacts on these species would be reduced to a **less-than-significant** level.

> **Mitigation Measure BIO-1: Protection of Nesting Birds.** The project shall avoid implementation during the nesting bird season, if possible. The nesting bird season

is generally described by CDFW as the period between February 1 and August 31. If seasonal avoidance is not feasible, then the following measures would be implemented.

- No more than two weeks prior to commencement of construction activities, including but not limited to surveying, grading, tree-trimming, and tree-felling, a biologist shall conduct a nesting bird survey to determine whether nesting birds occur within 250 feet of the project area or nesting raptors occur within 500 feet of the project area. If nesting birds and raptors do not occur within 250 and 500 feet of the project area, respectively, then no further action is required.

  Should any active nests be discovered in or near proposed construction zones, the surveying biologist shall, based upon site conditions and type of species, determine an appropriate construction buffer to be implemented. Buffers shall be 500 feet for raptors and 250 feet for non-raptors. However, these buffers may be decreased or increased, in consultation with CDFW and/or USFWS, based upon species-specific, site-specific, and activity-specific considerations, including the nesting species in question, baseline noise levels, type and decibel output of construction equipment to be used, and whether disturbance would occur within line-of-sight of the nest.

  If the nest in question belongs to a species listed under federal or state Endangered Species Acts, a California Species of Special Concern or a California Fully-Protected Species, then CDFW and/or USFWS, as appropriate, shall be consulted to establish nesting buffers and monitoring criteria.

  If construction buffers are decreased to less than 500 feet for raptors or less than 250 feet for songbirds, a biologist familiar with the bird's nesting requirements and behavior shall monitor the nest full-time during construction activities until s/he determines that continued activities would not result in nest failure.

Mitigation Measure BIO-2 applies only to the Seal Cove site.

Mitigation Measure BIO-2: Survey, Flag and Relocate Dusky-footed Woodrat Nests. Prior to the start of vegetation removal or any other construction activities that could impact coastal scrub habitat along San Ramon Avenue, a biologist familiar with the species and its habitat requirements shall survey for San Francisco dusky-footed woodrat nests within or immediately adjacent to the proposed disturbance area. If none are observed, then no further mitigation would be required. If nests are observed but would not be directly impacted by project activities, the biologist shall delineate the nests and establish a 10-foot buffer around the nests using exclusion fencing to ensure they are not accidentally destroyed by heavy equipment, worker vehicles, or construction foot traffic. The exclusion fencing shall remain in place for the duration of the project and fully removed from the project site upon project completion. If avoidance is not feasible because a nest is within the project footprint, a biologist shall disassemble the nest by hand and relocate/reconstruct it beyond the work area.

Mitigation Measure BIO-3: Avoid, Minimize, and Mitigate for Impacts to California Red-legged Frog, San Francisco Garter Snake, Western (=Pacific) Pond Turtle, and their Habitat. The following measures shall be implemented to avoid or reduce impacts on California red-legged frog, San Francisco garter snake, and western (=Pacific) pond turtle:

- Prior to project construction, the County shall seek technical guidance from the USFWS regarding the measures required to ensure take of California red-legged frog and San Francisco garter snake is avoided and to determine whether any further consultation would be required. The request for technical guidance shall be accompanied by a copy of the IS/MND and any maps, photographs, and habitat descriptions that may facilitate the USFWS analysis and guidance. The County shall incorporate into project plans and implement prior to, during, and following construction, as appropriate, any additional guidance provided by USFWS.

- Immediately prior to vegetation removal or other construction activities, a biologist familiar with the habitat requirements of California red-legged frog, San Francisco garter snake, and western pond turtle shall conduct a preconstruction survey to determine whether any of these species is within the project area. If California red-legged frog or San Francisco garter snake is identified in the work area during preconstruction surveys or at any subsequent time during construction, construction activities in the immediate area shall halt until the species has left the area OR, if permitted, a USFWS-approved biologist shall relocate the species outside of the work area. Western pond turtle may be relocated without agency approval.

- Ground disturbance and construction footprints shall be minimized to the greatest degree feasible.

- Work activities within or adjacent to suitable habitat shall be completed between June 15 and October 31, when possible. Suitable habitat shall be separated from the active work area with amphibian exclusion fencing, unless otherwise directed by the USFWS and CDFW. The fence shall be installed under the direct supervision of a biologist. One-way exclusion doors may be installed at the direction of USFWS or CDFW.

- A biological resource monitor shall conduct worker awareness training for construction personnel, addressing California red-legged frog, San Francisco garter snake, and western pond turtle basic biology and identifying characteristics, legal status, job-specific protection measures, and penalties for noncompliance.

- A biologist shall act as a regular (i.e., weekly, unless otherwise instructed by USFWS and CDFW) construction monitor. If a full-time monitor is not required by the USFWS and CDFW, then an appropriate person (i.e., construction management team supervisor) shall be designated as the onsite biological monitor and shall be trained by the biologist to identify special-status species.

- A preconstruction survey for California red-legged frog, San Francisco garter snake, and western (=Pacific) pond turtle shall be conducted each day by the

onsite monitor immediately preceding construction activity that occurs within or adjacent to suitable habitat.

- Suitable habitat for California red-legged frog or San Francisco garter snake that is temporarily impacted by project-related activities shall be restored to pre-project conditions.

- Vegetated areas beyond the project site disturbed in the course of project construction shall be revegetated with native plant species suitable to coyote brush scrub habitats upon completion of construction.

b) The project area is within the Coastal Zone and is therefore subject to the provisions of San Mateo County's LCP. The LCP defines as environmentally sensitive habitat (ESHA) "any area in which plant or animal life or their habitats are either rare or especially valuable and contains or supports rare and endangered species as defined by the State Fish and Game Commission." An ESHA is considered a sensitive natural community for the purposes of this analysis. The Sensitive Habitats Map (1984), prepared for the San Mateo County General Plan, depicts ESHAs mapped by the County. The project sites are not within the identified ESHAs. The nearest areas of mapped ESHAs are the marine and estuarine habitats of the Fitzgerald Marine Reserve, located at the base of a coastal bluff approximately 500 feet west of the project area; and the riparian corridor along San Vicente Creek, located 0.75 mile north of the Seal Cove site and 0.5 mile south of the Carlos Street site. The map also identifies the open space area south of the Seal Cove site as habitat for reptiles and amphibians (San Mateo County, 1984).

The project would occur within or adjacent to areas of existing residential and commercial development. The Seal Cove project site is characterized by existing unpaved dirt roads, bounded by coastal scrub, non-native annual grassland, and landscape/ornamental habitats. To the east and south of the project area, along San Ramon Avenue, lies the 119-acre Pillar Point Bluff Park and adjacent undeveloped properties. These lands provide contiguous coastal scrub and freshwater wetlands habitats for a number of rare and special status plant and animal species, including California red-legged frog and San Francisco Garter Snake. Due to a history of disturbance, the areas to be improved at the Seal Cove site are of marginal habitat value, and therefore would not be considered ESHA.

However, because of its proximity to this contiguous open space area, which may be considered an ESHA, the portion of the Seal Cove site along San Ramon Avenue has the potential to be used by these sensitive species (see Impact 2.4(a), above). The potential effects of the project on these species would be minimized and/or avoided through implementation of **Mitigation Measures BIO-1 through BIO-3**. This would also ensure that indirect effects of the project on nearby ESHA are reduced or avoided. With implementation of these measures, the effects of project activities on ESHA at or near the Seal Cove site would be **less-than-significant**.

The Carlos Street site does not contain any ESHAs. The project would occur entirely within an area that is presently covered in asphalt paving. As a result, there would be no

direct impact to ESHA in association with project activities at the Carlos Street site. Trees containing active nests in the vicinity of the Carlos Street could be considered ESHA. As discussed in response to question 2.4a), potentially significant impacts on nesting birds could occur from project-related noise at the Carlos Street site. With **Mitigation Measure BIO-1**, which calls for work windows and, as necessary, a nesting bird survey and construction buffer, the potential for impacts on nesting bird habitat would be **less than significant**.

The LCP also provides special protections for unique species, including California wild strawberry (*Fragaria californica*). LCP Section 7.49 provides the following:

> Require any development, within one half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways:
>
> a. Prevent any development, trampling, or other destructive activity which would destroy the plant, or
>
> b. After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

The rare plants survey conducted by San Mateo County biologists in April and May of 2013 identified beach strawberry (*Fragaria chiloensis*) at five distinct locations within the Seal Cove site. Patches of beach strawberry were observed within the proposed work area at the intersection of San Ramon and Bernal Avenues, and in small patches along Del Mar Avenue. Other small patches of beach strawberry were observed within 25 feet of the work area in the vacant lot east of San Ramon Avenue and in residential yards along Del Mar Avenue and Madrone Avenue (County of San Mateo, 2013a). Beach strawberry does not occur at the Carlos Street site.

California wild strawberry plants in the project area are presumed to be of value and require transplantation. **Mitigation Measure BIO-4, Transplant California Wild Strawberry Plants,** would ensure compliance with applicable LCP policies through the identification, avoidance, and or transplant of wild strawberry prior to commencement of construction at the Seal Cove site. With **Mitigation Measure BIO-4**, impacts on California wild strawberry would be reduced to a **less-than-significant** level.

Mitigation Measure BIO-4 applies only to the Seal Cove site.

> **Mitigation Measure BIO-4: Transplant California Wild Strawberry Plants.** Prior to ground disturbance and with the guidance of survey markers to delineate the project footprint, a biologist familiar with the species and its habitat requirements shall identify and mark (e.g., with flagging or orange plastic fencing) California strawberry plants to establish an exclusionary zone. If any protected plant cannot be excluded from the area of impact, it shall be transplanted to a suitable location within the project site under the supervision of a biologist familiar with the habitat requirements of wild strawberry.

c) A wetland study was conducted on May 29, 2013 (ESA, 2013) to determine whether any wetlands, as defined by the Corps, RWQCB, and/or the LCP, occur at the Seal Cove site; there are no potential wetlands at the Carlos Street site as the entire site is covered in asphalt paving.[4] The wetland study is included as **Appendix C**. The study was conducted as a follow-up to a wetlands assessment conducted during a March 2013 site visit, which identified standing water in tire ruts and other deep depressions within and adjacent to San Ramon Avenue and Del Mar Avenue, and *Juncus* and *Rubus* species in moist areas. The study identified none of the standard wetland indicators; no hydric soils were encountered and a low percentage of hydrophytic plants was observed. Based on the absence of these standard indicators, the wetland study concludes that there are no jurisdictional wetlands in the project area (ESA, 2013). Accordingly, the project would have **no impact** on wetlands and no mitigation would be required.

d) The project would not interfere significantly with the movement of any native resident or migratory species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites. The project area in its entirety is a potential movement corridor for California red-legged frog, and coastal scrub habitat along San Ramon Avenue provides protective cover for San Francisco garter snakes that could potentially move through the area. Western pond turtles occurring in coastal streams and wetlands could also pass through the project sites. However, there is abundant dispersal habitat available outside of the project area, and species' movements would not be significantly hindered by project construction. Therefore, the impact would be **less-than-significant** with respect to migratory corridors.

e) Project activities would require the removal of one large Monterey cypress (*Cupressus macrocarpa*) tree from the right-of-way of San Ramon Avenue at the Seal Cove site. The tree measures approximately 20 inches in diameter (63 inches in circumference) at 4.5 feet above the ground surface. The County's Significant Tree Ordinance generally requires a permit or equivalent authorization for removal of trees greater than 38 inches in circumference and sets forth the criteria for granting such authorization, including requiring replacement plantings. However, California Government Code sections 53090 and 53091 exempt county government agencies from county ordinances related to building and construction, including zoning. The Department of Public Works is a County agency. Therefore, the proposed project is exempt from such San Mateo County ordinances and regulations. Further, Significant Tree Ordinance Section 12023 stipulates that replacement plantings may not be required where special conditions exist. In the case of the proposed project, the right-of-way is not wide enough to accommodate both replacement trees and the requisite bioretention facilities. However, even if it were wide enough, replacement tree roots could jeopardize existing underground utilities (sewer and water lines) and the proposed biotreatment measures within the existing right-of-way. For

[4] The project description has evolved since preparation of the May 2013 wetlands study. As a result, the project, as described in that document, is slightly different from the one analyzed in this IS/MND. However, the project revisions have no bearing on the analysis relied upon in the study. Therefore, the findings of the wetland study remain valid.

these reasons, the tree removal would have a **no impact** with respect to conflict with a tree preservation policy or ordinance.

f) The proposed project area is located approximately 430 feet from the edge of coastal bluffs, at the bottom of which lies the James V. Fitzgerald Marine Reserve, within the Monterey Bay National Marine Sanctuary. The Reserve is an Area of Special Biological Significance as designated by California's Ocean Plan, and is jointly managed by CDFW and San Mateo County Department of Public Works. It is managed according to the direction of the Fitzgerald Marine Reserve Master Plan (Brady/LSA, 2002). Major threats to the biological resources of the reserve include urban run-off, which is discussed in Section 2 9, Hydrology and Water Quality. The proposed project would not conflict with the plans, policies, or objectives of the Fitzgerald Marine Reserve Master Plan or the Ocean Plan because the creation of biotreatment measures in accordance with the C.3 provisions (Post Construction Stormwater Controls) of the Municipal Regional Stormwater NPDES Permit Order R2-2009-0074 would prevent new, project-related sources of urban run-off from entering the marine reserve. For these reasons, the proposed project would have **no impact** with respect to local, regional, or state habitat conservation plans.

g) The proposed project is not located inside or within 200 feet of a marine or wildlife reserve. As described above, the project area is approximately 500 feet from the James V. Fitzgerald Marine Reserve, and is vertically separated by coastal bluffs. As described in (f) above, the creation of onsite biotreatment measures would prevent new sources of project-related urban run-off from entering the marine reserve. Therefore, there would be **no impact** with respect to a marine or wildlife reserve.

h) No oak woodlands or non-timber woodlands were identified in the project area during the February 28, 2013 site visit and therefore, the proposed project would have **no impact** on these types of resources.

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2.5 Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a significant adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a) A significant impact would occur if the project could cause a substantial adverse change to a historical resource, herein referring to historic-period architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

Records searches were conducted at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University on March 20, 2013 (Seal Cove project site; File No. 12-1051) and December 9, 2013 (Carlos Street project site) (File No. 13-0898). The review included the project sites and a ½-mile radius. Previous surveys, studies, and site records were accessed. Records were also reviewed in the Historic Property Data File for San Mateo County that contains information on sites of recognized historical significance, including those evaluated for listing in the *National Register of Historic Places*, the *California Register of Historical Resources*, the *California Inventory of Historical Resources*, *California Historical Landmarks*, and *California Points of Historical Interest*.

Records at the NWIC indicate that no historic-period resources of the built environment have been previously recorded in the records search radii. There are no buildings or structures within the project sites. Therefore, the project would not affect any historic-period buildings or structures and the project would have **no impact** on historical resources.

b) A significant impact would occur if the project could cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

The project sites are within the traditional territory of the Ohlone people (Levy, 1978: 485–495). Collectively referred to by ethnographers as Costanoan, the Ohlone were

distinct sociopolitical groups that spoke at least eight different languages of the same Penutian language group. The Ohlone occupied a large territory from San Francisco Bay in the north to the Big Sur and Salinas Rivers in the south. The primary sociopolitical unit was the tribelet, or village community, which was overseen by one or more chiefs. The project area is in the greater *Chiguan* tribal area (Milliken et al., 2009). The nearest ethnographic village site in the vicinity is *Ssatumnumo*, located southwest of the project sites in the vicinity of Princeton-by-the-Sea.

Results of the records search at the NWIC indicate that several cultural resources studies have been completed within a ½-mile radius of the project sites and that eleven prehistoric archaeological sites have been identified within the ½-mile radius, including one archaeological site immediately adjacent to the Seal Cove project site (Clark, 2009). These sites primarily consist of large lithic debitage scatters and shell middens indicating heavy use of this area during the prehistoric period for resource procurement. No archaeological sites have been previously identified in the records search radius of the Carlos Street project site.

An ESA Registered Professional Archaeologist completed a surface survey of the Seal Cove project site on March 22, 2013. The survey consisted of walking the roadways and a buffer of approximately 10 meters (30 feet) in very narrow (less than 5-meter-wide) transects. Ground visibility along the dirt roads was good although imported fill covered much of the roadways. The adjacent areas contained some rodent holes where the native soil could be examined. Vegetation was also periodically scraped back to reveal ground surface. No cultural materials, including midden soils, shell, or lithic fragments, were identified. The Carlos Street project site has been surveyed twice by qualified archaeologists (Earthtouch, 2005; and Hastings, 1975). No cultural resources were identified at the Carlos Street project site during those survey efforts.

Despite the negative survey results, the archaeological sensitivity of the Seal Cove project site is very high. Varying visibility and disturbance may have obscured archaeological materials and the discovery of significant archaeological resources cannot be entirely discounted. The total area of disturbance would be approximately 0.85 acre and would include grading and excavation one to one and a half feet below ground surface for roadway and drainage improvements. The excavation for biotreatment measures at the Seal Cove project site would occur in undisturbed areas and could uncover previously undiscovered archaeological materials. No archaeological resources have been identified at the Carlos Street project site; based on site distribution, topography, and previous disturbance at this location the potential for the discovery of archaeological resources at the Carlos Street project site is low.

If present, damage to unique archaeological resources would be a potentially significant impact. **Mitigation Measure CUL-1, Cultural Resources Monitoring,** would reduce this potential impact by requiring a qualified archaeologist and a Native American representative to monitor ground disturbing activities during project implementation at

the Seal Cove project site so that in the event of an unintentional discovery of archaeological resources, the resources are thoroughly documented and appropriately treated. For the Carlos Street project site, **Mitigation Measure CUL-2, Inadvertent Discovery of Prehistoric Resources,** requires that the County Planning and Building Department be notified in the event of an accidental discovery during project implementation. With **Mitigation Measures CUL-1,** and **CUL-2,** the impact on archaeological resources would be reduced to a level **less than significant**.

Mitigation Measure CUL-1 applies only to the Seal Cove project site.

> **Mitigation Measure CUL-1: Cultural Resources Monitoring.** Prior to authorization to proceed, or issuance of grading permits, the applicant shall prepare and submit a cultural resources monitoring plan to the County Planning and Building Department for review and approval. Monitoring shall be required for all subsurface excavation work. A Secretary of the Interior-qualified archaeologist shall prepare the plan. The plan shall include (but not be limited to) the following issues:
>
> - Training program for all construction and field workers involved in site disturbance;
> - Person(s) responsible for conducting monitoring activities, including Native American monitor(s);
> - Person(s) responsible for overseeing and directing the monitors;
> - How the monitoring shall be conducted and the required format and content of monitoring reports;
> - Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;
> - Protocol for notifications in case of encountering cultural resources, as well as methods for evaluating significance, developing and implementing plan to avoid or mitigate significant resource impacts, Native American participation and consultation, collection and curation plan, and consistency with applicable laws including Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code (PRC);
> - Methods to ensure security of cultural resources sites;
> - Protocol for notifying the County, Native Americans, and local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction with reference to PRC 5097.99.
>
> During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and professional judgment regarding the potential to impact resources.

If archaeological materials are encountered, all soil disturbing activities within 100 feet of the find shall cease until the resource is evaluated. The monitor(s) shall immediately notify the County of the encountered archaeological resource. The monitor(s) shall, after making a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological resource, present the findings of this assessment to the County. In the event archaeological resources qualifying as either historical resources pursuant to CEQA Section 15064.5 or as unique archaeological resources as defined by Public Resources Code 21083.2 are encountered, preservation in place shall be the preferred manner of mitigation.

If preservation in place is not feasible, the applicant shall implement an Archaeological Research Design and Treatment Plan (ARDTP). The project archaeologist, Native American representatives, and the County shall meet to determine the scope of the ARDTP. The ARDTP shall identify how the proposed data recovery program would preserve the significant information the archaeological resource contains. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The results of the investigation shall be documented in a technical report that provides a full artifact catalog, analysis of items collected, results of any special studies conducted, and interpretations of the resource within a regional and local context. All technical documents are to be placed on file at the Northwest Information Center of the California Historical Resources Information System.

Mitigation Measure CUL-2 applies only to the Carlos Street project site.

Mitigation Measure CUL-2: Inadvertent Discovery of Prehistoric Resources. If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and the County shall be notified. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with Public Resources Code (PRC) Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the County and the affiliated Native American tribe(s), if applicable. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include

provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

c) A significant impact would occur if the project would destroy a unique paleontological resource or site, or a unique geologic feature. Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils—particularly vertebrate fossils—are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

Rock formations that are considered of paleontological sensitivity are those rock units that have yielded significant vertebrate or invertebrate fossil remains. This includes, but is not limited to, sedimentary rock units that contain significant paleontological resources anywhere within its geographic extent. The project sites are underlain by Pleistocene Marine Terrace Deposits. According to the Society of Vertebrate Paleontology's standard assessment, this geologic unit has a high potential to contain significant paleontological resources – there have been 720 finds in San Mateo County, including at least 12 from the Moss Beach area and 3 from Princeton-by-the-Sea (SVP, 2005).

Ground disturbance associated with the proposed project would include grading and excavation of one to one and a half feet below ground surface and, therefore, would not affect depths at which paleontological resources could likely be encountered. While damage or destruction of unique paleontological resources for the project is unlikely, the possibility cannot be entirely dismissed. Thus, the potential impact to paleontological resources is considered potentially significant. Implementation of the following mitigation measure would reduce this potential impact by ensuring that if fossils are encountered, their significance is assessed by a qualified paleontologist, recorded, and salvaged if appropriate. With **Mitigation Measure CUL-3, Halt Work if Paleontological Resources are Identified During Construction,** the impact would be reduced to a level **less than significant**.

> **Mitigation Measure CUL-3: Halt Work if Paleontological Resources are Identified During Construction.** If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, all ground disturbing activities within 100 feet of the find shall be halted until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate salvage measures in conformance with Society of Vertebrate Paleontology Guidelines (SVP, 1995; SVP, 1996).

d) A significant impact would occur if the project would disturb any human remains, including those interred outside of formal cemeteries. There is no indication that the

project sites have been used for burial purposes in the recent or distant past. While it is unlikely that human remains would be encountered in the project area during project construction, given that the depth of excavation is expected to be no more than one and a half feet below ground surface, damage to human remains would be a potentially significant impact. Implementation of the following mitigation measure would reduce this potential impact by ensuring that if human remains are encountered and they are determined to be Native American in origin, the Native American Heritage Commission would be contacted and the remains would be treated appropriately. With **Mitigation Measure CUL-4: Inadvertent Discovery of Human Remains,** the potential impact would be reduced to a level **less than significant**.

> **Mitigation Measure CUL-4: Inadvertent Discovery of Human Remains.** If human remains are encountered during ground disturbing activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. The Native American Heritage Commission would then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who shall make recommendations for the treatment of any human remains.

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2.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY — Would the project:				
a) Expose people or structures to potential significant adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
v) Coastal cliff/bluff instability or erosion?[5]	☐	☐	☒	☐
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 noted in the 2010 California Building Code, creating significant 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?	☐	☐	☐	☒

Discussion

a.i, ii) The San Francisco Bay Area generally experiences a high level of seismic activity due to its tectonic setting. Surface rupture occurs when the ground surface is broken due to fault movement during earthquakes. Such hazards are generally assumed to occur in the vicinity of an active fault trace. Active fault lines in San Mateo County include the San Andreas and the Seal Cove-San Gregorio faults. The latter occurs in the immediate vicinity of the project area (County of San Mateo, 1986). While fault rupture has not been frequent in San Mateo County, it remains a potentially serious hazard. Similarly, ground shaking could result from an earthquake along one of these faults, causing potentially serious hazards throughout the County, depending upon the location of the earthquake,

[5] This question is concerns instability under current conditions. Future, potential instability is addressed in Section 7 (Climate Change).

magnitude, and area geology. Risks of loss, injury, or death resulting from surface rupture or ground shaking are greatest in densely developed, high-population areas. The proposed project – paving of existing dirt roads and installation of biotreatment measures – does not include the development of any structures and would not be expected to cause an increase in area population. For these reasons, the project's impact with respect to surface fault rupture and ground shaking would be **less than significant**.

a.iii) Liquefaction occurs as a result of seismic activity, creating temporary transformations of a saturated granular soil layer to a liquefied state. According to the General Plan Background Issues and Maps (1986), there are very few unincorporated areas of the County where liquefaction could result in major structural damage. The project includes no new buildings or other vertical structures that would be subject to major structural damage or create a public health hazard as a result of liquefaction. Rather, the County proposes only grade-level physical changes, in existing developed areas. Therefore, the project would have a **less-than-significant impact** on people or structures related to seismic-related ground failure, including liquefaction.

a.iv, v) Soils underlying the project sites are Typic Arguistolls formation; sandy clay loam, interspersed with localized fill associated with the existing nearby development. Such soils are relatively uniform, moderately drained, have a moderate susceptibility to erosion, and have low to moderate expansivity (USDA, 2013). The topography of the improvement areas is generally level. The Seal Cove site is located approximately 300 feet landward of steep, highly erosive coastal bluffs. However, there are no steep slopes in the immediate vicinity of either project site. The General Plan Natural Hazards Map identifies the Seal Cove project site as occurring within an area susceptible to cliff instability and landslides; the Carlos Street site is inland of these areas. The map also delineates the Alquist-Priolo Special Studies zones for the Moss Beach-San Gregorio fault lines (County of San Mateo, 1986). Landslides would likely continue to occur along the coastal bluffs, adjacent to the Pacific Ocean. However, due to their distance from the project sites, such geologic activity would not be expected to affect or be affected by the proposed road improvements and stormwater treatment measures. Moreover, because the project proposes no structures and would not be expected to cause an increase in population within the project area, the risk of landslide, coastal erosion, subsidence, or collapse hazard would be **less than significant**.

b) The Seal Cove site presently consists of unpaved roads with no formal drainage. As such, the moderately erosive soils at the site, as evidenced by deep potholes along San Ramon Avenue, are presently susceptible to erosion from wind and rain (e.g., stormwater runoff) (USDA, 2013). The Carlos Street site is presently covered entirely by asphalt paving and is connected to an existing storm drain. However, the latter site is underlain by soils similar to those of the Seal Cove site.

Construction of the project, including ground-disturbing activities such as grading and paving, would temporarily increase soil exposure to the above noted erosion factors. As

discussed in Section 2.3, Air Quality, **Mitigation Measure AIR-1, BAAQMD's Basic Construction Mitigation Measures,** would reduce wind-related erosion through dust control watering of exposed surfaces up to two times daily during the construction period. Similarly, as discussed in Section 2.9, Hydrology and Water Quality, **Mitigation Measure HYD-1, Stormwater Best Management Practices (BMPs)** would reduce stormwater-runoff related erosion through the preparation and implementation of comprehensive stormwater pollution and erosion control measures.

Paving of road surfaces and planting of biotreatment measures would eliminate these sites' long-term exposure to wind and rain erosion. Construction of biotreatment measures and pervious paving adjacent to new and existing road segments would capture and allow for infiltration of stormwater runoff, thereby improving site hydrology and reducing the potential for offsite erosion due stormwater runoff associated with new and existing impervious surfaces. For these reasons, with **Mitigation Measures AIR-1 and HYD-1**, the project's impact with regard to erosion and loss of topsoil would be **less than significant**.

See Section 2.3, Air Quality, for a description of Mitigation Measure AIR-1. See Section 2.9, Hydrology and Water Quality, for a description of Mitigation Measure HYD-1.

c, d) As described in response to questions 2.6a.iv) and 2.6a.v), above, the project would occur at ground level and would not include any structures that would be susceptible to damage or put people at risk from landslide, lateral spreading, subsidence, liquefaction, or collapse. For these reasons, the impact would be **less than significant.**

e) The project would not include the use of septic tanks or alternative wastewater disposal systems. There would be **no impact** related to soils incapable of supporting wastewater systems.

References

County of San Mateo, 1986. General Plan Background Issues and Maps. Available online at: http://www.co.sanmateo.ca.us/planning/genplan/index.html. Accessed March 2013.

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2.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
c) Result in the loss of forest land or conversion of forest land to non-forest use, such that it would release significant amounts of GHG emissions, or significantly reduce GHG sequestering?	☐	☐	☐	☒
d) Expose new or existing structures and/or infrastructure (e.g. – leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?	☐	☐	☐	☒
e) Expose people or structures to a significant risk of loss, injury or death involving sea level rise?	☐	☐	☐	☒
f) Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
g) Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒

Discussion

a, b) Greenhouse gas (GHG) impacts are considered to be exclusively cumulative impacts; and there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). BAAQMD has provided guidance on detailed methods for modeling GHG emissions from proposed projects (BAAQMD, 2011). These BAAQMD guidance and thresholds are used here.

GHG emissions were estimated using the Roadway Construction Emissions Model (RoadMod), version 7.1.2 (Sacramento Metropolitan Air Quality Management District, 2012), which BAAQMD recommends for linear construction projects. Notably, there are no long-term sources of GHGs associated with project development. The project consists of improvement of approximately 1,500 linear feet of roadway along three public dirt roads that are not maintained by San Mateo County, along with construction of biotreatment facilities and installation of pervious paving. GHGs associated with construction would be generated by construction equipment, haul trucks, and worker vehicles. As shown in Appendix A, maximum annual GHGs of 77 metric tons of CO_2 (based on 85 short tons in RoadMod) would be emitted during the year 2014. Thus, the

proposed project would not exceed the BAAQMD's most stringent GHG threshold of 1,100 metric tons per year and would be considered **less-than-significant**.

San Mateo County is in the process of compiling an inventory of countywide GHG emissions. The inventory is in draft form at the time of this analysis (San Mateo County, 2012a). The County has also developed a Government Operations Climate Action Plan (San Mateo County, 2012b). The Climate Action Plan includes energy use reduction measures, transportation measures, and solid waste reduction measures to reduce the County Government GHGs. Since the project consists of roadway improvements and would not result in long-term sources of GHGs, these reduction strategies would not apply. Thus, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This would be a **less-than-significant** impact.

c-g) The project consists of improving 1,500 linear feet along three public dirt roads, and construction of stormwater treatment measures. The project sites are located within mostly developed upland areas. The project component nearest the sea is located at the Seal Cove site, more than 300 feet landward of the closest coastal bluff, and approximately 100 feet above sea level. Neither site is within a flood hazard area (FEMA, 2012). For these reasons, would result in **no impact** regarding the loss of forestland or significantly reduced sequestering; exposure of infrastructure, structures, or people to negative effects of sea level rise; or result in structures that could be affected by 100-year floods or affect flood flows.

References

Bay Area Air Quality Management District (BAAQMD), 2011. CEQA Air Quality Guidelines, revised May 2011. Available at www.baaqmd.gov

California Air Pollution Control Officers Association (CAPCOA), 2008. CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.

Federal Emergency Management Agency (FEMA), 2012. Flood Insurance Rate Map, San Mateo County and Unincorporated Areas, Panel 119 of 510 (Map ID 06081C0119E). U.S. Department of Homeland Security, National Flood Insurance Program. Available online at: https://msc.fema.gov/. Accessed on December 6, 2013.

San Mateo County, 2012a. County of San Mateo Greenhouse Gas Emission Inventory. Draft, March 2012. Available online at: www.co.sanmateo.ca.us/planning/rechargesmc/pdf/docs/SanMateoCo_%20Inventory&ReductionTargetMemo-3-5-12.pdf. Accessed March 19, 2013.

San Mateo County, 2012b. County of San Mateo Government Operations Climate Action Plan. September 2012.

2.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g. – pesticides, herbicides, other toxic substances, or radioactive material)?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
i) Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
j) Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
k) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
l) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a, b) Project construction would require the storage and use of certain hazardous materials such as fuels and oils. Inadvertent release of these materials into the environment could

adversely impact soil, surface waters, or groundwater quality. This could be a significant impact. The potential for such a release would be minimized thorough **Mitigation Measure HAZ-1**, **Hazardous Materials Handling, Storage, and Disposal,** which requires employment of best management practices for the safe handling, storage, and disposal of chemicals used during the construction process. With **Mitigation Measure HAZ-1,** the impact to the public or environment from use or accidental release of a hazardous material would be **less than significant**.

> **Mitigation Measure HAZ-1: Hazardous Materials Handling, Storage, and Disposal.** The San Mateo County DPW shall require the construction contractor to use the following best management practices (BMPs) to minimize potential adverse effects of the project to groundwater and soils from chemicals used during construction activities:
>
> - Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction;
> - Avoid overtopping construction equipment fuel gas tanks;
> - Provide secondary containment for any hazardous materials temporarily stored onsite;
> - During routine maintenance of construction equipment, properly contain and remove grease and oils; and
> - Perform regular inspections of construction equipment and materials storage areas for leaks and maintain records documenting compliance with the storage, handling and disposal of hazardous materials.

The potential to encounter hazardous materials in soil at the project sites resulting from migration of offsite contamination is considered low, based on the maximum depth of excavation during project construction and the types of development existent within project area. Although the potential to encounter hazardous materials in the project sites' soils is low, conditions could change prior to construction if new contaminated sites are identified in the project vicinity or if there are substantial changes in the extent of contamination at known release sites. However, this potential impact would be reduced to a **less-than-significant** level with implementation of **Mitigation Measures HAZ-2a through 2c**.

> **Mitigation Measure HAZ-2a: Preconstruction Hazardous Materials Assessment.** Within three months prior to construction, a qualified environmental professional shall be retained to conduct a regulatory agency database review to update and identify hazardous materials sites within ¼ mile of the project sites and to review appropriate standard information sources to determine the potential for soil or groundwater contamination at the project sites. Should this review indicate a high likelihood of encountering contamination at the project sites, follow-up sampling shall be conducted to characterize soil and groundwater quality prior to construction to provide necessary data for the site health and safety plan

(**Mitigation Measure HAZ-2b**) and hazardous materials management plan (**Mitigation Measure HAZ-2c**). If needed, site investigations or remedial activities shall be performed at the project site in accordance with applicable laws.

Mitigation Measure HAZ-2b: Health and Safety Plan. The construction contractor shall, prior to construction, prepare a site-specific health and safety plan in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal-OSHA regulations (8 CCR Title 8, Section 5192) to address worker health and safety issues during construction. The health and safety plan shall identify the potentially present chemicals, health and safety hazards associated with those chemicals, all required measures to protect construction workers and the general public from exposure to harmful levels of any chemicals identified at the site (including engineering controls, monitoring, and security measures to prevent unauthorized entry to the work area), appropriate personal protective equipment, and emergency response procedures. The health and safety plan shall designate qualified individuals responsible for implementing the plan and for directing subsequent procedures in the event that unanticipated contamination is encountered.

Mitigation Measure HAZ-2c: Hazardous Materials Management Plan. The contractor shall, prior to construction, prepare a hazardous materials management plan that specifies the method for handling and disposal of contaminated soil and building debris, should any be encountered during construction. Contract specifications shall mandate full compliance with all applicable local, State, and federal regulations related to identifying, transporting, and disposing of hazardous materials, including those encountered in excavated soil, and demolition debris. The contractor shall provide San Mateo County Department of Public Works with copies of hazardous waste manifests documenting that disposal of all hazardous materials has been performed in accordance with the law.

c) Ms. Kitty's Harmony Road music school is located approximately 150 feet north of the Carlos Street site. Noted previously, the project would involve the handling of hazardous materials, such as fuels and oils, which could present a health hazard. However low the possibility, the potential also remains for encountering soil or groundwater contamination during construction activities. Emissions of such hazardous materials in close proximity to a school would be a potentially significant impact. The potential for such release would be reduced to a less-than-significant level through implementation of Mitigation **Measures HAZ-1 and HAZ-2a through HAZ-2c**.

d) There would be **no impact** as the project would not occur within or near any sites listed as hazardous materials sites pursuant to Government Code Section 65962.5 (DTSC, 2013).

e) The project site is located within the San Mateo County Comprehensive Airport Land Use Plan's Half Moon Bay Airport Traffic Overflight Zone Boundary (C/CAG, 1996). The proposed project would be consistent with the Airport Land Use Plan as it: (1) does not propose any use of land that is expressly prohibited in the plan; (2) includes no structures of any height; (3) would not increase the population density of the project area; (4) would not involve the use of steady flashing lights; (5) would not cause sunlight to be

reflected towards aircraft; (6) would not generate smoke or rising columns of air; (7) would not attract large numbers of birds; and (8) would not involve electronics or electrical signals that could interfere with radio communications. For these reasons, the project's impact with respect to airport compatibility would be **less than significant**.

f) The project would not occur within the vicinity of a private airstrip. Therefore, there would be **no impact** related to safety hazards associated with people residing or working in the vicinity of a private airstrip as a result of the project.

g) The project is proposed for lands outside (landward) of the mapped tsunami hazard zone and there are no other applicable emergency response or evacuation plans applicable to the project area. Therefore, there would be **no impact** associated with effects on emergency response or evacuation efforts (CDC, 2009).

h) The project site is not located in a fire hazard zone and the project would not involve construction of any structures or increase population densities adjacent to wildlands (County of San Mateo, 1986). There would be **no impact** associated with wildland fires.

i-l) The project site is not located within an area that is subject to flood hazards, inundation due to dam or levee failure, or seiche or tsunami (County of San Mateo, 1996; FEMA, 2012; CDC, 2009). In addition, the project does not include housing or structures that would be subject to the effects of flooding. There would be **no impact** associated with flood hazard or inundation.

References

California Department of Conservation (CDC), 2009. Tsunami Inundation Map for Emergency Planning, Montara Mountain Quadrangle. California Department of Conservation. Available online at: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanMateo/Pages/SanMateo.aspx. Accessed on December 6, 2013.

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2.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash)?	☐	☒	☐	☐
b) Significantly deplete groundwater supplies or interfere significantly with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in significant erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or significantly increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide significant additional sources of polluted runoff?	☐	☐	☒	☐
f) Significantly degrade surface or groundwater water quality?	☐	☐	☒	☐
g) Result in increased impervious surfaces and associated increased runoff?	☐	☐	☒	☐

Discussion

a) The Seal Cove site is comprised of unpaved roads, some of which are bounded by shallow vegetated depressions, or informal vegetated swales. Some paved streets within the neighborhood have concrete valley gutters. However, the neighborhood is not connected to a storm sewer and there is no single point of discharge for area stormwater. The Carlos Street site is paved and equipped with a curb and gutter. Surface runoff at the Carlos Street site flows to the grassy median between Carlos Street and Highway 1, or to a grated catchbasin in the center of Virginia Avenue. A catchbasin at the southeast end of the grassy median and the catchbasin at Virginia Avenue are both connected to the underground pipes of Dean Creek.

The drainage areas for both sites ultimately discharge into the James V. Fitzgerald Marine Reserve (County of San Mateo, undated), which is a designated Area of Special

Biological Significance (ASBS) (SWRCB, 2003). Activities that would affect discharges into an ASBS are required to comply with the California Ocean Plan and State Water Resources Control Board (SWRCB) Resolution No. 2012-0012, which restrict point and nonpoint source waste discharges into these areas (SWRCB, 2005; 2012). More specifically, the SWRCB Resolution prohibits dry-weather discharges to ASBS and requires weekly inspection of construction site stormwater best management practices (BMPs) during the wet weather season (October 1 through April 30). The project would also have to comply with San Mateo County Stormwater Ordinance, Chapter 4.100 – Storm Water Management and Discharge Control, which requires the incorporation of BMPs into new developments.

The proposed project would involve activities and materials that could temporarily adversely impact water quality, including through accidental releases of chemicals and increased sedimentation of stormwater runoff during grading and construction. Heavy equipment would be required for grading, excavation, and paving. Potentially significant impacts on water quality could result from accidental releases of fuels, lubricants, hydraulic fluids, or other chemicals associated with heavy equipment operation. The project would require approximately 38,000 square feet of ground disturbance, but less than one acre. Exposure of disturbed areas and stockpiles during rain events could increase the turbidity, or suspended sediment levels, and chemical concentrations of stormwater runoff.

Groundwater seepage into work areas could occur during excavation activities and may require dewatering during project construction. Dewatering involves pumping the water out of areas to keep the construction area dry. Depending upon site conditions, groundwater seeping into work areas could contain contaminants or high sediment levels. Potentially significant water quality impacts could occur if such water were to flow or be flushed by stormwater offsite and into receiving waters. Non-stormwater such as the water resulting from dewatering operations, if any, would be required to comply with the local stormwater requirements prior to discharge (e.g., San Mateo County NPDES Permit CA0029921, as stated under Section 4.100.070 of the San Mateo County Municipal Code).

The proposed project would also involve the creation of new areas of impervious surfaces. In general, impervious surfaces such as roads can contribute to water quality degradation through the accumulation of sediment and chemicals during dry periods that flush into receiving waters during storm events. By reducing opportunities for rainwater infiltration into soils, impervious surfaces can also cause increases in the volume of stormwater runoff which, in turn, can contribute to bank erosion and scour of receiving waters.

The Municipal Regional Stormwater NPDES Permit Order R2-2009-0074 (MRSP) to which the County of San Mateo is party requires new development to incorporate appropriate source control, site design, and stormwater treatment measures to address

both pollutants and increases in runoff flows. The proposed project includes the construction of biotreatment measures to capture and treat stormwater from new and existing impervious surfaces at the project sites. These biotreatment measures have been designed and would be constructed in accordance with the C.3 provisions (Post Construction Stormwater Controls) of the MRSP (C/CAG 2012; SWRCB 2009). Specifically, the Carlos Street project's replacement of asphalt paving with pervious pavers and bioretention facility would improve infiltration and reduce stormwater flows to Dean Creek. The project does not require coverage under the State General Permit (Construction General Permit Order 2009-0009-DWQ) for discharges of stormwater associated with construction activity, as this project disturbs less than one acre of land.

As described in Section 1, Project Description, the proposed work would occur over an approximately two-month period during the summer or fall, outside of the rainy season (October 1 to April 30). During this time, the site is expected to be dry. However, if water is present, as described above water quality impacts could occur through accidental releases of chemicals and increased sedimentation of stormwater runoff. The potential for water quality impacts would be further reduced through **Mitigation Measure HYD-1**, **Stormwater Best Management Practices (BMPs),** which requires the development and implementation of measures designed to minimize erosion, contain site spills, and prevent stormwater pollution. Through compliance with applicable laws and regulations, including the California Ocean Plan, San Mateo County Stormwater Ordinance, and the MRSP, and with **Mitigation Measures HYD-1**, the project would have a **less-than-significant** impact with respect to violation of water quality standards or waste discharge requirements.

> **Mitigation Measure HYD-1: Stormwater Best Management Practices (BMPs).** The San Mateo County Department of Public Works (DPW), or its construction contractor, shall prepare and implement comprehensive stormwater pollution and erosion control best management practices (BMPs) to keep sediment or any other pollutants from moving offsite and into receiving waters. The County DPW or its contractor shall ensure the BMPs are in place prior to the start of construction related activities and remain in place throughout all phases of project construction. A BMP monitoring and maintenance schedule with clearly identified parties responsible for monitoring and maintenance of BMPs shall also be in place prior to the start of construction or decommissioning activities and remain in place throughout all phases of project construction. Stormwater pollution and erosion control BMPs at a minimum shall include, but not be limited to, the following:
>
> - Ensure that all stormwater, erosion, and sediment control BMPs utilized are consistent with measures approved by the California Stormwater Quality Association (CASQA).
>
> - Provide adequate erosion control training to all equipment operators, site superintendants, and managers to ensure that stormwater and erosion controls are maintained and remain effective.

- Employ temporary erosion control measures (such as silt fences and staked straw wattles) for disturbed areas. No disturbed surfaces shall be left without erosion control measures in place so as to limit onsite and offsite erosion and to retain sediment on-site.
- Stabilize inactive areas, such as temporary stockpiles, using an appropriate combination of BMPs to cover the exposed material, intercept runoff, and provide a sediment control mechanism (such as silt fencing surrounding the stockpile perimeter or fiber rolls at the base and on side slopes).
- Limit vegetation disturbance/removal to the maximum extent practicable and retain existing vegetation where possible.
- Temporarily stabilize active, disturbed areas undergoing fill placement before and during rain events expected to produce site runoff. Stabilization methods include combined BMPs that protect materials from rain, manage runoff, and reduce erosion.
- Restrict construction activities involving grading, hauling, and placement of backfill materials from occurring during periods of rain.
- Inspect all stormwater and erosion controls regularly, especially before and following significant run-off-producing rain events and make any necessary correction before the next rain event, but no longer than 10 business days. During the rainy season (October 1 to April 30), stormwater and erosion controls shall be inspected weekly.
- Develop a spill prevention and countermeasure plan that identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site. The plan shall also require the proper storage, handling, use, and disposal of petroleum products.
- Establish fuel and vehicle maintenance areas away from all drainage courses and design these areas to control runoff.
- Manage waste and aggressively control litter.
- Outside of the wet weather season (October 1 to April 30), limit street sweeping to dry sweeping only.

b) The project would not require groundwater supplies for operation and would not increase demand for groundwater. As such, groundwater supplies would not be depleted. While the project would increase the area of impervious surfaces, the biotreatment measures proposed for areas adjacent to the improved road segments would capture stormwater runoff and provide for infiltration, allowing for groundwater recharge. The project's impact with respect to depletion of groundwater supplies or aquifer volumes would, therefore, be **less than significant**.

c-e) The proposed project involves disturbance to less than one acre of land. The sites for which the project is proposed are generally flat. No streams or rivers occur in the vicinity either project site, and none are expected to be affected by project activities.

Work at the Seal Cove site involves the paving of existing road segments and conversion of existing informal drainage ditches into biotreatment areas to capture stormwater runoff from the newly paved road segments. Work at the Carlos Street site involves the replacement of existing asphalt paving with a biotreatment facility and pervious paving. Paving of dirt roads would increase impervious surfaces, resulting in a slight increase in the rate and volume of stormwater runoff within the project area.

The project does not propose substantial grade changes, slopes, or other site modifications that would substantially alter the drainage pattern of the project area. The proposed biotreatment measures have been designed and would be constructed to comply with the Municipal Regional Permit and guidelines set forth in the San Mateo Countywide Water Pollution Prevention Program, and therefore would have sufficient capacity to capture, contain, and allow for infiltration of such runoff (C/CAG 2012; RWQCB 2009). For these reasons, the proposed project would have a **less-than-significant** impact with respect to site drainage and runoff.

f) For the reasons set forth in discussion 9a, impacts on surface or groundwater quality would be **less than significant**.

g) For the reasons set forth in discussion 9c, impact associated with increased impervious surfaces and associated increased runoff would be **less than significant**.

References

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2.10 Land Use and Land Use Planning

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10.	**LAND USE AND LAND USE PLANNING — Would the project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐
d)	Result in the congregating of more than 50 people on a regular basis?	☐	☐	☐	☒
e)	Result in the introduction of activities not currently found within the community?	☐	☐	☐	☒
f)	Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?	☐	☐	☒	☐
g)	Create a significant new demand for housing?	☐	☐	☐	☒

Discussion

a) The project includes improvement of existing roads and would not expand the roadway network or otherwise change circulation through an established residential community. There would be **no impact** associated with division of an established community.

b) The San Mateo County General Plan specifies that public roadways should be 22 feet wide. However, it also encourages the selective modification of County road standards, in order to protect the natural environment, cultural resources, and community character (Policy 12.50) (County of San Mateo, 1986). The Montara-Moss Beach-El Granada Area Plan, which has been incorporated as part of the LCP, also states that such roadway improvements should follow modified road standards that allow for narrower road widths. With a proposed 16-foot travelway, the project would be consistent with these provisions. Thus, the proposed project's impact with respect to plans and policies adopted for the purpose of avoiding or mitigating an environmental effect would be **less than significant**. Impacts associated with the County's ESHA policies and Significant Tree Ordinance and are addressed in Section 2.4, Biological Resources, above.

c) As discussed in Section 2.9, Hydrology and Water Quality, Impact 2.9(a), the project drainage area discharges into the Fitzgerald Marine Reserve, a State-designated Area of Special Biological Significance (ASBS) (SWRCB, 2003). In 2011, the County launched the Fitzgerald ASBS Pollution Reduction Program ("Program"). The Program involves

implementation of targeted stormwater BMPs, water quality studies and BMP effectiveness monitoring, and education and outreach. The goal of the program is to improve water quality and protect beneficial uses of the Fitzgerald ASBS and additionally assist in the County's compliance with the ASBS stormwater regulations (County of San Mateo, 2012). Through the design and construction of biotreatment measures in accordance with the C.3 provisions of the MRSP, and through compliance with applicable stormwater and ASBS regulations, the proposed project would have a **less-than-significant** impact with respect to conflicts with an applicable habitat or natural community conservation plan.

d) The project does not include structures or facilities that would allow people to congregate on a regular basis. There would be **no impact** associated with congregation of 50 or more people on a regular basis.

e) There would be **no impact** as the proposed project would not cause a change in the type of use or activities that presently occur within the project area.

f) The proposed project involves the paving of existing dirt roads within an existing residential subdivision. Parcels adjacent to two of the three road segments to be paved are already developed with houses. Parcels adjacent to the remaining road segment, San Ramon Avenue, remain undeveloped. The paving of San Ramon Avenue could increase the development potential of approximately 10 to 15 lots adjacent to this road segment by increasing the ease of vehicle access. The rate of development within the Moss Beach community, however, is regulated by the provisions of the LCP, General Plan, and Zoning Regulations. Key factors affecting development potential include availability of water and sewer/septic, among other basic services. As evidenced by existing development adjacent to unimproved roads within the community of Moss Beach, whether a road is paved is not a key factor limiting development. As a result, implementation of the proposed project would have a **less-than-significant** impact on off-site development.

g) There would be **no impact** as the proposed project does not include the provision of new services or employment that would attract new residents or otherwise increase demand for housing within the area.

References

County of San Mateo, 1985. Montara-Moss Beach-El Granada Area Plan.

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State Water Resources Control Board (SWRCB), 2003. State Water Quality Protection Areas – Areas of Special Biological Significance, Accessed on March 13, 2013 at: http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/asbs/asbs_areas/asbs_swqpa_publication03.pdf

State Water Resources Control Board, 2005. California Ocean Plan – Water Quality Control Plan, Ocean Waters of California. Available online at: http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oplans/oceanplan2005.pdf. Accessed on March 15, 2013.

2.11 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region or 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?	☐	☐	☐	☒

Discussion

a, b) No known mineral resource that would be of value or import locally or regionally, or to the residents of the State, occurs within the project area (County of San Mateo, 1986). As a result, the project would have **no impact** with respect to mineral resources.

References

County of San Mateo, 1986. General Plan Background Issues and Maps. Available online at: http://www.co.sanmateo.ca.us/planning/genplan/index.html. Accessed March 2013.

2.12 Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. NOISE — Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☒	☐	☐
c) A significant permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A significant temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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, expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a) The project would involve the use of heavy equipment for roadway improvements and installation of biotreatment measures and pervious paving. At the Seal Cove site, sensitive receptors in the work area include residences along the roadways to be improved, the closest of which are approximately 20 feet from the roadway boundary. At the Carlos Street site, the closest sensitive receptor is a single-family residence, located on the east side of California Avenue, approximately 150 feet north of the project site.

The San Mateo County Municipal Code, section 4.88.360, states that project activities are exempt from the provisions of the County Code if: "noise sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. weekdays, 5:00 p.m. and 9:00 a.m. on Saturdays or at any time on Sundays, Thanksgiving and Christmas". None of the proposed project activities would occur during the above periods. As a result, the project would have a **less-than-significant** impact with respect to local noise standards.

b) As shown in **Table 2**, below, use of heavy equipment for project construction could generate vibration levels up to 0.210 peak particle velocity (PPV) or 94 root mean square (RMS) at a distance of 25 feet. Assuming a vibratory roller would be used at the Seal Cove site, vibration levels at the nearest sensitive receptor on Madrone Avenue

TABLE 2
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment/Activity	PPV at 25 ft (inches/second)[a]	PPV at nearest receptor to the Project (20 feet)	RMS at 25 ft (Vdb)[b]	RMS at nearest receptor to the Project (20 feet)
Large Bulldozer	0.089	0.12	87	90
Loaded Trucks	0.076	0.11	86	89
Vibratory Roller	0.210	0.29	94	97

[a] Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage.
[b] The human annoyance response level is 80 RMS.

SOURCE: ESA, 2013; Federal Transit Administration, 2006.

(approximately 20 feet) would be about 94 RMS and 0.210 PPV from the vibratory roller. Use of the vibratory roller could exceed the structural damage threshold of 0.2 PPV, whereas other likely equipment would result in ground-borne vibration levels below this threshold. Other sensitive receptors in the project vicinity (i.e., further from the construction activity) would be exposed to vibration levels at incrementally lower levels. This impact would be significant unless mitigated. **Mitigation Measure NOI-1, Restricted Use of Vibratory Rollers,** prohibits the use of alternatives to vibratory rollers within 25 feet of residences. For work within 25 feet of residences, the measure calls for the use of a static roller. This would reduce ground-borne vibration to approximately 0.003PPV at 25 feet, 58 RMS (VdB) at 25 feet, well below the damage threshold. With **Mitigation Measure NOI-1**, this impact would be **less-than-significant**.

> **Mitigation Measure NOI-1: Restricted Use of Vibratory Rollers**. The County shall prohibit construction contractors from using vibratory rollers within 25 feet from residences during project construction. Where construction work would occur within 25 feet from residences, the County shall require the contractors to use a static roller when operating in close proximity to these homes.

c) As discussed for criteria 12a) above, once construction is completed, noise levels would return to levels similar to the existing noise environment. Operational noise impacts of the project would be **less-than-significant**.

d) Construction activity noise levels at and near the project construction sites would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. **Table 3** shows typical noise levels during different construction stages. **Table 4** shows typical noise levels produced by various types of construction equipment.

Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling distance. Based on the project site layout and terrain, an attenuation of 6 dBA is

TABLE 3
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, Leq)[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, 1971.

TABLE 4
TYPICAL NOISE LEVELS FROM DEMOLITION/
CONSTRUCTION EQUIPMENT OPERATIONS

Construction Equipment	Noise Exposure Level, dBA @ 50 Feet
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer (Truck)	85
Concrete Pump (Truck)	82
Concrete Vibrator	76
Crane-Derrick	88
Crane-Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Heavy Diesel Truck	88

SOURCES: Federal Transit Administration, 2006.

assumed. The closest receptor is about 20 feet from excavation and paving activities, the loudest activities associated with the project. These receptors would experience maximum noise levels at about 97 dBA. Construction noise at these levels would be substantially greater than existing noise levels at nearby sensitive receptor locations. However, construction would be short-term (approximately two months) and intermittent. The use of diesel powered construction equipment would be temporary and episodic, affecting only a few nearby receptors for a limited period of time. For these reasons, and because such work would not violate the County's noise standards (section 4.88.360), the temporary increases in ambient noise levels would be **less-than-significant.**

In regards to long-term operations, once construction is completed, noise levels would return to levels similar to the existing noise environment. The proposed project would improve circulation within the project area. The project would not be expected to generate new trips, except for temporary construction-related trips during project implementation. Operational noise impacts of the project would, therefore, be **less-than-significant**.

e) The Seal Cove site is located within the San Mateo County Comprehensive Airport Land Use Plan's Half Moon Bay Airport Traffic Overflight Zone Boundary. The Carlos Street site is located within two miles of the airport. Project activities proposed for these areas consist of roadway improvements and installation of biotreatment measures. This work would be temporary and not expose individuals residing or working within the project area to excessive noise levels from airport operations. This would be a **less-than-significant** impact.

f) There are no private airstrips within two miles of the project. There would be **no impact** from private airstrips upon workers of the project.

References

Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment, May 2006.

U.S. Environmental Protection Agency, Noise from Construction Equipment and Building Operations, Building Equipment, and Home Appliances, December 1971.

2.13 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. POPULATION AND HOUSING — Would the project:				
a) Induce significant population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace existing housing **(including low- or moderate-income housing)**, in an area that is substantially deficient in housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) The project involves the paving of existing dirt roads and installation of stormwater treatment measures within areas of existing residential and commercial development. At the Seal Cove site, both San Ramon Avenue and Del Mar Avenue segments would begin and end at existing paved road. With the exception of the 737 linear-foot stretch of San Ramon Avenue, all road sections to be improved are bounded on both sides by existing homes. No new paving is proposed at the Carlos Street site.

The paving of San Ramon Avenue would improve access to property adjacent to this road, which would facilitate development of these parcels by making them easier to access by automobile. However, as evidenced by the presence of development adjacent to other unpaved roads within the subdivision, development within these areas has not been precluded by the absence of a paved road. Moreover, the growth in the region is generally governed by the provisions of the LCP, while the overall development potential of the project area is limited by the General Plan and existing zoning designations.

The project would require a workforce of up to 10 people for a period of 45 days. Due to its proximity to large urban centers, the project would be expected to draw from the local workforce. As such, project workers would not require additional housing.

For the above reasons, significant growth would not be expected to result from the proposed project, and its contribution to population growth within the area would be **less than significant**.

b) Because the project would be limited to improvement of existing roadways, displacement of existing housing would not occur. Accordingly there would be **no impact** associated with displacement of existing housing resulting in construction of replacement housing.

References

County of San Mateo, 1999. Zoning Regulations. Available online at: http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/9441580Zregs-wp.pdf. Accessed March 2013.

County of San Mateo, 2013. Local Coastal Program Policies (Amended through August 8, 2012). Available online at: http://www.co.sanmateo.ca.us/Attachments/planning/PDFs/LCP/SMC_Midcoast_LCP_2013.pdf. Accessed on December 5, 2013.

2.14 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, 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 following public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities (e.g. – hospitals, or electrical/natural gas supply systems)?	☐	☒	☐	☐

Discussion

a.i, ii) The project area is served by Coastside Fire Protection District. The District serves 50 square miles, a population of 30,000 residents, and responds to approximately 2,200 calls for service each year. Station 44 is located one and a half miles to the north of the Seal Cove site and one-half mile north of the Carlos Street site. The Fire District has 23 volunteer firefighter positions along with 20 paid positions. All stations are staffed with one fire captain and two fire apparatus engineers (CFPD, 2013).

The project area is also served by the San Mateo County Sheriff's Office. Its Moss Beach Substation offers the largest law enforcement facility on the coast. The Moss Beach Substation is located one mile from the Seal Cove site and adjacent to the Carlos Street site. The substation is staffed with 27 full time deputy sheriffs, four sergeants and one lieutenant (SMCSO, 2013).

Because construction activities would be temporary, involve a workforce of up to 10 people, and would not substantially change site land uses, the project would not be expected to significantly impact the CFPD or SMCSO's ability to maintain acceptable service ratios, response times, or other performance objectives. For these reasons, the project's impact with respect to police and fire protection would be **less than significant**.

a.iii, iv) The proposed project would neither directly nor indirectly increase the demand for public services, such as schools or nearby parks, because the project would not cause an increase in area population or population densities. As such, the project would have **no impact** with respect to schools or parks.

a.v) Construction activities for the proposed project could result in damage to or interference with existing water, sewer, storm drain, natural gas, electricity, and/or telecommunication lines. The project is proposed entirely for areas within transportation rights-of-way, which frequently serve as utility corridors. Existing sanitary sewer and electrical lines are known to occur in the vicinity of the Seal Cove site. Potholes for telecommunications and water lines exist within the Carlos Street work area. The exact locations of all underground utilities at the project sites are not known at this time; additional utility lines could be located within proposed work areas. The proposed project would involve excavation to depths of one to one and a half feet below ground surface. Accidental rupture of or damage to these utility lines during project construction could temporarily disrupt utility services and, in the case of high-priority utilities, could result in significant safety hazards for construction workers and the public. For the above reasons, potential impacts on existing utilities and utility services during project construction could be significant. **Mitigation Measure PUB-1**, **Preconstruction Utility Identification and Coordination**, would reduce the potential for such impacts through preconstruction identification of underground utilities occurring within or adjacent to work areas. With **Mitigation Measure PUB-1**, the potential for disruption to utility service systems would be reduced to a **less-than-significant** level.

> **Mitigation Measure PUB-1: Preconstruction Utility Identification and Coordination.** Prior to construction activities, the San Mateo County DPW or its contractor(s) shall determine the locations of overhead and underground utility lines, such as natural gas, electricity, sewer, telephone, cable, fuel, and water that may be encountered during construction work. Pursuant to State law, the San Mateo County DPW or its contractor(s) shall notify Underground Service Alert of Northern California and Nevada (USA North) so that utility companies may be advised of the work and may field-mark or otherwise protect and warn the contractor of their existing utility lines. Information regarding the location of existing utilities shall be reviewed before construction activities begin. Utilities may be located by customary techniques such as geophysical methods and hand excavation. The San Mateo County DPW or its contractor(s) shall notify all affected utility service providers in advance of the project construction plans and schedule. The San Mateo County DPW or its contractor(s) shall make arrangements with these entities regarding the protection, relocation, or temporary disconnection of services prior to the start of construction, and prompt reconnection of services, as required.

References

Coastside Fire Protection District (CFPD), 2013. Available online at: http://www.coastsidefire.org/home. Accessed March 2013.

San Mateo County Sherriff's Office (SMCSO), 2013. North Coast Substation. Available online at: http://www.smcsheriff.com/divisions/operations-division/area-office-emergency-services/homeland-security/north-coast-substatio. Accessed March 2013.

2.15 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. RECREATION — Would the project:				
a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a-b) The project does not include any recreational facilities, is not in the vicinity of existing recreational facilities, and would not cause an increase in population or population densities or any other change that would result in an increase in the use of nearby parks, including Pillar Point Bluff County Park. Therefore, the project would have **no impact** on recreation or recreational facilities.

2.16 Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC — Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in significant safety risks?	☐	☐	☐	☒
d) Significantly increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
g) Cause noticeable increase in pedestrian traffic or a change in pedestrian patterns?	☐	☐	☐	☒
h) Result in inadequate parking capacity?	☐	☐	☒	☐

Discussion

a-b) The proposed project would occur in the community of Moss Beach. Both project sites are accessible from Highway 1. The Seal Cove site is approximately three-quarters of a mile west of Highway 1. Primary site access is via Cypress Avenue, Airport Street, and Los Banos Avenue. The Carlos Street site is located approximately 100 feet east of Highway 1. Primary site access is via Highway 1. The most recent data published by California Department of Transportation (Caltrans) indicates that the Annual Average Daily Traffic (AADT) on Highway 1 in Moss Beach is about 15,100 vehicles (Caltrans, 2012a). The San Mateo County Transit District (SamTrans) operates two bus lines along this route – the 17 Community Route and the 294 Route to Caltrain. There are no bicycle lanes along this reach of Highway 1.

Project construction would temporarily increase traffic volumes on Highway 1, Carlos Street, Cypress Avenue, Airport Street, and Los Banos Avenue. Traffic would primarily increase from construction worker trips and the delivery of construction equipment and

materials to and from the project sites. The expected increase in traffic would take place between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday, for approximately 45 days. Conservatively assuming concurrent construction of road improvement at both project sites, the estimated increase in trips along these roads would be approximately 20 round trips per day, based upon an estimated 12 construction workers and resource monitors[6] (seven at the Seal Cove site and five at the Carlos Street site) and up to five daily materials delivery or off-haul trips, three to the Seal Cove site and two to the Carlos Street site. This increase in daily traffic during project construction represents a 0.1 percent change over 2012 AADT. Project operation would require an estimated two round trips per week for three weeks immediately following construction, and up to two round-trips per month thereafter.

Based on these estimates, the project would not result in a substantial increase in traffic during construction and operational activities and would not cause an exceedance of any level of service standard or cause inadequate emergency access. Local residents and business owners would likely notice an increase in neighborhood traffic during project construction. However, this increase would be limited to the construction period, after which traffic volumes would return to pre-construction levels. For these reasons, the project would not be expected to disrupt automobile traffic, local or regional mass transit, or non-motorized travel and relevant components of the circulation system. The project would, therefore, be consistent with the C/CAG's Congestion Management Program (2011). For these reasons, the proposed project would have a **less-than-significant** impact with respect to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, or congestion management program.

c) The proposed project would occur within an existing community. The road improvements and stormwater treatment measures would not cause a change in area population, such that air traffic levels would change, or otherwise create safety risks that would require a change in air traffic patterns. As such, the project would have **no impact** on air traffic patterns.

d, e) The project would improve intersection function, access, and circulation within the small Seal Cove neighborhood community. No sharp curves are proposed and the project would not contribute to intersection dangers. In contrast, the project would eliminate potholes, formalize drainage, and improve intersection function. Through the paving of San Ramon Avenue, emergency response personnel would have more direct access to the residents along Bernal Avenue. The impact on safety and emergency access would, therefore, be **less than significant**. Proposed activities at the Carlos Street site would have no impact with respect to hazardous design and emergency access. The entrance to the Moss Beach Substation is along California Street, to the immediate north of the project site. However, the proposed construction activities would not require intrusion

6 Worker trips include total round trips per day (number of trips) x 1.25, to account for miscellaneous midday trips.

into the California Street intersection and access to and from the Substation would not be affected by project construction activities.

f, g) The proposed project involves paving three existing dirt roads and installation of stormwater treatment facilities within rural residential and commercial areas. The project would improve circulation within the Seal Cove neighborhood. However, it would not be expected to generate new or affect existing public transit, bicycle, or pedestrian traffic or facilities. As a result, the project would have **no impact** with respect to conflict with these activities or the plans, policies, or programs governing the use and safety of these activities and facilities. Similarly, the project would have **no impact** with respect to increases in pedestrian traffic or alterations to pedestrian traffic patterns.

h) The project would create a temporary parking demand for construction workers and construction vehicles at the Seal Cove and Carlos Street sites. Seal Cove construction staging and overnight storage of vehicles would occur along Los Banos Avenue, between Airport Street and Park Avenue. Equipment staging for the Carlos Street project would occur on Carlos Street. As stated in response to question 2.16a,b), above, the project could require up to 12 construction workers and resource monitors at a given time (up to seven at the Seal Cove site and five at the Carlos Street site). Assuming all personnel drive alone to each day's work location, project construction would generate a parking demand of up seven parking spaces at the Seal Cove site and five spaces at the Carlos Street site. Construction workers at the Carlos Street site would be expected to park along Carlos Street, where there is ample space for construction worker vehicle parking. Construction workers at the Seal Cove site would be expected to park at the Los Banos staging area and/or along Seal Cove neighborhood streets near the day's work area. Due to the availability of parking in the vicinity of the Carlos Street site, equipment staging and construction worker parking at this site is not expected to substantially affect parking capacity. Due to the availability of parking at the Los Banos staging area and along neighborhood streets, and considering that construction activities would mainly occur during the daytime when demand for residential neighborhood parking tends to be lower, construction worker parking at this site is not expected to substantially affect parking capacity. For these reasons, the project would have a **less than significant impact** with respect to adequate parking capacity.

References

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2.17 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environ-mental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with Federal, State, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
h) Be sited, oriented, and/or designed to minimize energy consumption, including transportation energy; incorporate water conservation and solid waste reduction measures; and incorporate solar or other alternative energy sources?	☐	☐	☒	☐
i) Generate any demands that will cause a public facility or utility to reach or exceed its capacity?	☐	☐	☐	☒

Discussion

a, b, e) There would be **no impact** as the project would not contribute to wastewater production or otherwise affect existing systems of wastewater or water delivery

c) Existing drainage at the Seal Cove project site is informal, consisting of vegetated roadside depressions and no storm drain connection. As the project would include the construction of more than 10,000 square feet of new impervious surfaces, it would be subject to the C.3 provisions of the Municipal Regional Stormwater Permit. To comply with the C.3 provisions, the project would include the construction of biotreatment facilities and pervious paving, to capture and treat stormwater the volume of stormwater runoff expected to run off of this new area of impervious surface. As such, the project would have a **less-than-significant** impact with regard to the need for additional stormwater drainage facilities. Additional discussion of potentially significant

environmental effects associated with construction of these treatment measures is presented in the applicable topical sections of this IS/MND.

d) The project would have no water requirements with the exception of limited water supplies required during project construction. Therefore, the project would have **no impact** on water supply entitlements.

f, g) The project would require excavation of approximately 900 cubic yards of soil and asphalt waste. Excavated soils would either be used onsite, transported to a private receiving site outside of the Coastal Zone, or deposited in a sanitary landfill along with the asphalt waste. If the latter, the excavated soils would be taken to the Ox Mountain facility in Half Moon Bay. The landfill has a maximum capacity of 48.3 million cubic yards and is not expected to reach capacity until 2027 (RWQCB, 2008). As such, the contribution of 900 cubic yards of soil would not result in insufficient landfill capacity. The project would conform to all applicable local, state, and federal regulations concerning solid waste. Consequently, the impact would be **less than significant**.

h) The project involves the paving of existing dirt roads and construction of stormwater treatment measures. To the extent possible, excavated soils would be reused onsite. However, the project's construction and operation would not substantially affect area energy consumption, water demand, or waste generation. As such, the impact would be **less than significant**.

i) There would be **no impact** as the project would not cause an increase in population or population densities, or otherwise affect demands for public facilities or utilities.

References

Regional Water Quality Control Board (RWQCB), 2008. Updated Waste Discharge Requirements and Order No. R l-2006-0040. Browning, Ferris Industries, Inc. Ox Mountain Sanitary Landfill, Class III Waste Management Facility, Half Moon Bay, San Mateo County. Available online at: http://www.swrcb.ca.gov/rwqcb2/board_decisions/adopted_orders/2006/R2-2006-0040.pdf. Accessed March 2013.

2.18 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18. MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:				
a) Does the project have the potential to degrade the quality of the environment, significantly 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, 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 significant adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) Potentially significant impacts identified for biological resources (birds, amphibians, and reptiles) can be mitigated (using **Mitigation Measures BIO-1 through BIO-4**) to a less-than-significant level and are not expected to degrade environmental quality, or substantially reduce the habitat or affect populations of any wildlife, fish, or plant species. It has been determined that construction of the proposed project would not have an impact on any examples of the major periods of California history or prehistory. **Mitigation Measure CUL-1 through CUL-4** would be implemented to ensure that any impacts resulting from the incidental discovery of cultural or paleontological resources during construction would be **less than significant**.

b, c) Consideration of past, present, and reasonably foreseeable projects in the project area and vicinity indicate that implementation of the proposed road and drainage improvements would have a less-than-significant impact. According to County Department of Public Works staff, there are no ongoing projects in the immediate project vicinity and only one – installation of biotreatment facilities and pervious paving along Carlos Street from California Avenue to Etheldore Street – is anticipated in the foreseeable future (Chen, 2013). The biotreatment facilities and pervious paving of Carlos Street from California Avenue to Etheldore Street, a project proposed for an area one block north of and separate from the "Carlos Street" site that is the subject of this IS/MND, would be subject to separate environmental review. However, it is likely that the project would have similar impacts as the proposed project and would be subject to similar mitigation measures as the proposed project. While construction of the cumulative project and the

proposed project's Carlos Street element would include a small area of construction and a relatively short timeframe, the cumulative project and the proposed project could result in cumulative impacts in the areas of biological resources, public services, and air quality in particular. The proposed project's contribution to cumulative effects would be less than significant with implementation of the mitigation measures described above.

The project would not have impacts to agriculture or forestry resources, mineral resources, or recreational resources that would combine with other projects. The proposed activities could have potential impacts with respect to aesthetics, biological and cultural resources, geology, and hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, transportation and traffic, and utilities and service systems. However, such impacts would be limited to the project site and, where necessary, mitigated such that they would not substantially combine with other off-site impacts.

The project's potential impacts with respect to air quality and greenhouse gas emissions, however, could extend beyond the site to combine with impacts from other projects. As described in Sections 2.3 and 2.7, Air Quality and Greenhouse Gasses, respectively, the BAAQMD considered the emission levels at which a project's individual emissions would be cumulatively considerable in developing its CEQA significance thresholds. The BAAQMD considers projects that result in emissions that exceed its CEQA significance thresholds to result in individual impacts that are cumulatively considerable and significant. As discussed in the above sections, the proposed project's emissions would be limited to the construction period and would be below the BAAQMD cumulatively considerable threshold.

For the reasons presented above, the proposed project would not be expected to result in adverse impacts to human beings, either directly or indirectly. All impacts identified in this document would be less-than-significant, or reduced to less-than-significant levels with implementation of mitigation measures, and the project's incremental contribution to potential cumulative impacts would not be cumulatively considerable. Therefore, the project's impact would be considered **less than significant with mitigation**.

References

Chen, Eric, 2013. Telephone correspondence between San Mateo County Engineer Eric Chen and ESA Project Manager Eli Davidian regarding other projects in the vicinity of the proposed project area. March 29, 2013.

SECTION 3
Mitigation Monitoring and Reporting Plan

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Aesthetics					
	None.				
Agricultural and Forest Resources					
	None.				
Air Quality					
AIR-1	**Mitigation Measure AIR-1: BAAQMD's Basic Construction Mitigation Measures.** The County shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below: • Dust control watering shall be implemented, as necessary, for all exposed surfaces (e.g., parking areas, soil piles, graded areas, and unpaved access roads) up to two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • All roadways to be paved shall be completed as soon as possible following grading. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	1. Require BAAQMD's Basic Construction Measures be implemented. 2. Contractor implements measures in the program.	1. County reviews contractor bid documents. 2. County documents that measures are being implemented.	1. County 2. County	1. Prior to construction. 2. During construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Biological Resources					
BIO-1	**Mitigation Measure BIO-1: Protection of Nesting Birds.** The project shall avoid implementation during the nesting bird season, if possible. The nesting bird season is generally described by CDFW as the period between February 1 and August 31. If seasonal avoidance is not feasible, then the following measures would be implemented. • No more than two weeks prior to commencement of construction activities, including but not limited to surveying, grading, tree-trimming, and tree-felling, a biologist shall conduct a nesting bird survey to determine whether nesting birds occur within 250 feet of the project area or nesting raptors occur within 500 feet of the project area. If nesting birds and raptors do not occur within 250 and 500 feet of the project area, respectively, then no further action is required. • Should any active nests be discovered in or near proposed construction zones, the surveying biologist shall, based upon site conditions and type of species, determine an appropriate construction buffer to be implemented. Buffers shall be 500 feet for raptors and 250 feet for non-raptors. However, these buffers may be decreased or increased, in consultation with CDFW and/or USFWS, based upon species-specific, site-specific, and activity-specific considerations, including the nesting species in question, baseline noise levels, type and decibel output of construction equipment to be used, and whether disturbance would occur within line-of-sight of the nest. If the nest in question belongs to a species listed under federal or state Endangered Species Acts, a California Species of Special Concern or a California Fully-Protected Species, then CDFW and/or USFWS, as appropriate, shall be consulted to establish nesting buffers and monitoring criteria. If construction buffers are decreased to less than 500 feet for raptors or less than 250 feet for songbirds, a biologist familiar with the bird's nesting requirements and behavior shall monitor the nest full-time during construction activities until s/he determines that continued activities would not result in nest failure.	1. Avoid construction during nesting bird season. 2. Conduct pre-construction surveys for nesting raptors and special status species birds, if construction or vegetation removal occurs between February 1st and August 31st. County-approved biologist shall conduct worker awareness training. 3. Biologist shall establish buffer zones, if active nests are observed. 4. County shall include in its contractor specifications that, if necessary, buffer zones will be avoided during construction.	1. County reviews contractor bid specifications. 2. Conduct surveys. 3. Incorporate survey results and recommendations into construction specifications. 4. County consults with agency, if required. 5. County reviews construction specifications and documents that measures are being implemented.	1. County. 2. Biologist. 3. County/Construction contractor. 4. County. 5. County.	1. Prior to construction. 2. No more than 2 weeks prior to construction, and prior to vegetation removal. 3. Prior to/during construction. 4. Prior to/during construction. 5. Prior to/During construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Biological Resources (cont.)					
BIO-2	**Mitigation Measure BIO-2: Survey, Flag and Relocate Dusky-footed Woodrat Nests.** Prior to the start of vegetation removal or any other construction activities that could impact coastal scrub habitat along San Ramon Avenue, a biologist familiar with the species and its habitat requirements shall survey for San Francisco dusky-footed woodrat nests within or immediately adjacent to the proposed disturbance area. If none are observed, then no further mitigation would be required. If nests are observed but would not be directly impacted by project activities, the biologist shall delineate the nests and establish a 10-foot buffer around the nests using exclusion fencing to ensure they are not accidentally destroyed by heavy equipment, worker vehicles, or construction foot traffic. The exclusion fencing shall remain in place for the duration of the project and fully removed from the project site upon project completion. If avoidance is not feasible because a nest is within the project footprint, a biologist shall disassemble the nest by hand and relocate/reconstruct it beyond the work area.	1. Conduct pre-construction surveys for dusky-footed woodrat nests. 2. Biologist shall establish buffer zones, if active nests are observed. 3. County shall include in its contractor specifications that, if necessary, buffer zones will be avoided during construction.	1. Conduct surveys. 2. Incorporate survey results and recommendations into construction specifications. 3. County reviews construction specifications and documents that measures are being implemented.	1. Biologist. 2. County, construction contractor. 3. County.	1. Prior to construction, and prior to vegetation removal. 2. Prior to construction. 3. Prior to/during construction.
BIO-3	**Mitigation Measure BIO-3: Avoid, Minimize, and Mitigate for Impacts to California Red-legged Frog, San Francisco Garter Snake, Western (=Pacific) Pond Turtle, and their Habitat.** The following measures shall be implemented to avoid or reduce impacts on California red-legged frog, San Francisco garter snake, and western (=Pacific) pond turtle: • Prior to project construction, the County shall seek technical guidance from the USFWS regarding the measures required to ensure take of California red-legged frog and San Francisco garter snake is avoided and to determine whether any further consultation would be required. The request for technical guidance shall be accompanied by a copy of the IS/MND and any maps, photographs, and habitat descriptions that may facilitate the USFWS analysis and guidance. The County shall incorporate into project plans and implement prior to, during, and following construction, as appropriate, any additional guidance provided by USFWS. • Immediately prior to vegetation removal or other construction activities, a biologist familiar with the habitat requirements of California red-legged frog, San Francisco garter snake, and western pond turtle shall conduct a preconstruction survey to determine whether any of these species is within the project area. If California red-legged frog or San Francisco garter snake	1. Include in the contractor specifications requirements for work windows and fencing of sensitive areas, if appropriate. 2. Contract with a qualified biologist to conduct a worker education program. 3. Contract with a USFWS-approved monitor to identify special-status species during construction activities. 4. Prepare a revegetation plan to address temporary impacts to habitat, the measures of which shall be included in the contractor specifications. 5. Provide compensatory mitigation in the appropriate mitigation ratios for temporary and permanent impacts to sensitive habitats.	1. Review contractor bid specifications. 2. Conduct worker awareness training. 3. Monitor construction activity. 4. Prepare or review revegetation plan and document its implementation. 5. Prepare or review mitigation plan and document its implementation.	1. County 2. County-approved biologist. 3. County/USFWS approved-biological monitor. 4. County. 5. County, County-approved biologist.	1. Prior to and during construction 2. No more than 2 weeks prior to construction, and prior to the removal of any vegetation. 3. Prior to and during construction. 4. After construction. 5. Prior to construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Biological Resources (cont.)					
BIO-3 (cont.)	is identified in the work area during preconstruction surveys or at any subsequent time during construction, construction activities in the immediate area shall halt until the species has left the area OR, if permitted, a USFWS-approved biologist shall relocate the species outside of the work area. Western pond turtle may be relocated without agency approval. • Ground disturbance and construction footprints shall be minimized to the greatest degree feasible. • Work activities within or adjacent to suitable habitat shall be completed between June 15 and October 31, when possible. Suitable habitat shall be separated from the active work area with amphibian exclusion fencing, unless otherwise directed by the USFWS and CDFW. The fence shall be installed under the direct supervision of a biologist. One-way exclusion doors may be installed at the direction of USFWS or CDFW. • A biological resource monitor shall conduct worker awareness training for construction personnel, addressing California red-legged frog, San Francisco garter snake, and western pond turtle basic biology and identifying characteristics, legal status, job-specific protection measures, and penalties for noncompliance. • A biologist shall act as a regular (i.e., weekly, unless otherwise instructed by USFWS and CDFW) construction monitor. If a full-time monitor is not required by the USFWS and CDFW, then an appropriate person (i.e., construction management team supervisor) shall be designated as the onsite biological monitor and shall be trained by the biologist to identify special-status species. • A preconstruction survey for California red-legged frog, San Francisco garter snake, and western (=Pacific) pond turtle shall be conducted each day by the onsite monitor immediately preceding construction activity that occurs within or adjacent to suitable habitat. • Suitable habitat for California red-legged frog or San Francisco garter snake that is temporarily impacted by project-related activities shall be restored to pre-project conditions. • Vegetated areas beyond the project site disturbed in the course of project construction shall be revegetated with native plant species suitable to coyote brush scrub habitats upon completion of construction.				

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Biological Resources (cont.)					
BIO-4	**Mitigation Measure BIO-4: Transplant California Wild Strawberry Plants.** Prior to ground disturbance and with the guidance of survey markers to delineate the project footprint, a biologist familiar with the species and its habitat requirements shall identify and mark (e.g., with flagging or orange plastic fencing) California strawberry plants to establish an exclusionary zone. If any protected plant cannot be excluded from the area of impact, it shall be transplanted to a suitable location within the project site under the supervision of a biologist familiar with the habitat requirements of wild strawberry.	1. Conduct preconstruction surveys. 2. Incorporate survey results and recommendations into construction specifications. 3. Avoid buffer zones during construction and transplant wild strawberry, as necessary.	1. County-approved biologist conducts survey and documents findings. 2. County reviews construction specifications for inclusion of recommendations. 3. County documents that measures are being implemented	1. County-approved biologist. 2. County. 3. County.	1. Prior to construction. 2. Prior to construction. 3. During construction.
Cultural Resources					
CUL-1	**Mitigation Measure CUL-1: Cultural Resources Monitoring.** Prior to authorization to proceed, or issuance of grading permits, the applicant shall prepare and submit a cultural resources monitoring plan to the County Planning and Building Department for review and approval. Monitoring shall be required for all subsurface excavation work. A Secretary of the Interior-qualified archaeologist shall prepare the plan. The plan shall include (but not be limited to) the following issues: • Training program for all construction and field workers involved in site disturbance; • Person(s) responsible for conducting monitoring activities, including Native American monitor(s); • Person(s) responsible for overseeing and directing the monitors; • How the monitoring shall be conducted and the required format and content of monitoring reports; • Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; • Protocol for notifications in case of encountering cultural resources, as well as methods for evaluating significance, developing and implementing plan to avoid or mitigate significant resource impacts, Native American participation and consultation, collection and curation plan, and consistency with applicable laws including Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code (PRC);	1. County shall contract with an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology to monitor ground-disturbing activities. 2. In the event subsurface cultural resources are discovered, construction within 100 feet of the find shall be halted and the archeologist shall notify the County. 3. The archaeologist shall prepare an ARDTP.	1. County executes contract. 2. Archaeological monitor shall notify the County of the discovery. 3. Archaeologist prepares ARDTP, County reviews	1. County, qualified archaeologist. 2. Archaeological monitor, County. 3. Qualified archaeologist, County.	1. Prior to and during construction 2. During construction 3. Following construction

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Cultural Resources (cont.)					
CUL-1 (cont.)	• Methods to ensure security of cultural resources sites; • Protocol for notifying the County, Native Americans, and local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction with reference to PRC 5097.99. During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and professional judgment regarding the potential to impact resources. If archaeological materials are encountered, all soil disturbing activities within 100 feet of the find shall cease until the resource is evaluated. The monitor(s) shall immediately notify the County of the encountered archaeological resource. The monitor(s) shall, after making a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological resource, present the findings of this assessment to the County. In the event archaeological resources qualifying as either historical resources pursuant to CEQA Section 15064.5 or as unique archaeological resources as defined by Public Resources Code 21083.2 are encountered, preservation in place shall be the preferred manner of mitigation. If preservation in place is not feasible, the applicant shall implement an Archaeological Research Design and Treatment Plan (ARDTP). The project archaeologist, Native American representatives, and the County shall meet to determine the scope of the ARDTP. The ARDTP shall identify how the proposed data recovery program would preserve the significant information the archaeological resource contains. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The results of the investigation shall be documented in a technical report that provides a full artifact catalog, analysis of items collected, results of any special studies conducted, and interpretations of the resource within a regional and local context. All technical documents are to be placed on file at the Northwest Information Center of the California Historical Resources Information System.				

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Cultural Resources (cont.)					
CUL-2	**Mitigation Measure CUL-2: Inadvertent Discovery of Prehistoric Resources.** If prehistoric or historic-period archaeological resources are encountered, all construction activities within 100 feet shall halt and the County shall be notified. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with Public Resources Code (PRC) Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the County and the affiliated Native American tribe(s), if applicable. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.	1. County shall review construction specifications to ensure procedures for inadvertent discovery of cultural resources are included. 2. In the event of a historic-period archaeological resource discovery, construction in the area shall be halted and the contractor shall notify the County. 3. Qualified archaeologist shall be contacted and inspect the findings to determine appropriate mitigation and feasibility of preservation.	1. County review construction specifications. 2. The contractor shall notify the County of the discovery. 3. Qualified archaeologist shall inspect the findings and determine appropriate next steps, consistent with PRC Section 21083.2 and Section 15126.4 of the CEQA Guidelines.	1. County 2. County 3. County and qualified archaeologist.	1. Prior to construction. 2. During construction. 3. During construction.
CUL-3	**Mitigation Measure CUL-3: Halt Work if Paleontological Resources are Identified During Construction.** If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, all ground disturbing activities within 100 feet of the find shall be halted until a qualified paleontologist can assess the significance of the find and, if necessary, develop appropriate salvage measures in conformance with Society of Vertebrate Paleontology Guidelines (SVP, 1995; SVP, 1996).	1. County shall review construction specifications to ensure procedures for discovery of paleontological resources are included. 2. In the event paleontological resources are discovered, construction in the area shall be halted and County shall consult a qualified paleontologist.	1. County review construction specifications. 2. Contractor shall notify the County of the discovery.	1. County 2. County	1. Prior to construction. 2. During construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Cultural Resources (cont.)					
CUL-4	**Mitigation Measure CUL-4: Inadvertent Discovery of Human Remains.** If human remains are encountered during ground disturbing activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission. The Native American Heritage Commission would then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who shall make recommendations for the treatment of any human remains.	1. County shall review construction specifications to ensure procedures for human remains discovery are included. 2. In the event human remains are discovered, construction in the area shall be halted and the contractor shall notify the County Coroner.	1. County review construction specifications. 2. The contractor shall notify County of the discovery.	1. County 2. County	1. Prior to construction. 2. During construction.
Geology and Soils					
	None.				
Climate Change					
	None.				
Hazards and Hazardous Materials					
HAZ-1	**Mitigation Measure HAZ-1: Hazardous Materials Handling, Storage, and Disposal.** The San Mateo County DPW shall require the construction contractor to use the following best management practices (BMPs) to minimize potential adverse effects of the project to groundwater and soils from chemicals used during construction activities: • Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction; • Avoid overtopping construction equipment fuel gas tanks; • Provide secondary containment for any hazardous materials temporarily stored onsite; • During routine maintenance of construction equipment, properly contain and remove grease and oils; and • Perform regular inspections of construction equipment and materials storage areas for leaks and maintain records documenting compliance with the storage, handling and disposal of hazardous materials.	1. County shall require contractor specifications include BMPs for handling hazardous materials. 2. Contractor implements required BMPs.	1. County reviews contractor specifications. 2. County documents that measures are being implemented.	1. County 2. County	1. Prior to construction. 2. During construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Hazards and Hazardous Materials (cont.)					
HAZ-2a	**Mitigation Measure HAZ-2a: Preconstruction Hazardous Materials Assessment.** Within three months prior to construction, a qualified environmental professional shall be retained to conduct a regulatory agency database review to update and identify hazardous materials sites within ¼ mile of the project sites and to review appropriate standard information sources to determine the potential for soil or groundwater contamination at the project sites. Should this review indicate a high likelihood of encountering contamination at the project sites, follow-up sampling shall be conducted to characterize soil and groundwater quality prior to construction to provide necessary data for the site health and safety plan (Mitigation Measure HAZ-2b) and hazardous materials management plan (Mitigation Measure HAZ-2c). If needed, site investigations or remedial activities shall be performed at the project site in accordance with applicable laws.	1. County shall contract with a qualified environmental professional to conduct a hazardous materials assessment. 2. County shall contract with a qualified environmental professional to conduct follow-up sampling, if necessary, based on the results of the hazardous materials assessment.	1. County executes contract. 2. County executes contract.	1. Qualified environmental professional, County. 2. Qualified environmental professional, County.	1. Prior to construction. 2. During construction.
HAZ-2b	**Mitigation Measure HAZ-2b: Health and Safety Plan.** The construction contractor shall, prior to construction, prepare a site-specific health and safety plan in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal-OSHA regulations (8 CCR Title 8, Section 5192) to address worker health and safety issues during construction. The health and safety plan shall identify the potentially present chemicals, health and safety hazards associated with those chemicals, all required measures to protect construction workers and the general public from exposure to harmful levels of any chemicals identified at the site (including engineering controls, monitoring, and security measures to prevent unauthorized entry to the work area), appropriate personal protective equipment, and emergency response procedures. The health and safety plan shall designate qualified individuals responsible for implementing the plan and for directing subsequent procedures in the event that unanticipated contamination is encountered.	1. Construction contractor shall prepare a health and safety plan. 2. Contractor implements health and safety plan.	1. County reviews health and safety plan. 2. County documents that measures are being implemented.	1. Construction contractor, County 2. County	1. Prior to construction. 2. During construction.
HAZ-2c	**Mitigation Measure HAZ-2c: Hazardous Materials Management Plan.** The contractor shall, prior to construction, prepare a hazardous materials management plan that specifies the method for handling and disposal of contaminated soil and building debris, should any be encountered during construction. Contract specifications shall mandate full compliance with all applicable local, State, and federal regulations related to identifying, transporting, and disposing of hazardous materials, including those encountered in excavated soil, and demolition debris. The contractor shall provide San Mateo County Department of Public Works with copies of hazardous waste manifests documenting that disposal of all hazardous materials has been performed in accordance with the law.	1. Construction contractor shall prepare a hazardous materials management plan. 2. Contractor implements hazardous materials management plan.	1. County reviews hazardous materials management plan. 2. County documents that measures are being implemented.	1. Construction contractor, County. 2. County	1. Prior to construction 2. During construction

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Hydrology and Water Quality					
HYD-1	**Mitigation Measure HYD-1: Stormwater Best Management Practices (BMPs).** The San Mateo County Department of Public Works (DPW), or its construction contractor, shall prepare and implement comprehensive stormwater pollution and erosion control best management practices (BMPs) to keep sediment or any other pollutants from moving offsite and into receiving waters. The County DPW or its contractor shall ensure the BMPs are in place prior to the start of construction related activities and remain in place throughout all phases of project construction. A BMP monitoring and maintenance schedule with clearly identified parties responsible for monitoring and maintenance of BMPs shall also be in place prior to the start of construction or decommissioning activities and remain in place throughout all phases of project construction. Stormwater pollution and erosion control BMPs at a minimum shall include, but not be limited to, the following: • Ensure that all stormwater, erosion, and sediment control BMPs utilized are consistent with measures approved by the California Stormwater Quality Association (CASQA). • Provide adequate erosion control training to all equipment operators, site superintendants, and managers to ensure that stormwater and erosion controls are maintained and remain effective. • Employ temporary erosion control measures (such as silt fences and staked straw wattles) for disturbed areas. No disturbed surfaces shall be left without erosion control measures in place so as to limit onsite and offsite erosion and to retain sediment on-site. • Stabilize inactive areas, such as temporary stockpiles, using an appropriate combination of BMPs to cover the exposed material, intercept runoff, and provide a sediment control mechanism (such as silt fencing surrounding the stockpile perimeter or fiber rolls at the base and on side slopes). • Limit vegetation disturbance/removal to the maximum extent practicable and retain existing vegetation where possible. • Temporarily stabilize active, disturbed areas undergoing fill placement before and during rain events expected to produce site runoff. Stabilization methods include combined BMPs that protect materials from rain, manage runoff, and reduce erosion. • Restrict construction activities involving grading, hauling, and placement of backfill materials from occurring during periods of rain.	1. County shall require construction specifications include requirements regarding preparation and implementation of a comprehensive stormwater pollution and erosion control measures. 2. Contractor implements BMPs.	1. County reviews construction specifications. 2. County documents that BMPs are being implemented.	1. County 2. County	1. Prior to construction. 2. During construction.

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Hydrology and Water Quality (cont.)					
HYD-1 (cont.)	• Inspect all stormwater and erosion controls regularly, especially before and following significant run-off-producing rain events and make any necessary correction before the next rain event, but no longer than 10 business days. During the rainy season (October 1 to April 30), stormwater and erosion controls shall be inspected weekly. • Develop a spill prevention and countermeasure plan that identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site. The plan shall also require the proper storage, handling, use, and disposal of petroleum products. • Establish fuel and vehicle maintenance areas away from all drainage courses and design these areas to control runoff. • Manage waste and aggressively control litter. • Outside of the wet weather season (October 1 to April 30), limit street sweeping to dry sweeping only.				
Land Use and Planning					
	None.				
Mineral Resources					
	None.				
Noise					
NOI-1	**Mitigation Measure NOI-1: Restricted Use of Vibratory Rollers**. The County shall prohibit construction contractors from using vibratory rollers within 25 feet from residences during project construction. Where construction work would occur within 25 feet from residences, the County shall require the contractors to use a static roller when operating in close proximity to these homes.	1. County shall require contractor specifications include restrictions on use of vibratory rollers. 2. Contractor observes required restrictions.	1. County reviews contractor specifications. 2. County documents that measures are being implemented.	1. County 2. County	1. Prior to construction 2. During construction
Population and Housing					
	None.				

Mitigation Monitoring and Reporting Plan

Mitigation No.	Mitigation Measure	Implementation Procedure	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Public Services					
PUB-1	**Mitigation Measure PUB-1: Preconstruction Utility Identification and Coordination.** Prior to construction activities, the San Mateo County DPW or its contractor(s) shall determine the locations of overhead and underground utility lines, such as natural gas, electricity, sewer, telephone, cable, fuel, and water that may be encountered during construction work. Pursuant to State law, the San Mateo County DPW or its contractor(s) shall notify Underground Service Alert of Northern California and Nevada (USA North) so that utility companies may be advised of the work and may field-mark or otherwise protect and warn the contractor of their existing utility lines. Information regarding the location of existing utilities shall be reviewed before construction activities begin. Utilities may be located by customary techniques such as geophysical methods and hand excavation. The San Mateo County DPW or its contractor(s) shall notify all affected utility service providers in advance of the project construction plans and schedule. The San Mateo County DPW or its contractor(s) shall make arrangements with these entities regarding the protection, relocation, or temporary disconnection of services prior to the start of construction, and prompt reconnection of services, as required.	1. Locate utilities within the project area. 2. Prepare detailed specifications regarding existing utilities as part of design plans. 3. Notify USA North of location of underground utilities. 4. Notify utility services of construction plans and schedule; arrange for protection, relocation, or temporary disconnection of services. 5. Contact utility owner if any damage occurs and promptly reconnect cables/lines with owner approval. 6. Coordinate final construction plans and specifications with affected utilities. 7. Notify residents and businesses two to four days in advance of planned utility disruption	1. County or construction contractor. 2. County or construction contractor. 3. County or construction contractor. 4. County or construction contractor. 5. County or construction contractor. 6. County or construction contractor. 7. County or construction contractor.	1. County 2. County 3. County 4. County 5. County 6. County 7. County	1. Prior to construction 2. Prior to construction 3. Prior to construction 4. Prior to construction 5. Prior to construction/ During construction 6. Prior to construction 7. Prior to construction
Recreation					
	None.				
Transportation/Traffic					
	None.				
Utilities and Service Systems					
	None.				

APPENDIX A

Criteria Pollutants and Greenhouse Gas Emissions Estimates

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Road Construction Emissions Model, Version 7.1.2

Emission Estimates for -> Seal Cove Roadways Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.5	16.2	35.6	1.9	1.6	0.3	1.5	1.4	0.1	3,393.6
Grading/Excavation	4.3	21.6	47.8	2.4	2.1	0.3	2.0	1.9	0.1	4,924.5
Drainage/Utilities/Sub-Grade	3.9	17.6	37.6	2.3	2.0	0.3	1.8	1.8	0.1	3,532.4
Paving	1.8	11.5	14.1	0.9	0.9	-	0.8	0.8	-	1,875.1
Maximum (pounds/day)	4.3	21.6	47.8	2.4	2.1	0.3	2.0	1.9	0.1	4,924.5
Total (tons/construction project)	0.1	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	85.2

Notes:

Project Start Year ->	2014
Project Length (months) ->	2
Total Project Area (acres) ->	0.85
Maximum Area Disturbed/Day (acres) ->	0
Total Soil Imported/Exported (yd^3/day)->	45

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Seal Cove Roadways Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.6	7.4	16.2	0.9	0.7	0.1	0.7	0.6	0.0	1,542.5
Grading/Excavation	2.0	9.8	21.7	1.1	1.0	0.1	0.9	0.9	0.0	2,238.4
Drainage/Utilities/Sub-Grade	1.8	8.0	17.1	1.0	0.9	0.1	0.8	0.8	0.0	1,605.7
Paving	0.8	5.2	6.4	0.4	0.4	-	0.3	0.3	-	852.3
Maximum (kilograms/day)	2.0	9.8	21.7	1.1	1.0	0.1	0.9	0.9	0.0	2,238.4
Total (megagrams/construction project)	0.1	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	77.3

Notes:

Project Start Year ->	2014
Project Length (months) ->	2
Total Project Area (hectares) ->	0
Maximum Area Disturbed/Day (hectares) ->	0
Total Soil Imported/Exported ($meters^3$/day)->	34

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model
Data Entry Worksheet

Version 7.1.2

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

Input Type		
Project Name	Seal Cove Roadways	
Construction Start Year	2014	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	2.0	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.2841	miles
Total Project Area	0.85	acres
Maximum Area Disturbed/Day	0.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	15.0	yd^3/day
Soil Exported	30.0	yd^3/day
Average Truck Capacity	15.0	yd^3 (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months
Grubbing/Land Clearing		0.20
Grading/Excavation		0.80
Drainage/Utilities/Sub-Grade		0.70
Paving		0.30
Totals	0.00	2.00

2005	%	2006	%	2007	%
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day	5.00	3
Vehicle miles traveled/day (calculated)		150

Hauling Emissions	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate (grams/mile)	0.28	10.43	1.26	0.25	0.18	1713.35
Emission rate (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day	0.1	3.4	0.4	0.1	0.1	566.1
Tons per contruction period	0.00	0.03	0.00	0.00	0.00	4.98

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing	15.00	3
No. of employees: Grading/Excavation	15.00	6
No. of employees: Drainage/Utilities/Sub-Grade	15.00	6
No. of employees: Paving	15.00	4

	ROG	**NOx**	**CO**	**PM10**	**PM2.5**	**CO2**
Emission rate - Grubbing/Land Clearing (grams/mile)	0.182	0.249	2.208	0.047	0.020	443.370
Emission rate - Grading/Excavation (grams/mile)	0.182	0.249	2.208	0.047	0.020	443.370
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.182	0.249	2.208	0.047	0.020	443.370
Emission rate - Paving (grams/mile)	0.182	0.249	2.208	0.047	0.020	443.370
Emission rate - Grubbing/Land Clearing (grams/trip)	0.616	0.407	5.187	0.004	0.003	95.481
Emission rate - Grading/Excavation (grams/trip)	0.616	0.407	5.187	0.004	0.003	95.481
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.616	0.407	5.187	0.004	0.003	95.481
Emission rate - Paving (grams/trip)	0.616	0.407	5.187	0.004	0.003	95.481
Pounds per day - Grubbing/Land Clearing	0.322	0.383	3.603	0.063	0.027	598.570
Tons per const. Period - Grub/Land Clear	0.001	0.001	0.008	0.000	0.000	1.317
Pounds per day - Grading/Excavation	0.322	0.383	3.603	0.063	0.027	598.570
Tons per const. Period - Grading/Excavation	0.003	0.003	0.032	0.001	0.000	5.267
Pounds per day - Drainage/Utilities/Sub-Grade	0.322	0.383	3.603	0.063	0.027	598.570
Tons per const. Period - Drain/Util/Sub-Grade	0.002	0.003	0.028	0.000	0.000	4.609
Pounds per day - Paving	0.322	0.383	3.603	0.063	0.027	598.570
Tons per const. Period - Paving	0.001	0.001	0.012	0.000	0.000	1.975
tons per construction period	0.007	0.008	0.079	0.001	0.001	13.169

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.28	10.43	1.26	0.25	0.18	1713.35
Emission rate - Grading/Excavation (grams/mile)	0.28	10.43	1.26	0.25	0.18	1713.35
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.28	10.43	1.26	0.25	0.18	1713.35
Pounds per day - Grubbing/Land Clearing	0.03	0.92	0.11	0.02	0.02	150.96
Tons per const. Period - Grub/Land Clear	0.00	0.01	0.00	0.00	0.00	1.33
Pound per day - Grading/Excavation	0.03	0.92	0.11	0.02	0.02	150.96
Tons per const. Period - Grading/Excavation	0.00	0.01	0.00	0.00	0.00	1.33
Pound per day - Drainage/Utilities/Subgrade	0.03	0.92	0.11	0.02	0.02	150.96
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.01	0.00	0.00	0.00	1.16

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.03	0.3	0.0	0.1	0.0
Fugitive Dust - Grading/Excavation		0.03	0.3	0.0	0.1	0.0
Fugitive Dust - Drainage/Utilities/Subgrade		0.03	0.3	0.0	0.1	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.32	4.42	14.34	0.67	0.62	945.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.54	7.26	19.16	0.77	0.71	1609.63
	1	Signal Boards	0.26	0.82	0.81	0.07	0.06	89.45
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.1	12.5	34.3	1.5	1.4	2644.1
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.1	0.0	0.0	5.8

Grading/Excavation	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.45	2.79	5.10	0.25	0.23	572.77
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	1.12	3.49	10.95	0.61	0.57	672.31
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.00	0.01	0.02	0.00	0.00	1.96
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.54	3.12	7.00	0.24	0.22	662.78
	1	Scrapers	1.54	7.26	19.16	0.77	0.71	1609.63
	1	Signal Boards	0.26	0.82	0.81	0.07	0.06	89.45
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.9	17.5	43.0	1.9	1.8	3608.9
	Grading	tons per phase	0.0	0.2	0.4	0.0	0.0	31.8

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	1.12	3.49	10.95	0.61	0.57	672.31
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.54	7.26	19.16	0.77	0.71	1609.63
	1	Signal Boards	0.26	0.82	0.81	0.07	0.06	89.45
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.61	2.10	5.16	0.40	0.37	377.07
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	3.6	13.9	36.3	1.9	1.7	2782.9
	Drainage	tons per phase	0.0	0.1	0.3	0.0	0.0	21.4

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.48	2.84	5.28	0.26	0.24	481.40
	1	Paving Equipment	0.36	2.69	4.26	0.20	0.19	426.10
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rollers	0.39	1.51	3.40	0.25	0.23	279.56
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Signal Boards	0.26	0.82	0.81	0.07	0.06	89.45
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.5	7.9	13.8	0.8	0.7	1276.5
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	4.2
Total Emissions all Phases (tons per construction period) =>			0.1	0.3	0.8	0.0	0.0	63.2

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

APPENDIX B

Special Status Plants Survey Report

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THE SEAL COVE/MOSS BEACH AREA ROADS IMPROVEMENT PROJECT, SAN MATEO COUNTY, CALIFORNIA.

SPECIAL STATUS PLANTS SURVEY REPORT

Prepared by:

County of San Mateo Department of Public Works

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Redwood City, California 94063-1665

June 2013

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I. INTRODUCTION

This report presents the results of focused plant surveys conducted for the Moss Beach/Seal Cove Area Roads Improvement Project (Project), consisting of the improvement of three existing dirt roads in the unincorporated Moss Beach/Seal Cove area of San Mateo County, California (Appendix A – Figures 1 and 2). The surveys were conducted on April 26, April 30, and May 29, 2013 and consisted of approximately 11 person-hours of focused surveys within and adjacent to the proposed Project impact areas (Study Area). Surveys were conducted following the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW, 2009). Beach strawberry (*Fragaria chiloensis*), protected within ½ mile of the coast under County of San Mateo Local Coastal Program (LCP) Policy 7.49, was observed to occur in small patches within the proposed work area. A small stand of California blackberry (*Rubus ursinus*), a community designated as rare by the California Department of Fish and Wildlife (CDFW), was observed within the proposed work area. No other special status plant species or natural communities were observed within the Study Area.

A. Project Description

The County of San Mateo Department of Public Works (County) is proposing to implement the Moss Beach/Seal Cove Area Roads Improvement Project (Project), consisting of improvements to approximately 1,500 linear feet (lf) of existing dirt roads within the County's right-of-way (ROW), and construction of approximately 0.3 acres of vegetated swales parallel and adjacent to the constructed roads, in the unincorporated Moss Beach/Seal Cove area of San Mateo County. The following lists the segments of the existing dirt roads to be improved:

1) San Ramon Avenue between San Lucas Road and Bernal Avenue (737 lf)
2) Del Mar Avenue between Madrone Avenue and Bernal Avenue (505 lf)
3) Madrone Avenue between Dacota Avenue and Del Mar Avenue (242 lf)

The Project footprint totals an approximate 52,300 square-foot area. See Appendix A, Figure 2 for more details.

B. Purpose

The purpose of this report is to describe the findings of focused plant surveys that were conducted at

the Project site. Focused surveys were conducted to determine whether any special status plant species or natural communities are present on the site, which may pose development constraints to the proposed Project.

Special status plants include species that are state- or federally-listed as Rare, Threatened, or Endangered, species proposed for state or federal listing as Threatened or Endangered, federal Candidate species for listing, state and/or federal Species of Concern, species considered by the California Native Plant Society (CNPS) to be rare or endangered (Lists 1A, 1B, and 2), and locally important species. The CDFW additionally designates certain natural communities as special status if they have a limited distribution statewide or within a county or region and are vulnerable to environmental effects of projects (CDFW, 2009).

II. STUDY AREA DESCRIPTION

The Study Area consisted of all areas that would be directly or indirectly impacted by the proposed Project. Specifically, the Study Area included the road segments proposed for improvement and areas within 50 feet of the centerline of each proposed road (25 feet beyond the road ROW), and encompassed a total of 2.9 acres. Where residential fencing existed at or near the boundary of the road ROW, surveys only extended to the existing fence line (Appendix A – Figure 2). The proposed Project is not anticipated to impact areas within enclosed residential yards.

A. General Site Characteristics

The Project area is located on a relatively flat, coastal bluff in the rural residential community of Seal Cove/Moss Beach, adjacent to open space. The project area is characterized by coastal scrub, non-native annual grassland, seasonal freshwater wetland, and landscape/ornamental habitats (Appendix A – Figure 3).

B. Plant Communities

Coastal Scrub

Coastal scrub is a plant community dominated by low shrubs intermixed with herbaceous perennials and annuals. Within the Study Area, two shrub alliances were identified; coyote brush scrub and coastal brambles (CDFW, 2010). The coyote brush scrub alliance consisted primarily of dense stands

of coyote brush (*Baccharis pilularis*) mixed with California coffeeberry (*Frangula californica*), California blackberry (*Rubus ursinus*), California bee-plant (*Scrophularia californica*), Pacific sanicle (*Sanicula crassicaulis*), and mustard (*Brassica* sp.). Coyote brush scrub occurs in non-continuous stands along San Ramon Avenue. A small patch (less than 1,000 square-feet) of coastal bramble alliance, consisting primarily of California blackberry, was located in the vacant lot immediately southeast of the residence at 885 San Ramon Avenue. The California blackberry (*Rubus ursinus*) alliance is designated as a high priority community by CDFW (CDFW, 2010).

Non-native Annual Grassland

Non-native annual grassland is an herbaceous plant community dominated by annual grasses that are not native to California. Grass species found in this community within the Study Area include pampas grass (*Cortaderia* sp.), ripgut brome (*Bromus diandrus*), Italian rye grass (*Festuca perennis*), velvet grass (*Holcus lanatus*), and Harding grass (*Phalaris aquatica*). Annual and perennial wildflowers and forbs occurring in this community include common yarrow (*Achillea millefolium*), California poppy (*Eschscholzia californica*), mustard, dock (*Rumex* sp.), wild radish (*Raphanus* sp.), and poison hemlock (*Conium maculatum*). Patches of beach strawberry occasionally occur in this community. Within the Study Area, non-native annual grassland is located primarily in the vacant lots along San Ramon Avenue and limited areas along Del Mar Avenue. Google™ earth imagery shows certain vacant lots along San Ramon Avenue have been regularly maintained (mowed) from September 2008 through 2012. This disturbance likely promotes the continuation of non-native annual grassland and pampas grass in the maintained vacant lots adjacent to San Ramon Avenue.

Seasonal Freshwater Wetland

Seasonal wetland plant communities occur in swales and depressions that are ponded or saturated during the rainy season for sufficient duration to support vegetation adapted to wetland conditions. The County of San Mateo LCP defines wetlands as areas where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support at least 50% cover of plants which normally are found to grow in water or wet ground. Small pockets of obligate or facultative wetland plants, namely rush (*Juncus* sp.), sedge (*Cyperus* sp.) and velvet grass, occur within the Study Area along Del Mar and San Ramon Avenues. A Wetland Delineation is needed to determine if jurisdictional wetlands occur within the Project impact area. Additionally, a large contiguous wetland exists approximately 200 feet east of the San Ramon Avenue, but would not be

impacted by the proposed Project.

Landscape/Ornamental

The Study Area is located within residential neighborhoods and vacant lots. The majority of areas along Del Mar and Madrone Avenues consist primarily of non-native landscape (ornamental) vegetation such as Monterey pine (*Pinus radiata*), Pride of Madeira (*Echium* sp.), Calla lily (*Zantedeschia aethiopica*), redhot poker (*Kniphofia uvaria*), periwinkle (*Vinca* sp.), and lawn grasses (unidentified).

C. Soils

Soils underlying the project area are sandy clay loam, interspersed with localized fill associated with the existing nearby development (ESA, 2013). Serpentine soils are not known to occur in the Project area (USDA, 1961).

III. Methods

A. Background Data

A review of special status plant species with the potential to occur in the Project area was conducted using a combination of state and federal agency resources. A list of special status plant species known to, or believed to occur within the Project vicinity (USGS Montara Mountain, San Mateo, Half Moon Bay, and Woodside 7.5' quadrangles) was generated using the Sacramento U.S. Fish and Wildlife Service (USFWS) website (USFWS, 2011). A list of California Native Plant Society (CNPS) plants listed as Rare and Endangered was queried using the CNPS Inventory website (CNPS, 2013). The California Natural Diversity Database (CNDDB) compiled by the CDFW was queried to determine if any of the special status plant species from the USFWS and CNPS lists are known to occur within the Project vicinity. The CNDDB query results were further analyzed and mapped (Appendix A – Figure 4) to determine if any special status plant species have been documented to occur within 1 mile of the Project area. The results of these three queries have been tabulated in Section IV, A, Table 1, below. Marine species and species that do not typically occur within the plant communities and habitats that currently exist in the Project area were excluded.

B. Previous Studies

Peninsula Open Space Trust, 2006

Biological surveys were conducted in conjunction with the preparation of an Initial Study/Mitigation Negative Declaration (IS/MND) for the Pillar Point Bluff Trail Project, located on open space just south of the proposed Project. Special status plant surveys were conducted in spring and summer 2005 and no special status plant species were detected. Two plant associations designated as a high priority by CDFW (coastal terrace prairie and coyote brush-lizard tail coastal scrub) were identified as occurring in the Pillar Point Bluff Trail Project study area.

ESA Surveys, 2013

ESA conducted biological surveys in conjunction with the preparation of a draft IS/MND for the proposed Project. ESA identified coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), rose leptosiphon (*Leptosiphon rosaceus*), coast yellow leptosiphon (*L. croceus*), Hickman's cinquefoil (*Potentilla hickmanii*), and additional species of special status plants that grow in coastal scrub and coastal bluff habitat as having the potential to occur in the Project area. The draft IS/MND concluded that Project grading activities could destroy special status plants and suggested the following mitigation measures: a special status plant survey should be conducted within suitable habitat in the Project area (this study) and any special status plants identified in the Project area should either be protected from construction-related disturbance or collected and relocated to suitable habitat if direct impacts could not be avoided.

C. Field Survey Methods

County biologists, Carole Foster and Adam Remmel, surveyed the Project site on April 26, April 29, and May 29, 2013, to determine potential impacts to sensitive plant species. Qualifications of the County biologists are given in Appendix D. The surveys were conducted during the peak blooming periods for special status species determined to have the potential to occur in the Study Area. Surveys were floristic in nature and involved identifying all plant species observed in the Study Area using the Jepson Manual (Hickman, 1993) to the taxonomic level necessary to determine whether or not they were rare. Species that could not be positively identified were compared to known special status plant species characteristics to ensure special status plants were not present. A list of observed plant species is presented in Section IV, B, Table 2, below. Additionally, major plant communities and

habitat types within and adjacent to the sites were identified in order to evaluate the suitability of the habitat for special status plant species and to identify the presence of special status natural communities (Appendix A – Figure 3).

The Study Area was surveyed by walking the entire site and noting all plant taxa and communities observed. All areas were easily accessible. For special status plants with known extant populations in the vicinity, reference sites were observed to verify whether those species were identifiable at the time of the survey and to obtain a visual image of the target species and associated habitat.

IV. RESULTS

A. Background Data Search Results

Based upon a review of the resources listed in Section III, A, special status plant species have been documented to occur in the vicinity of the Study Area (Table 1, below). Special status plant species known to occur or have historically occurred within one mile of the Study Area include coastal marsh milk-vetch, rose leptosiphon, coast yellow leptosiphon, and Hickman's cinquefoil. Known extant populations of coastal marsh milk-vetch, coast yellow leptosiphon, and Hickman's cinquefoil (outside of the Study Area) were visited on May 1, 2013 to determine if the surveys were being conducted during the blooming period of each species. Coast yellow leptosiphon and Hickmann's cinquefoil were observed to be blooming at the time of the survey. Coastal marsh milk-vetch was observed, but was not in bloom. However, coastal marsh milk-vetch is perennial with distinctive foliage, and is easily identifiable during the non-blooming period. Precise locations have not been documented for known occurrences of rose leptosiphon within the Project vicinity (CNDDB, 2013). Therefore, rose leptosiphon blooming periods could not be verified.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name ***Scientific Name***	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Beach strawberry *Fragraria chiloensis*	None	None	None	Found on beaches, and in coastal bluff scrub and grasslands. Blooms Feb-Mar.	Y	N	Beach strawberry occurs in patches within the San Ramon and Del Mar Avenue road right-of-ways.
	LCP Section 7.49, Unique Species						
Bent-flowered fiddleneck *Amsinckia lunaris*	None	None	1B	Found in coastal bluff scrub, cismontane woodland, and grasslands. Blooms Mar-Jun.	N	N	Surveys were conducted during bent-flowered fiddleneck's blooming period. No *Amsinckia* or similar species were observed; therefore, this species is not likely to occur.
Choris's popcorn-flower *Plagiobothrys chorisianus* var. *chorisianus*	None	None	1B	Found in chaparral, coastal scrub, and coastal prairie. Blooms Mar-Jun.	N	N	Surveys were conducted during Choris's popcornflower's blooming period. No *Plagiobothrys* or similar species were observed; therefore, this species is not likely to occur.
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	None	None	1B	Found in coastal dunes, coastal scrub, and marshes and swamps (coastal salt, stream sides). Blooms Apr-Oct.	N	Y	Coastal marsh milk-vetch is perennial and is distinctive during the non-blooming period. No *Astragalus* or similar species were observed; therefore, this species is not likely to occur.
Coastal triquetrella *Triquetrella californica*	None	None	1B	Found in coastal bluff scrub and coastal scrub. Moss.	N	N	No mosses were observed during the surveys; therefore, coastal triquetrella is not likely to occur.
Coast yellow leptosiphon *Leptosiphon croceus*	None	None	1B	Found in coastal bluff scrub and coastal prairie. Blooms Apr-May.	N	Y	Surveys were conducted during coast yellow leptosiphon's blooming period. No *Leptosiphon* or similar species were observed; therefore, this species is not likely to occur.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Crystal Springs lessingia *Lessingia arachnoidea*	None	None	1B	Found in cismontane woodland, coastal scrub, and grasslands often on serpentinite and roadsides. Blooms Jul-Oct.	N	N	Surveys were not conducted during Crystal Springs lessingia's blooming period. However, pre-construction surveys will be conducted during this species blooming period.
Davidson's bush mallow *Malacothamnus davidsonii*	None	None	1B	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Blooms Jun-Jan.	N	N	Although surveys were not conducted during Davidson's bush mallow's blooming period, this plant has distinctive foliage during the non-blooming period. Only one mallow-type plant, *Malva parviflora*, was observed during the surveys; therefore, Davidson's bush mallow is not likely to occur.
Fragrant fritillary *Fritillaria liliacea*	None	None	1B	Found in cismontane woodland, coastal prairie, coastal scrub, and grasslands often in serpentinite. Blooms Feb-Apr.	N	N	Surveys were conducted during the later stage of fragrant fritillary's blooming period. No *Fritillaria* or similar species were observed; therefore, this species is not likely to occur.
Franciscan onion *Allium peninsulare var. franciscanum*	None	None	1B	Found in cismontane woodland and grasslands often in serpentinite. Blooms May-Jun.	N	N	Surveys were conducted during Franciscan onion's blooming period. No *Allium* or similar species were observed; therefore, this species is not likely to occur.
Franciscan thistle *Cirsium andrewsii*	None	None	1B	Found in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Blooms Mar-Jul.	N	N	Surveys were conducted during Franciscan thistle's blooming period. Only one thistle-type plant, *Cirsium vulgare*, was observed during the surveys; therefore, Franciscan thistle is not likely to occur.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Hall's bush mallow *Malacothamnus hallii*	None	None	1B	Found in chaparral and coastal scrub. Blooms May-Sep (October uncommon).	N	N	Surveys were conducted during Hall's bush mallow's blooming period. Only one mallow-type plant, *Malva parviflora*, was observed during the surveys; therefore, Hall's bush mallow is not likely to occur.
Hickman's cinquefoil *Potentilla hickmanii*	E	E	1B	Found in coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, and freshwater marshes and swamps. Blooms Apr-Aug.	N	Y	Surveys were conducted during Hickman's cinquefoil's blooming period. No *Potentilla* or similar species were observed; therefore, this species is not likely to occur.
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	None	None	1B	Found in closed-cone coniferous forest, chaparral (maritime), and coastal scrub. Blooms Apr-Sep.	N	N	Surveys were conducted during Kellogg's horkelia's blooming period. No *Horkelia* or similar species were observed; therefore, this species is not likely to occur.
Marin checker lily *Fritillaria lanceolata var. tristulis*	None	None	1B	Found in coastal bluff scrub, coastal prairie, and coastal scrub. Blooms Feb-May.	N	N	Surveys were conducted during Marin checker lily's blooming period. No *Fritillaria* or similar species were observed; therefore, this species is not likely to occur.
Marsh microseris *Microseris paludosa*	None	None	1B	Found in closed-coned coniferous forest, cismontane woodland, coastal scrub, and grassland. Blooms Apr-Jun (July uncommon).	N	N	Surveys were conducted during marsh microseris's blooming period. No *Microseris* or similar species were observed; therefore, this species is not likely to occur.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Montara Manzanita *Arctostaphylos montaraensis*	None	None	1B	Found in chaparral and coastal scrub. Blooms Jan-Mar.	N	N	Montara manzanita is perennial and is distinctive during the non-blooming period. No *Arctostaphylos* or similar species were observed; therefore, this species is not likely to occur.
Oregon polemonium *Polemonium carneum*	None	None	2	Found in coastal scrub, coastal prairie, and pine forests. Blooms Apr-Sep.	N	N	Surveys were conducted during Oregon polemonium's blooming period. No *Polemonium* or similar species were observed; therefore, this species is not likely to occur.
Pappose tarplant *Centromadia parryi ssp. parryi*	None	None	1B	Found in chaparral, coastal prairie, meadows/seeps, marshes, and grasslands. Blooms May-Nov.	N	N	Surveys were conducted during the early stage of pappose tarplant's blooming period. Only one tarweed-type plant, *Madia* sp., was observed during the surveys; therefore, Pappose tarplant is not likely to occur.
Perennial goldfields *Lasthenia californica ssp. macrantha*	None	None	1B	Found in coastal bluff scrub, coastal dunes, and coastal scrub. Blooms Jan-Nov.	N	N	Surveys were conducted during perennial goldfield's blooming period. No *Lasthenia* or similar species were observed; therefore, this species is not likely to occur.
Point Reyes horkelia *Horkelia marinensis*	None	None	1B	Found in coastal dunes, coastal prairies, and coastal scrub/sandy. Blooms May-Sep.	N	N	Surveys were conducted during the early stage of Point Reyes horkelia's blooming period. However, this species is perennial and has distinctive foliage during the non-blooming period. No *Horkelia* or similar species were observed; therefore, this species is not likely to occur.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name ***Scientific Name***	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Rose leptosiphon *Leptosiphon rosaceus*	None	None	1B	Found in scrub habitat on coastal bluffs. Blooms Apr-Jul.	N	Y	Surveys were conducted during rose yellow leptosiphon's blooming period. No *Leptosiphon* or similar species were observed; therefore, this species is not likely to occur.
San Francisco campion *Silene verecunda* ssp. *verecunda*	None	None	1B	Found in coastal bluff scrub, chaparral, coastal prairie, coastal scrub and grassland (sandy). Blooms Mar-Jun (July and August uncommon).	N	N	Surveys were conducted during San Francisco campion's blooming period. No *Silene* or similar species were observed; therefore, this species is not likely to occur.
San Francisco collinsia *Collinsia multicolor*	None	None	1B	Found in closed-cone coniferous forest and coastal scrub. Blooms Mar-May.	N	N	Surveys were conducted during San Francisco collinsia's blooming period. No *Collinsia* or similar species were observed; therefore, this species is not likely to occur.
San Francisco owl's clover *Triphysaria floribunda*	None	None	1B	Found in coastal prairie, coastal scrub, and valley and foothill grassland. Blooms Apr-Jun.	N	N	Surveys were conducted during San Francisco owl's clover's blooming period. No *Triphysaria* or similar species were observed; therefore, this species is not likely to occur.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	None	None	1B	Found in coastal bluff scrub, coastal dunes, coastal prairie and coastal scrub. Blooms Apr-Jul (August uncommon).	N	N	Surveys were conducted during San Francisco Bay spineflower's blooming period. No *Chorizanthe* or similar species were observed; therefore, this species is not likely to occur.

Table 1. Special Status Plant Species with the Potential to Occur within the Project Vicinity, Their Presence within 1 Mile of the Seal Cove/Moss Beach Area Roads Improvement Project Site, and The Likelihood of Occurrence in the Project Area

Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Status[2]**	**Habitat Description**	**Species Observed on Project Site (Y/N)**	**CNDDB[1] Occurrence within 1 Mile of Project Site (Y/N)**	**Likelihood of Occurrence in the Project Area**
Short-leaved evax *Hesperevax sparsiflora var. brevifolia*	None	None	2	Found in coastal bluff scrub and coastal dunes. Blooms Mar-Jun.	N	N	Surveys were conducted during short-leaved evax's blooming period. No *Hesperevax* or similar species were observed; therefore, this species is not likely to occur.
white-rayed pentachaeta *Pentachaeta bellidiflora*	E	E	1B	Found in grasslands often associated with serpentinite. Blooms Mar-May.	N	N	Surveys were conducted during white-rayed pentachaeta's blooming period. No *Pentachaeta* or similar species were observed; therefore, this species is not likely to occur.

Notes:

[1] California Natural Diversity Database (CNDDB), Wildlife & Habitat Data Analysis Branch, Department of Fish and Wildlife, Government Version - Information dated April 2, 2013.

[2] California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v7-13apr 4-18-13). California Native Plant Society. Sacramento, CA. Accessed on April 25, 2013 from http://www.cnps.org/inventory

Species Status Abbreviations:

(E) Endangered

(T) Threatened

(P) Proposed

(CA) Listed by the State of California, but not the US Fish and Wildlife Service

(X) Critical Habitat designated for this species

(PX) Proposed Critical Habitat

(CDFW: SSC) California Species of Special Concern

CNPS Status Abbreviations:

1B Rare, threatened, or endangered in California and elsewhere.

2 Rare, threatened, or endangered in California, but more common elsewhere

3 Plants about which we need more information – a review list

4 Limited distribution

Beach Strawberry

Beach strawberry (*Fragaria chiloensis*) typically occurs on beaches, bluffs, and grasslands along the California coast below 200 meters elevation and outside of California north to Alaska and south to Chile. Beach strawberry is a perennial herb that spreads via runners (Jepson, 2013). San Mateo County LCP Policy 7.49 specifies protections for any California wild strawberry, including beach strawberry, within one-half mile of the coast (SMCPBD, 1998). This includes the Seal Cove area of Moss Beach east to approximately the Half Moon Bay Airport. The LCP requires either the prevention of any activity that would destroy beach strawberry plants or successful transplanting if destruction of the plant cannot be avoided. Beach strawberry is not included in the CNPS Inventory of Rare and Endangered Plants.

Beach strawberries were observed within the proposed work area at the intersection of San Ramon and Bernal Avenues, and in small patches along Del Mar Avenue. Other small patches of beach strawberry were observed within 25 feet of the work area in the vacant lot east of San Ramon Avenue and in residential yards along Del Mar Avenue and Madrone Avenue. Beach strawberry plants protected under the LCP, located within the impact area during pre-construction surveys, should be clearly marked (e.g., flagging tape or orange plastic fencing) by the contractor as directed by a qualified biologist to establish an exclusionary zone. If any protected plant cannot be excluded from the area of impact, it should be transplanted to a suitable site under the supervision of a qualified biologist.

Coastal Marsh Milk-Vetch

The CNPS lists coastal marsh milk-vetch as a 1B species, meaning that it is rare, threatened, or endangered in California and elsewhere. Coastal marsh milk-vetch blooms from April through October and is typically found within coastal salt marshes, swamps, streamsides, coastal dunes, and coastal scrub habitat (CNPS, 2013).

This species has been reported within 1 mile of the Project site in the vicinity of Pillar Point, with no precise location given (CNDDB, 2013). The closest accessible and easily identifiable CNDDB occurrence is south of San Gregorio Creek along Highway 1. This site was used as a reference site to verify blooming status during the survey period. Although coastal marsh milk vetch was not observed to be in bloom during the survey period, the plant is generally tall and easily identifiable

during non-blooming stages. At the Project site, potential habitat for coastal marsh milk-vetch is limited to the coastal scrub habitat adjacent to San Ramon Avenue. The Project site was extensively surveyed, and coastal marsh milk-vetch was not detected. Thus, this species will not be impacted by the proposed project.

Coast Yellow Leptosiphon

The CNPS lists coast yellow leptosiphon as a 1B species, meaning that it is rare, threatened, or endangered in California and elsewhere. Coast yellow leptosiphon blooms from April through May and is typically found within coastal bluff scrub and coastal prairie habitats (CNPS, 2013). An extant CNDDB documented occurrence of this species is located within coastal prairie habitat north of Juliana Avenue in Moss Beach (Appendix A – Figure 3). This site was used as a reference site to verify blooming status during the survey period. The plants were observed growing approximately 275 feet north of Juliana Avenue on the edge of a coastal bluff. Although coastal prairie and coastal bluff scrub habitats exists at the Project site in the vicinity of San Ramon Avenue, the area was extensively surveyed and coast yellow leptosiphon was not detected. Therefore, this species will not be impacted by the proposed Project.

Hickman's Cinquefoil

Hickman's cinquefoil is listed as an Endangered species under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). The CNPS lists Hickman's cinquefoil as a 1B species, meaning that it is rare, threatened, or endangered in California and elsewhere. Hickman's cinquefoil blooms from April through August and is typically found within coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, and freshwater marshes and swamps (CNPS, 2013). Hickman's cinquefoil was historically reported within 0.7 miles of the Project site growing near the coastal bluff edge (Appendix A – Figure 3), but is believed to be extirpated at that location due to developmental pressures and erosion. Several colonies of Hickman's cinquefoil have been reported within 2.3 miles of the Project site within the Corral de Tierra open space north of Montara. This site was used as a reference site to verify blooming status during the survey period. Within the Project area, suitable habitat for Hickman's cinquefoil may exist within the coastal bluff scrub habitat around San Ramon Avenue or in the seeps and willow thickets to the east of San Ramon Avenue. However, Hickman's cinquefoil has not been reported at the Project site (CNDDB, 2013) and was not detected during the site surveys. Therefore, this species will not be impacted by

the proposed Project.

Rose Leptosiphon

The CNPS lists rose leptosiphon as a 1B species, meaning that it is rare, threatened, or endangered in California and elsewhere. Rose leptosiphon blooms from April through July and is typically found within coastal bluff scrub habitat (CNPS, 2013). This species was historically reported within 1 mile of the Project site in the vicinity of Moss Beach (Appendix A – Figure 4). With the exception of a small population at Mori Point in Pacifica, all local populations are listed in the CNDDB as possibly extirpated and no precise locations are noted. Therefore, a reference population to verify blooming period status was not identified for this species. At the Project site, suitable habitat may exist within the grassland and scrub habitat adjacent to San Ramon Ave. However, all sites were surveyed, and rose leptosiphon was not detected. Thus, this species will not be impacted by the proposed Project.

B. Field Survey Results

Beach strawberry was observed within the proposed Project impact area at the San Ramon Avenue/Bernal Avenue intersection and in small patches along Del Mar Avenue (Appendix A – Figure 3). A small stand of California blackberry was observed adjacent to coyote brush scrub habitat just southeast of the residence at 885 San Ramon Avenue. No other special status plant species or special status natural communities were observed within the Study Area. All species observed within the Study Area are listed in Table 2, below.

Table 2- Plant Species Observed at or Adjacent to the Seal Cove/Moss Beach Area Roads Improvement Project Site

(Nomenclature follows Jepson 1993 or Jepson Flora Project 2013)

Common Name	***Scientific Name***
Baccharis (Unidentified)	*Baccharis* sp.
Barley*	*Hordeum* sp.
Beach strawberry	*Fragaria chiloensis*
Bermuda buttercup*	*Oxalis pes-caprae*
Bird's foot trefoil*	*Lotus corniculatus*
Blue-eyed grass	*Sisyrinchium bellum*
Brass buttons*	*Cotula coronopifolia*
Bristly ox-tongue*	*Picris echioides*
Bull thistle*	*Cirsium vulgare*
Bur clover*	*Medicago* sp.

Table 2- Plant Species Observed at or Adjacent to the Seal Cove/Moss Beach Area Roads Improvement Project Site

(Nomenclature follows Jepson 1993 or Jepson Flora Project 2013)

Common Name	***Scientific Name***
California bee-plant	*Scrophularia californica*
California blackberry	*Rubus ursinus*
California coffeeberry	*Frangula californica* (previously *Rhamnus californica*)
California poppy	*Eschscholzia californica*
Calla lily*	*Zantedeschia aethiopica*
Cape ivy*	*Delairea odorata*
Cheeseweed mallow*	*Malva parviflora*
Common borage*	*Borago officinalis*
Common vetch*	*Vicia sativa*
Common yarrow	*Achillea millefolium*
Cotoneaster*	*Cotoneaster* sp.
Coyote brush	*Baccharis pilularis*
Cudweed	*Pseudognaphalium* sp.
Curly dock*	*Rumex crispus*
Cut-leaf geranium*	*Geranium dissectum*
Cut-leaved plantain*	*Plantago coronopus*
Dandelion*	*Taraxacum* sp.
Dock*	*Rumex* sp.
Elderberry	*Sambucus* sp.
English plantain*	*Plantago lanceolata*
Filaree*	*Erodium* sp.
Garden nasturtium*	*Tropaeolum majus*
Harding grass*	*Phalaris aquatica*
Ice plant*	*Drosanthemum* sp.
Italian rye grass*	*Festuca perennis (Lolium multiflorum)*
Monterey cypress**	*Cupressus macrocarpa*
Monterey pine**	*Pinus radiata*
Morning glory	*Calystegia* sp.
Mustard*	*Brassica* sp.
Myoporum*	*Myoporum laetum*
Narrow leaved flax*	*Linum bienne*
Ornamentals (Unidentified)	
Pacific sanicle	*Sanicula crassicaulis*
Pampas grass*	*Cortaderia* sp.
Periwinkle*	*Vinca* sp.
Pineapple weed*	*Chamomilla suaveolens*
Poison hemlock*	*Conium maculatum*

Table 2- Plant Species Observed at or Adjacent to the Seal Cove/Moss Beach Area Roads Improvement Project Site

(Nomenclature follows Jepson 1993 or Jepson Flora Project 2013)

Common Name	***Scientific Name***
Pride of Madeira*	*Echium* sp.
Redhot poker*	*Kniphofia uvaria*
Ripgut brome*	*Bromus diandrus*
Rush	*Juncus* sp.
Scarlet pimpernel*	*Anagallis arvensis*
Sea fig*	*Carpobrotus* sp.
Sedge	*Cyperus* sp.
Sheep sorrel*	*Rumex acetosella*
Sweet alyssum*	*Lobularia maritima*
Sweet fennel*	*Foeniculum vulgare*
Sow thistle*	*Sonchus* sp.
Tarweed	*Madia* sp.
Velvet grass*	*Holcus lanatus*
Wild cucumber	*Marah fabaceus*
Wild oat*	*Avena fatua*
Wild radish*	*Raphanus* sp.
Willow herb	*Epilobium* sp.
Wood sorrel	*Oxalis* sp.

Notes:
* Denotes a non-native species
** Denotes a California native species out of its native range

V. CONCLUSION

With the exception of the locally important beach strawberry, no other special status plant species were observed during focused botanical surveys in the Study Area. The presence of beach strawberry within the Project impact area will require consultation with SMCPBD under the LCP. A small stand (less than 1,000 square-feet) of California blackberry occurs along San Ramon Avenue within the Project impact area. The *Rubus ursinus* shrub alliance is designated as a high priority community by CDFW. However, given its small size and occurrence directly adjacent to a residential neighborhood, the *Rubus ursinus* stand located in the Study Area may not be considered as a high-quality occurrence. Impacts to this community should be assessed in the Project's IS/MND. Any special status plants observed in close proximity to the work area during subsequent surveys should be

clearly marked (e.g., flagging tape or orange plastic fencing) to establish an exclusionary zone. Any special status plants observed within the Project impact area during subsequent surveys should be mitigated for following measures detailed in the Project's IS/MND.

VI. REFERENCES

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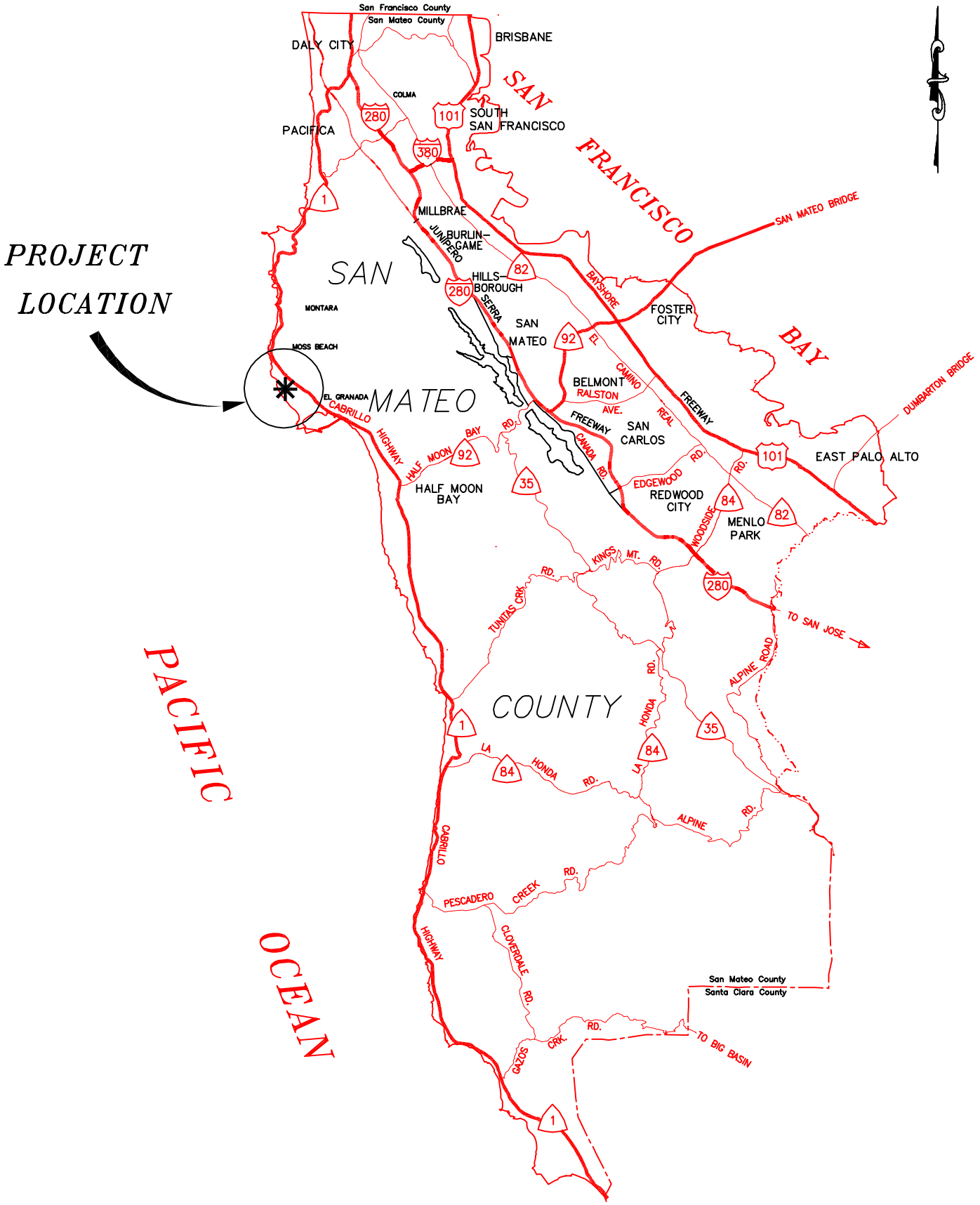
APPENDIX A:

Project Figures



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COUNTY OF SAN MATEO PUBLIC WORKS	DESIGNED BY:	**MOSS BEACH/SEAL COVE ROAD IMPROVEMENTS PROJECT** **SPECIAL STATUS PLANTS SURVEY REPORT** **FIGURE 1 - VICINITY MAP**	SCALE: NONE
	CHECKED BY: WN		DATE: JUN 2013
	DRAWN BY: CF		FILE NO: **1/XXXX**

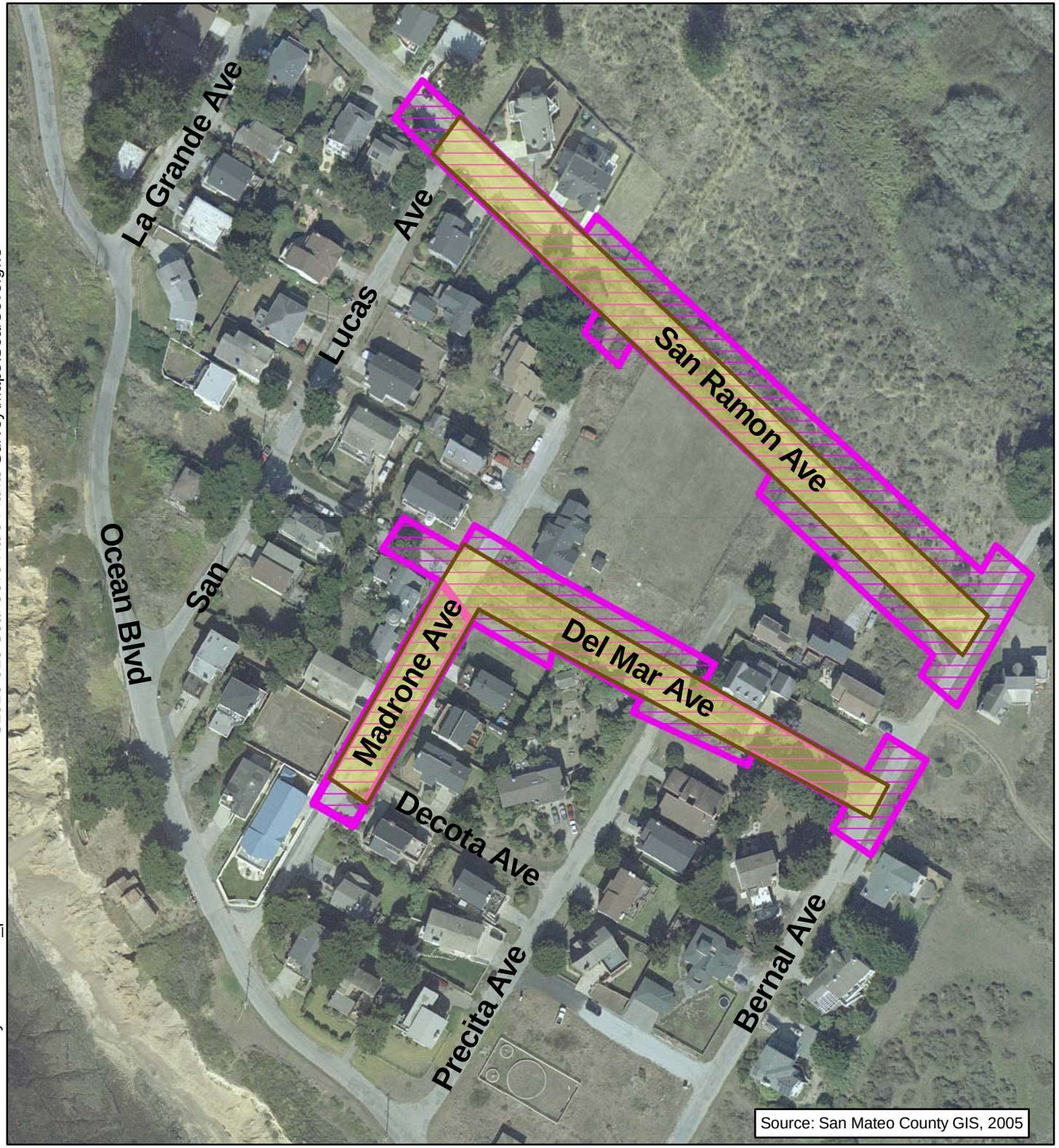
JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS
SAN MATEO COUNTY

555 COUNTY CENTER, 5TH FLOOR
REDWOOD CITY, CALIFORNIA 94063-1665

Moss Beach/Seal Cove Road Improvements Project

Special Status Plants Survey Report

Figure 2 Project Location and Study Area Map



N
W E
S

Legend

Road Improvement Project Area

Study Area

0 50 100 150 200 250
Feet

County of San Mateo
Department of Public Works
June 4, 2013

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Moss Beach/Seal Cove Road Improvements Project

Special Status Plants Survey Report

Figure 3 Locations of Dominant Plant Communities Map

San Lucas Ave
San Ramon Ave
Madrone Ave
Del Mar Ave
Bernal Ave
Precita Ave
Decota Ave

Source: San Mateo County GIS 2005

N
W E
S

Legend

- Road Improvement Project Area
- Coastal Scrub
- Grassland
- Beach Strawberry
- California Blackberry
- Landscape/Ruderal
- Wetland

0 50 100 150 200
Feet

County of San Mateo
Department of Public Works
June 4, 2013

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Dean Creek

San Vicente Creek

Airport Street

Highway 1

Half Moon Bay Airport

Pillar Point Bluff

Pillar Point Marsh

Legend

- Project Roads to be Improved
- 1 Mile Buffer Zone
- Roads
- Creeks
- Ponds and Lakes
- Coast Yellow Leptosiphon
- Coastal Marsh Milk-vetch
- Hickman's Cinquefoil

N

W E

S

0.0 0.1 0.2 0.3 0.4

Miles

County of San Mateo
Department of Public Works
June 3, 2013

Sources: County GIS, 2005; CNDDB, 2013

Moss Beach/Seal Cove Road Improvements Project
Special Status Plants Survey Report

Figure 4 - Locations of Special Status Plant Species Occurrences

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APPENDIX B:

Study Area Site Photos

San Ramon Avenue:

Photo 1 – View on April 30, 2013 looking northwest along San Ramon Avenue towards the residence at 885 San Ramon Avenue. Habitat at this site is non-native grassland and coyote brush scrub on both sides of the roadway, and ruderal on the dirt road and along the shoulders.

Photo 2 – View on May 29, 2013 looking northwest along San Ramon Avenue towards the residence at 885 San Ramon Avenue.

Photo 3 – View on May 29, 2013 looking northwest along San Ramon Avenue towards the San Lucas Avenue intersection. Habitat at this section of San Ramon Avenue is primarily ruderal and landscape ornamental.

Photo 4 – View on May 29, 2013 looking southeast along San Ramon Avenue towards the Bernal Avenue intersection. Note the stand of California blackberry (*Rubus ursinus*) on the left side of the photo (location indicated by arrow).

Photo 5 – Photo taken on May 29, 2013 showing example of coyote brush scrub and ruderal roadside shoulder habitat along San Ramon Avenue.

Photo 6 – Large patch of beach strawberry *(Fragaria chiloensis)* within the San Ramon Avenue right-of-way at the intersection of San Ramon and Bernal Avenues.

Photo 7 – View on April 30, 2013 looking east from San Ramon Avenue towards the large willow patch and wetland seep located approximately 200-feet from the Project site (location indicated by arrow).

Del Mar Avenue:

Photo 8 – View on May 29, 2013 looking southeast on Del Mar Avenue towards the Bernal Avenue intersection. Small patches of beach strawberry occur in the grassy shoulder at this location (as indicated by arrow). The County road right-of-way boundary is located at the fence line shown in the photo.

Photo 9– View on May 29, 2013 looking northwest on Del Mar Avenue towards the Precita Avenue intersection. Habitat at this location is primarily landscape ornamental with small patches of beach strawberry along the grassy shoulders.

Photo 10 – View on May 29, 2013 looking northwest along Del Mar Avenue towards the Madrone Avenue intersection. Habitat at this location is primarily ruderal on the dirt road and ruderal/landscape ornamental with small patches of beach strawberry along the shoulders within the County road ROW.

Photo 11 – View on April 30, 2013 looking southeast along Del Mar Avenue towards the Precita Avenue intersection. Habitat at this location is primarily ruderal on the dirt road and ruderal/landscape ornamental with small patches of beach strawberry along the shoulders within the County road ROW.

Madrone Avenue:

Photo 12 – View on April 26, 2013 looking west along Madrone Avenue toward the Pacific Ocean. Habitat at this location is exclusively ruderal and landscape ornamental.

Photo 13 – View on May 29, 2013 looking east along Madrone Avenue towards the Del Mar Avenue intersection. Habitat at this location is exclusively ruderal and landscape ornamental. Small patches of beach strawberry occur in residential lawns beyond the Project impact area (outside of the County road ROW).

Sensitive Species Reference Sites:

Photo 14 – Photo of flowering coast yellow leptosiphon *(Leptosiphon croceus)* taken on May 1, 2013 to verify surveys were conducted during the appropriate local blooming period for this species. The reference site is located on Vallemar Bluff in the Moss Beach area, approximately 1 mile north of the Project site.

Photo 15 – Photo of flowering Hickman's cinquefoil *(Potentilla hickmanii)* taken on May 1, 2013 to verify surveys were conducted during the appropriate local blooming period for this species. The reference site is located in the Rancho Corral de Tierra park in the Montara area, approximately 2.5 miles north of the Project site.

Photo 16 – Photo of coastal marsh milk-vetch *(Astragalus pycnostachyus* var. *pycnostachyus)* taken on May 1, 2013. Although this species was not flowering during the site visit, the foliage is distinctive and easily identifiable during its non-blooming period. The reference site is located south of San Gregorio Creek along Highway 1.

APPENDIX C:

Plant Survey Data Sheets

Plant Survey Data Sheet

Site: San Ramon Ave (Seal Cove) Date/Time: 26 APR 2013 / 1300 PDT to 1415 PDT

Surveyors: C. Foster, A. Remmel

Within ½ mile of coast? (Yes) No

Landscape (land use, disturbance):
Rural residential / open space, non-native grasslands coyote brush scrub, large patches of berry vine. Central area east of road has been mowed in previous years. Large stands of pampas grass in mowed areas.

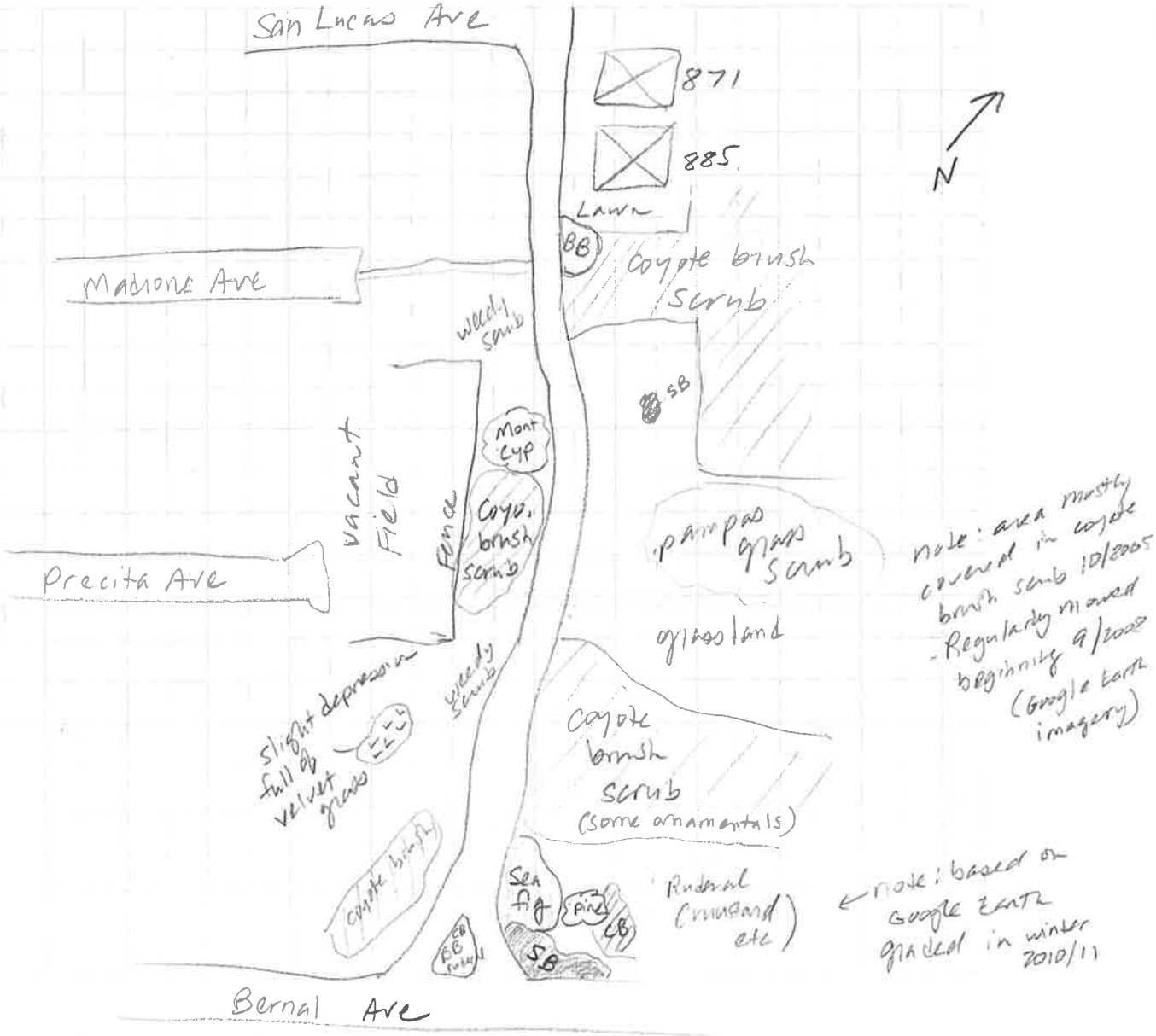
Habitat (topography, community, %cover):
Relatively flat coastal terrace. Land slopes downward to the northeast of the road, where terrace drops off to the east, seep wetlands occur.

Species Present	% cover/ # of indiv.	Species Present	% cover/ # of indiv.
Fragaria chilensis		common borage	
Carpobrotus sp.		Oxalis pes-caprae	
common yarrow		Cortaderia sp.	
bur clover		blue-eyed grass	
melilotus sp.		Scarlet pimpernel	
Avena fatua		birds foot trefoil	
brome grass		man-root (Marah sp.)	
Ca. blackberry		sow thistle	
cutleaf plantain		wild mustard	
brass buttons		English Plantain	
geranium dissectum		Ca. Figwort	
wild radish		Ca. Poppy	
sweet fennel		common vetch	
bristly oxtongue		velvet grass	
coyote brush		sheep sorrel dock	
cheeseweed mallow		garden alyssum	
unid. ornamental shrubs		Pacific Sanicle	
garden nasturtium		elderberry	
cape ivy		Hordeum sp.	
bull thistle		Spike rush (Juncus sp.)	
Harding grass		dandelion	
cotoneaster		coffeeberry	
poison hemlock		Italian thistle	
Cudweed sp.		myoporum	

Notes: Surveyed within road right-of-way, and 25 ft beyond ROW where accessible. Did not survey past fencelines. Monterey Cypress within right of way. Monterey pine near Bernal Ave intersection

Site Map

Total area surveyed: 71,375 ft² (1.6 ac)



CB - coyote brush
SB - Beach Strawberry
BB - Ca. Blackberry brambles

Plant Survey Data Sheet

Site: Del Mar Ave (Seal Cove) Date/Time: 30 APR 2013 / 0930 PDT to 1130 PDT

Surveyors: C. Foster, A. Remmel

Within ½ mile of coast? (Yes) No

Landscape (land use, disturbance): Residential neighborhood on coastal bluff/terrace. Gravel road from Bernal to Precita. Dirt road from Precita to Madrone. Deep ruts in dirt road. Mostly landscape plants adjacent to road.

Habitat (topography, community, %cover):
Relatively flat coastal terrace.

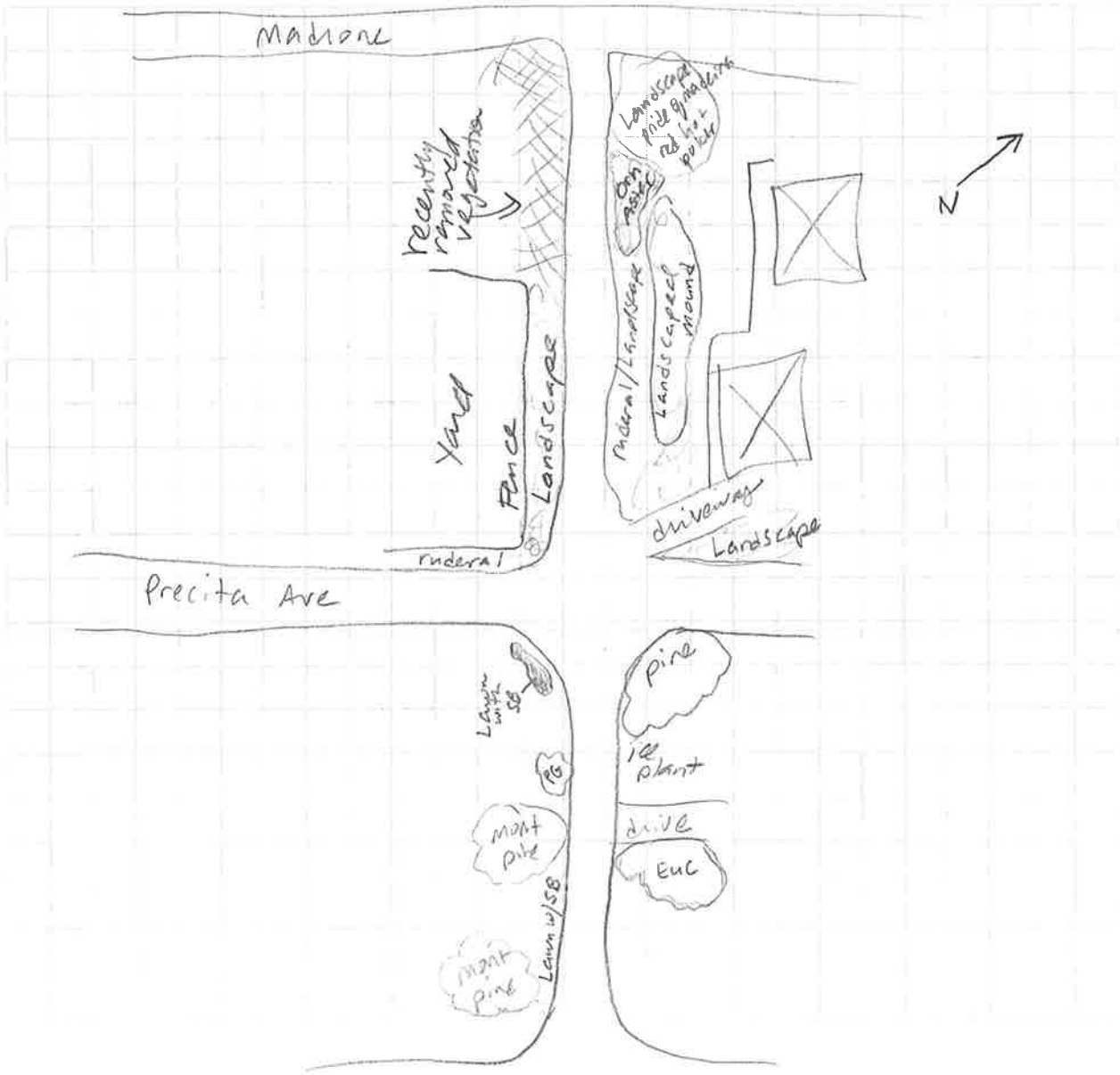
Species Present	% cover/ # of indiv.
Bristly ox-tongue	
Common yarrow	
Geranium dissectum	
Sow thistle (Sonchus sp.)	
Bur clover	
Scarlet Pimpernel	
wild radish	
Cutleaf plantain	
brass buttons	
Avena fatua	
poison hemlock	
ripgut brome	
coyote brush	
Plantago lanceolata	
Plantago coronopus	
Carpobrotus sp.	
Fragaria chiloensis	
sweet fennel	
blue-eyed grass	
velvet grass	

Species Present	% cover/ # of indiv.
Erodium sp (filaree)	
Oxalis pes-caprae	
Redhot poker	
pride of Madeira	
Calla Lily	
Ornamental asteraceae	
various landscape shrubs	
Melilotus sp.	
Italian ryegrass	
ornamental monterey pine	
Elderberry (Sambucus sp) under pine	
Cortaderia sp.	
unid. ornamental aster (groundcover)	

Notes: Did not survey past fencelines. Mainly surveyed within ROW. except in vacant lots and road intersections

Site Map

Total area surveyed: 42,600 ft² (1.0 ac)



Plant Survey Data Sheet

Site: Madrone Ave (seal cove) Date/Time: 26 APR 2013 1130-1200 PDT

Surveyors: C. Foster, A. Remmel

Within ½ mile of coast? (Yes) No

Landscape (land use, disturbance):

Residential / ornamental, ruderal

Habitat (topography, community, %cover):

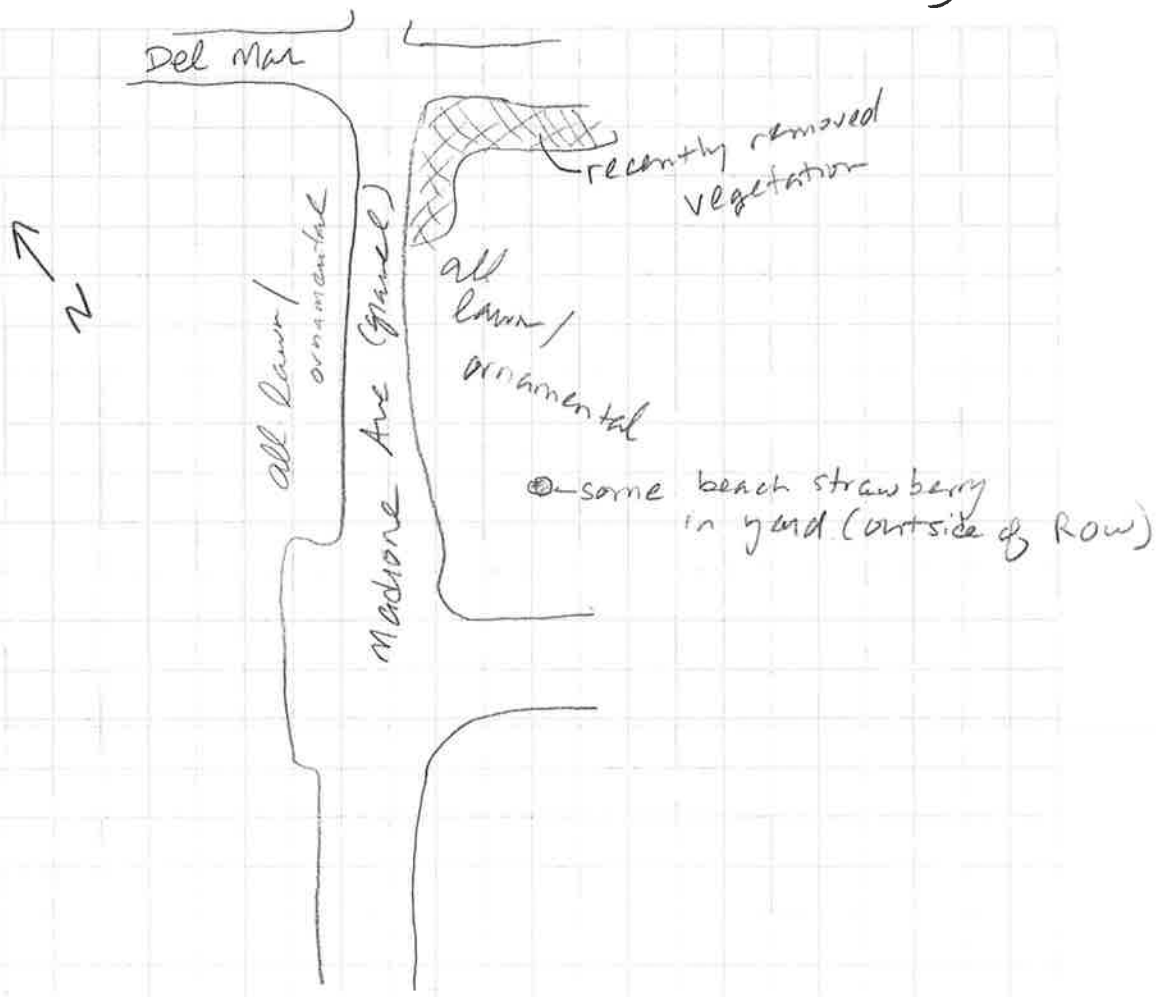
Relatively flat topography.

Species Present	% cover/ # of indiv.	Species Present	% cover/ # of indiv.
filarec			
cutleaf plantain			
Bristly ox-tongue			
Medicago sp.			
Dandelion			
Sow thistle			
Lawn grasses			
ornamental groundcover			
Geranium dissectum			
Brass buttons			
cheeseweed mallow			
poison Hemlock			
wild radish			
scarlet pimpernel			
Vinca sp.			
garden nasturtium			
Pineapple weed			

Notes: Beach strawberry in lawn within residential fenced yard. Only surveyed to fence lines.

Site Map

Total area surveyed: 11,743 ft² (0.3 ac)



Plant Survey Data Sheet

Site: San Ramon Ave (Seal cove) Date/Time: 29 May 2013 / 1000 PDT to 12:00 PDT

Surveyors: C. Foster

Within ½ mile of coast? (Yes) / No

Landscape (land use, disturbance):

Same as previous

Habitat (topography, community, %cover):

Species Present	% cover/ # of indiv.
Beach Strawberry	
Sea Fig (Carpobrotus sp)	
Common yarrow	
Wild oat	
Ca. Blackberry	
Poison Hemlock	
coffeeberry	
cotoneaster sp.	
bull thistle	
Cortaderia sp.	
dandelion	
Juncus sp.	
curly dock	
Rumex (unid., possibly willow)	
Bur clover (Medicago)	
brass buttons	
sweet fennel	
Eng. plantain	
cut-leaf plantain	
sheep sorrel	
Ca. Poppy	
Vetch (common)	
sow thistle (Sonchus sp)	

Species Present	% cover/ # of indiv.
wild cucumber (marah sp)	
velvet grass	
elderberry sp.	
coyote brush	
cape ivy	
willow herb (Epilobium sp) not flowering	
garden nasturtium	
common borage	
Flax (Linum bienne)	
Ca. figwort/bee-plant	
mustard	
wild radish	
Hordeum sp.	
Harding grass	
cheeseweed mallow	
scarlet pimpernel	
bristly ox-tongue	
Italian thistle	
Geranium dissectum	
Blue-eyed grass	
alyssum	
birds-foot trefoil	
ornamental shrubs (unid)	
Pacific sanicle (seeding/fruiting)	

Notes: Monterey cypress and Monterey pine within ROW.

Unidentified Baccharis in coyote brush scrub

Site Map

Total area surveyed: 1.6 ac

Same as previous

Plant Survey Data Sheet

Site: Del Mar Ave (Seal Cove) Date/Time: 29 May 2013 / 1200 PDT to 1300 PDT

Surveyors: C. Foster

Within ½ mile of coast? (Yes) / No

Landscape (land use, disturbance):

Same as previous

Habitat (topography, community, %cover):

Species Present	% cover/ # of indiv.
Beach Strawberry	
Bristly ox-tongue	
Melilotus sp.	
Dandelion	
Sweet fennel	
Blue-eyed grass	
Velvet grass	
brass buttons	
cut-leaf plantain	
sea fig (Carpobrotus)	
ice plant (Drosanthemum)	
Vetch (Vicia sp)	
Juncus sp	
wild oat	
Common yarrow	
Elderberry (under pine)	
Hordeum sp	
morning glory	
oxalis sp (not pes-caprae)	
tarweed (Madia sp)	

Species Present	% cover/ # of indiv.
Cheeseweed mallow	
English plantain	
coyote brush	
ripgut brome	
scarlet pimpernel	
sow thistle (Sonchus sp)	
Red hot poker	
pride of Madeira	
calla lily	
ornamental Asteraceae (ground cover)	
Various landscape shrubs/trees	
Geranium dissectum	
pampas grass (Cortaderia sp)	
Italian ryegrass	
Bur clover (medicago sp)	
wild radish	
sedge (Cyperus sp)	
Rumex crispus	
Rumex sp.	
other landscape plants (horsetail, nasturtium) aster, etc	

Notes: Monterey pines in or adjacent to ROW.

Site Map

Total area surveyed: 1 ac

Same as previous

Plant Survey Data Sheet

Site: Madrone Ave (Seal Cove) Date/Time: 29 May 2013 / 1300 PDT to 1330 PDT

Surveyors: C. Foster

Within ½ mile of coast? (Yes) / No

Landscape (land use, disturbance):

Same as previous

Habitat (topography, community, %cover):

Species Present	% cover/ # of indiv.	Species Present	% cover/ # of indiv.
Melilotus sp.			
Geranium dissectum			
Sow thistle			
Cut-leaf plantain			
Wild radish			
Scarlet pimpernel			
garden nasturtium			
Bristly ox-tongue			
Dandelion			
brass buttons			
bur clover			
cheeseweed mallow			
chamomile			
Hordeum sp.			
Italian ryegrass			
garden alyssum			
Plantago sp. (Mexican?)			
Sod grass			
Ornamentals (uni 2)			

Notes:

Site Map

Total area surveyed: 0.3 ac

Same as previous

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APPENDIX D:

Qualifications of Surveyors

Carole Foster, Biologist
County of San Mateo Department of Public Works
Utilities-Flood Control-Watershed Protection
555 County Center, 5th Floor
Redwood City, Ca. 94063-1665

Ms. Foster holds a Bachelor of Science degree in Conservation and Organismal Biology from San Jose State University (SJSU) (December 2007). Carole is currently completing a Master of Science degree in Biological Sciences with an emphasis in fisheries and aquatic ecology. Coursework related to plants included botany, ecology, plant taxonomy, plant physiology, and California plant communities. Carole has over 8 years of water quality monitoring, floristic surveys (including special status plant surveys), fisheries, and wildlife related professional work experience as a biologist while working for the Santa Clara Valley Water District (SCVWD) and the County of San Mateo Department of Public Works (County). Carole has worked for the County for 4 years and is familiar with San Mateo County plants. Other biologists whom have worked with Carole and are familiar with her plant and wildlife experience include Dr. Jerry Smith (SJSU), Jae Abel (SCVWD), Nina Merrill (SCVWD), and Julie Casagrande (County).

Adam Remmel, Biologist
County of San Mateo Department of Public Works
Utilities-Flood Control-Watershed Protection
555 County Center, 5th Floor
Redwood City, Ca. 94063-1665

Adam received a Bachelor of Science degree in Biological Sciences with a concentration in Conservation and Organismal Biology from SJSU (May 2012). He is currently working on his Master of Science degree in Conservation, Organismal Biology, and Ecology. His graduate research focuses on prescribed burns as a habitat restoration treatment and the impacts of fire on ecosystem function, specifically small mammal population dynamics. Adam has 4 years of professional experience as a biologist while working for the U.S. Forest Service, SCVWD and the County. During that time, Adam has conducted water quality sampling, floristic surveys (including for special status plant species), wildlife surveys, and stream habitat typing. Coursework related to plants included ecosystem physiology, plant morphology, California plant communities, and general ecology. Other biologists whom have worked with Adam and are familiar with his plant and wildlife experience include Dr. Jerry Smith (SJSU), Doug Titus (SCVWD), Nina Merrill (SCVWD), and Carole Foster (County).

APPENDIX C

Preliminary Wetlands Delineation Report

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MOSS BEACH/SEAL COVE AREA ROADS IMPROVEMENT PROJECT

Wetlands Study,
San Mateo County, California

Prepared for
San Mateo County
Department of Public Works

June 2013

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Wetlands Study,
San Mateo County, California

Prepared for
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June 2013

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San Diego

San Francisco

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Tampa

Woodland Hills

120603.02

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TABLE OF CONTENTS

Seal Cove/Moss Beach Area Road Improvements Project Wetlands Study

List of Figures

ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

CCA	California Coastal Act
CCC	California Coastal Commission
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
FAC	Facultative plant species
FACU	Facultative upland plant species
FACW	Facultative wetland plant species
GIS	Geographic Information System
LCP	Local Coastal Program
OBL	Obligate wetland plant species
OHWM	Ordinary high water mark
NI	No indicator
NRCS	Natural Resource Conservation Service
NRPW	Non-relatively permanent waters
ROW	Right of way
RPW	Relatively permanent waters
RWQCB	Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County
TNW	Traditionally navigable waters
UPL	Upland plant species
USDA	United States Department of Agriculture

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CHAPTER 1
Introduction

1.1 Objective

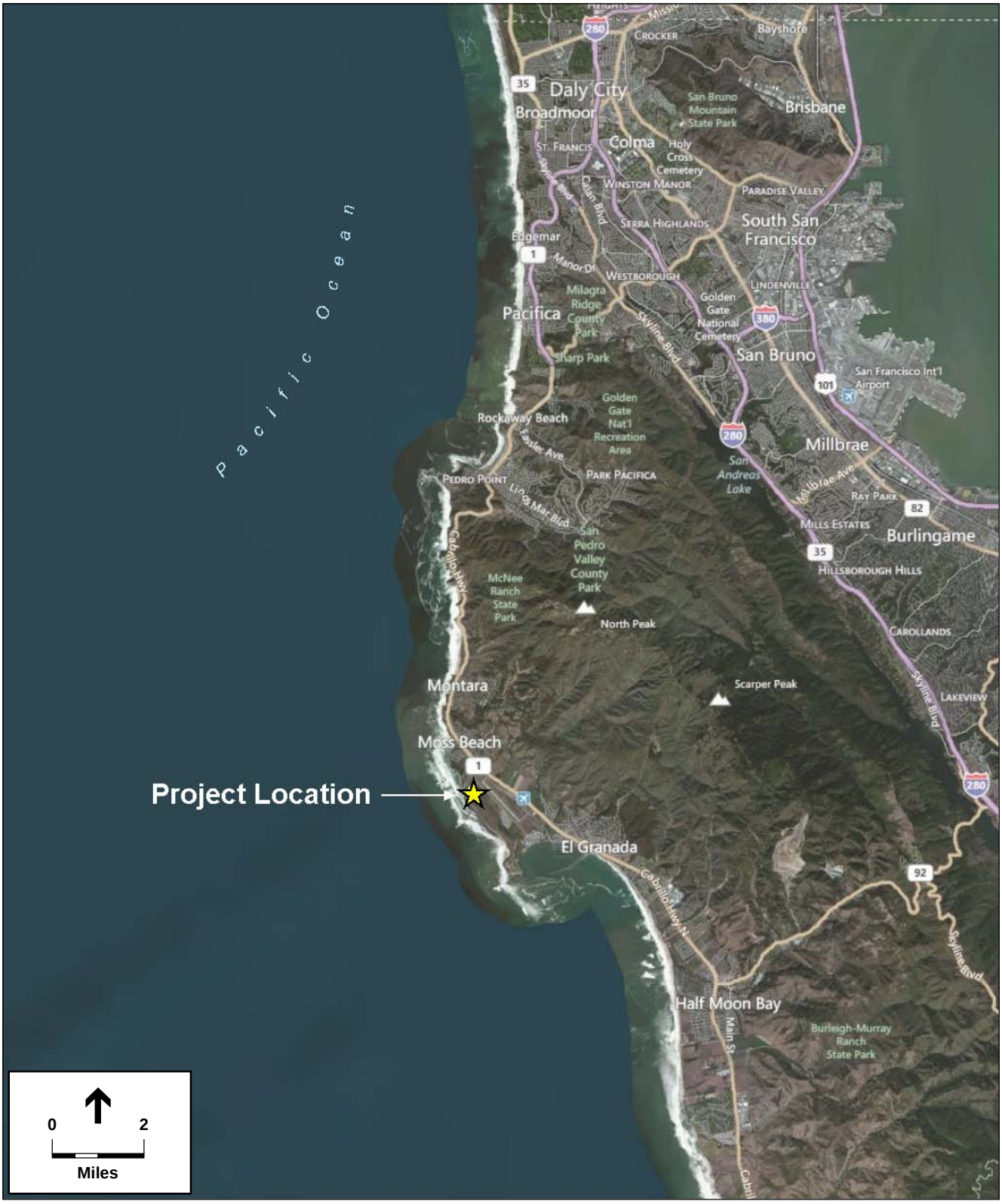
This report documents the extent of potentially jurisdictional waters of the United States and waters of the state which occur within the Moss Beach/Seal Cove Area Roads Improvement Project (Project) boundary. The project area lies within the rural residential community of Moss Beach, located west of Highway 1, between the communities of Montara and Princeton by the Sea (**Figure 1**).

The purpose of this document is to identify features within the delineation study area under potential jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and the San Mateo County Local Coastal Program (LCP) as authorized by the California Coastal Commission (CCC), and to provide the background information necessary to support a future Coastal Development Permit (CDP) Application. The wetland delineation process involves determining the boundaries between wetlands, waters and surrounding uplands using Corps, RWQCB, and CCC definition of wetlands and/or waters.

1.2 Summary of Results

ESA conducted a formal wetland delineation of the Moss Beach/Seal Cove Area Roads Improvement Project wetland delineation study area on May 29, 2013. The field delineation identified and documented all potentially jurisdictional wetlands and other waters of the U.S. and waters of the State within the delineation study area. No federal or State jurisdictional wetlands or waters were observed within study area.

A detailed summary of all jurisdictional features documented within the delineation study area is presented in Table 4-1 (see Chapter 4). Wetland datasheet are presented in **Appendix A**; a soil map is provided in **Appendix B**; the climate summary (WETS Table) information table is provided in **Appendix C**; and representative photographs are provided in **Appendix D**.



SOURCE: ESRI, 2013

Moss Beach/Seal Cove Road Improvements Project . 2120603.02

Figure 1

Regional Overview Map

1.3 Responsible Parties

Eric Chen, Project Engineer
San Mateo County Department of Public Works
555 County Center, 5th Floor,
Redwood City CA, 94063-1665

1.4 Project Description

1.4.1 Project Background

The County of San Mateo Department of Public Works proposes improvement of three existing dirt roads in a rural residential area of Moss Beach, an unincorporated community within San Mateo County, California. The proposed project would provide community residents with an access alternative to Ocean Boulevard, which is presently the only paved road connecting San Lucas Avenue with Madrone, Precita, and Bernal Avenues. Ocean Boulevard, which runs adjacent to coastal bluffs, south of the project area, is closed in some areas, west of San Lucas Avenue, due to bluff erosion. The existing alternative access routes, which include the road segments to be improved, are not designed to County road standards, and therefore are not maintained by the County. As such, they are presently in fair to poor condition, some with large potholes that impede direct passage.

1.4.2 Proposed Improvements

The project includes improvement of approximately 1,500 linear feet of roads within the County's ROW. Specific road segments to be improved include: (1) San Ramon Avenue, between San Lucas Road and Bernal Avenue (737 linear feet); (2) Del Mar Avenue, between Madrone Avenue and Bernal Avenue (472 linear feet); and (3) Madrone Avenue, between Decota Avenue and Del Mar Avenue (275 linear feet). The above described road segments would be improved by construction of 16-foot wide paved road sections comprised of approximately three inches of asphalt concrete and nine inches of cement-treated base. Surface drainage features, consisting of vegetated swales, would be constructed on either side of the roadway to capture and treat stormwater. The swales would measure, on average, seven feet wide and less than one foot deep. Upon completion of the project, the County would assume maintenance responsibility for these road segments.

1.4.3 Project Construction

The project would require ground disturbance of an approximately 52,300 square-foot area, including all road grading and swale areas. Excavation of roadside areas, to an estimated depth of approximately two feet, would also be required for swale construction. The proposed improvements would require removal of one tree (Monterey cypress) and trimming of up to two trees that have grown into the County right of way (ROW). The project would not include utility relocation or construction of sidewalks, lighting, or other service improvements.

Construction equipment required would include the following: backhoe, blade (for grading), rollers, cement-treat machine, and several utility trucks (for water, asphaltic emulsion, etc.). Construction equipment and materials staging would occur on Los Banos Avenue, a paved road. All construction equipment would be stored in this area when not in use. Any necessary on-site maintenance or refueling would also occur within this area.

A workforce of five people is expected for the project, including: one foreman, two laborers, and two equipment operators. The improvements would require approximately 29 truck trips for the import of asphalt and concrete, and approximately 40 truck trips for the off-haul of soil excavated for swale construction (approximately 150 cubic yards). Any excavated materials that cannot be reused onsite would be deposited at either an approved sanitary landfill or private receiving site outside of the Coastal Zone.

Construction is proposed to occur over approximately 45 days, in Summer/Fall 2013. All construction activities would occur during the daytime, between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. No work would occur on weekends or holidays.

1.4.4 Project Operation

Upon completion of improvements, road maintenance, including periodic inspections and necessary repairs, would be conducted by the County, similar to other County-maintained roads.

CHAPTER 2
Setting

2.1 Delineation Study Area

The delineation study area is located within the community of Seal Cove/Moss Beach, approximately one-half mile west of Highway 1, between the Half Moon Bay Airport and the Pacific Ocean (Figure 1). Moss Beach is generally located at the northern terminus of Pillar Ridge, in the Midcoast area of San Mateo County. The project area lies within the State's Coastal Zone boundary, as defined under California Public Resources Code Section 30103, and therefore is subject to the provisions of the County of San Mateo LCP.

The delineation study area includes the County ROW along San Ramon Avenue between San Lucas Avenue and Bernal Avenue, along Del Mar Avenue between Madrone Avenue and Bernal Avenue and along Madrone Avenue between Del Mar Avenue and Decota Avenue (**Figure 2**). The study area is bounded by development to the north and west, and open space – including Pillar Point Bluff County Park – to the east and south.

2.2 Climate and Topography

The overall northern California climate is Mediterranean in nature, which is characterized by warm, dry summers and cool, wet winters, with the bulk of precipitation occurring as rain in the winter months. The average annual temperature in Half Moon Bay is 54.8 ºF, while mean annual rainfall is 27.98 inches (USDA, NRCS, 2002).

The study area is generally flat, but gently slopes from southeast to northwest from an elevation of approximately 120 feet above sea level to approximately 100 feet above sea level.

SOURCE: ESRI, 2013

Moss Beach/Seal Cove Road Improvements Project . 2120603.02

Figure 2

Project Area Map

2.3 Soils

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA NRCS, 2013) was consulted to determine the soil types occurring within the delineation study area.

One soil type, Typic Argiustolls loamy-Urban land association 5 to 15 percent slopes, was mapped within the delineation study area (see Appendix B). This soil type is not included on the National List of Hydric Soils (USDA NRCS, 2012).

The Typic Argiustolls loamy-Urban land association is composed of approximately 50 percent Typic Argiustolls and similar soils and 30 percent urban land. Typic Argiustolls are moderately well drained soils with a depth of greater than 80 inches to both a restrictive layer and to a water table. The soil texture is typically sandy clay loam from 0 to 60 inches below the surface. Parent material is coastal alluvium derived from sedimentary rock. The urban land component includes areas covered by asphalt, concrete, buildings and other structures.

2.4 Hydrology

The study area is located within the Denniston Creek Watershed on a relatively flat coastal terrace directly abutting the Pacific Ocean. Within the study area, shallow ditches or drainage swales are located along the edges of existing roadways. During periods of heavy rain, surface runoff is directed through these shallow roadside ditches and conveyed across Ocean Boulevard directly to the Pacific Ocean.

The unpaved roadways on San Ramon Avenue and Del Mar Avenue are heavily compacted, with tire ruts, depressions that occasionally pond water. One tire rut on Del Mar Avenue near Precita Avenue was saturated at the time of the survey. No standing water was observed within the study area during the site survey conducted on May 29, 2013.

2.5 Vegetation

Plant communities are assemblages of plant species that regularly occur together in the same area, which are defined by species composition and relative abundance. The study area contains two plant communities: non-native annual grassland and coyote brush scrub. The remaining areas are either existing developed or compacted dirt roadways that support little to no vegetation or landscaped lawns and gardens.

Non-native grassland occurs along the northeastern edge of Del Mar Avenue between Madrone Avenue and Precita Avenue and along both sides of San Ramon Avenue between Madrone Avenue and Bernal Avenue. Dominants in the non-native grassland include Italian ryegrass (*Festuca perennis*), wild oat (*Avena* sp.), velvet grass (*Holcus lanatus*), and mustard (*Brassica nigra*).

Coyote brush scrub occurs in small patches along both sides of San Ramon Avenue. Coyote brush (*Baccharis pilularis*) is the dominant species found in this community. Species common in the non-native grassland such as Italian ryegrass, wild oat, soft brome (*Bromus hordeaceus*), and Mediterranean barley (*Hordeum murinum*) occur in the understory.

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CHAPTER 3
Methods

3.1 Definitions and Regulatory Setting

U.S. Army Corps of Engineers

Definitions

Many of the terms used throughout this report have specific meanings with respect to the delineation of Waters of the U.S. These terms are defined below:

Waters of the United States: The Code of Federal Regulations (33 CFR § 328.3[a]; 40 CFR § 230.3[s]) defines 'waters of the United States' as:

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

Wetlands: The Corps and the U.S. Environmental Protection Agency (EPA) define wetlands as, "Those areas that are saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for the life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Corps wetlands must typically exhibit three parameters: 1) wetland hydrology, 2) hydrophytic vegetation, and 3) hydric soils in order to meet the federal definition.

> **Wetland Hydrology:** This term encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. These include both riverine and non-riverine hydrology indicators, such as sediment deposits, drift lines, and oxidized rhizospheres along living roots in the upper 12 inches of the soil. In the Arid West, hydrologic indicators may be absent in any given year due to annual variability in precipitation and in times of drought. The *Arid West Supplement* (Corps, 2008) cites a technical standard that can be used for disturbed or

problematic sites that support wetland vegetation and soils but where wetland hydrology is not apparent. 'This standard calls for 14 or more consecutive days of flooding, ponding, or a water table 12 inches or less below the soil surface during the growing season at a minimum frequency of 5 years in 10'.

Hydrophytic Vegetation: Hydrophytic vegetation is defined as plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on a single indicator species, i.e., there must be a prevalence of hydrophytic vegetation present in order to satisfy this wetland parameter.

***Wetland Indicator Status*:** Refers to the probability that a plant will occur in a wetland or not. Indicator status categories are as follows:

- *Obligate (OBL)*: almost always occurs in wetlands
- *Facultative wetland (FACW)*: usually occurs in wetlands, sometimes may occur in uplands
- *Facultative (FAC)*: equally likely to occur in wetlands or nonwetlands
- *Facultative upland (FACU)*: usually occurs in uplands but may occasionally occur in wetlands
- *Obligate upland (UPL)*: almost never occurs in wetlands
- *No indicator (NI)*: no indicator assigned due to lack of information

Hydric Soil: A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils are often characterized by redoximorphic features (such as redox concentrations, formerly known as mottles), which form by the reduction, translocation, and/or oxidation of iron and manganese oxides. Hydric soils may lack hydric indicators for a number of reasons. In such cases the same standard used to determine wetland hydrology when indicators are lacking can be used.

Ordinary High Water Mark: Ordinary high water mark (OHWM) is defined in 33 CFR § 328.3[e] as '…that line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter or debris, or other appropriate means that consider the characteristics of the surrounding area'.

Other Waters: The term "other waters of the United States" includes water bodies, such as rivers and streams, that may not meet the full criteria for wetlands designation but that do exhibit evidence of an OHWM and are navigable or hydrologically connected to a navigable water body. Under the latest regulatory guidance, some types of other waters must have a significant nexus to a navigable water body to be considered jurisdictional by the Corps.

Traditionally Navigable Waters: Traditionally navigable waters (TNW) are all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

Relatively Permanent Waters: Relatively permanent waters (RPW) are non-navigable tributaries of traditional navigable waters that are relatively permanent, meaning they typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).

Non-Relatively Permanent Waters: Non-relatively permanent waters (NRPW) include non-navigable tributaries with ephemeral or seasonal flows lasting less than three months.

Significant Nexus: This term refers to the hydrologic and ecologic connection between a TNW and its tributaries. Under recent guidance from the Corps and EPA certain wetlands and waters must have a significant nexus with a TNW in order to be considered jurisdictional.

Growing Season: The growing season is that part of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (5°C/41° F). Growing season dates should be determined through onsite observations whenever possible. Since onsite data gathering is often not possible growing season dates can be approximated by using WETS tables from the nearest appropriate WETS station. The WETS table 70 percent probability average beginning and ending dates for 28° F temperatures can be used to represent the "normal" growing season for wetland determinations (NRCS, 1995). According to the Half Moon Bay WETS Station data (see Appendix C) the normal growing season for the study area would be 365 days (USDA, NRCS, 2002).

Regulations

Wetlands and other waters (e.g., rivers, streams, and natural ponds) are a subset of waters of the U.S. and receive protection under Section 404 of the CWA. The Corps has primary federal responsibility for administering regulations that concern waters of the U.S. and requires a permit if a project proposes placement of structures within navigable waters and/or alteration of waters of the U.S. The EPA has the ultimate authority under the CWA and can veto the Corps' issuance of a permit to fill jurisdictional waters of the U.S.

In recent years several Supreme Court cases have challenged the scope and extent of the Corps' jurisdiction over waters of the United States and have led to several reinterpretations of that authority. The most recent of these decisions are the case of Solid Waste Agency of Northern Cook County (SWANCC) v. the Army Corps of Engineers (January 9, 2001) and Rapanos v. United States (June, 2006). The SWANCC decision found that jurisdiction over non-navigable, isolated, intrastate waters could not be based solely on the use of such waters by migratory birds. The reasoning behind the SWANCC decision could be extended to suggest that waters need a demonstrable connection with a 'navigable water' to be protected under the CWA. The introduction of the term isolated has led to the consideration of the relative connectivity between waters and wetlands as a jurisdictionally relevant factor. The more recent Rapanos case further questioned the definition of "waters of the United States" and the scope of federal regulatory jurisdiction over such waters but resulted in a split decision which did not provide definitive answers but expanded on the concept that a 'significant nexus' with traditional navigable waters was needed for certain waters to be considered within the jurisdiction of the Corps.

On June 5, 2007 the EPA and the Corps released guidance on CWA jurisdiction in response to the Rapanos Supreme Court decisions, which can be used to support a finding of CWA coverage for a particular water body when either a) there is a significant nexus between the stream or wetland in question and navigable waters in the traditional sense; or b) a relatively permanent water body is hydrologically connected to traditional navigable waters and/or a wetland has a surface connection with that water. According to this guidance the Corps and the EPA will take jurisdiction over the following waters: 1) Traditional navigable waters; 2) Wetlands adjacent to traditional navigable waters, including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters; 3) Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); 4) Wetlands adjacent to non-navigable tributaries, as defined above, that have a continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The EPA and the Corps will claim jurisdiction over the following waters, based on a fact-specific determination of significant nexus, as defined below, to a traditional navigable water: non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The EPA and the Corps generally do not assert jurisdiction over the following features: swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The EPA and the Corps have defined the significant nexus standard as follows:

> A significant nexus analysis assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.

Significant nexus analysis includes consideration of hydrologic and ecologic factors including: volume, duration, and frequency of flow; proximity to a traditional navigable water; size of the watershed; average annual rainfall; average annual winter snow pack; potential of tributaries to carry pollutants and flood waters to traditional navigable waters; provision of aquatic habitat that supports a traditional navigable water; potential of wetlands to trap and filter pollutants or store flood waters; and maintenance of water quality in traditional navigable waters.

Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB also regulates waters of the state under the Porter-Cologne Act Water Quality Control Act (Porter-Cologne Act). The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values.

In addition California defines wetlands by presence of one or more of the following three attributes in addition to wetland hydrology:

- At least periodically, the land supports predominantly hydrophytes (at least 50 percent of the aerial vegetative cover);
- The substrate is predominantly undrained hydric soil; and
- The substrate is not soil (such as a rocky shore) and is saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the California definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by State agencies consists of the union of all areas with a non-soil substrate that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present.

California Coastal Commission

Wetlands and other environmentally sensitive habitats in California's Coastal Zone are regulated under the California Coastal Act (CCA) of 1976. The CCA requires that most development avoid and buffer wetland resources. The study area lies within the Coastal Zone and the project is subject to the regulations of the San Mateo County LCP. Under the LCP, San Mateo County defines a wetland

> "as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), in tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and manmade impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernally wet areas where the soils are not hydric.
>
> In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bulrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat."

In practice, San Mateo County usually does not consider wetland vegetation to be limited to the twelve species listed above, but further relies on the CCC's wetland definition.

The CCC regulations (California Code of Regulations Title 14 (14 CCR)) establish a "one parameter definition" that only requires evidence of a single parameter to establish wetland conditions:

> "Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577)."

The CCC regulations do not provide definitions of hydric soils or hydrophytic vegetation, but rely on the *1987 Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), *USFWS List of Plant Species that Occur in Wetlands* (which has recently been updated to the *National Wetland Plant List* [Lichvar and Kartesz, 2012]), and the *Field Indicators of Hydric Soils in the United States* (USDA NRCS, 2010) as appropriate documents to use when determining the presence of wetlands. The CCC also acknowledges that the observation of indicators in the field is subject to uncertainty and error and wetland delineators must exercise professional judgment when conducting a wetland delineation.

3.2 Office Preparation

Literature Review

ESA reviewed the following information relevant to this delineation:

- *Jepson eFlora* (Jepson Flora Project, 2012) and *The Jepson Manual: Higher Plants of California* (Hickman, 1993)
- 2013 Geographic Information System (GIS) retrieved aerial photographs
- USDA NRCS, Web Soil Survey online application
- *National Wetland Plant List* (Lichvar and Kartesz, 2012)
- Standard biological references and field guides.

3.3 Field Survey Methods

Dates

ESA biologist M. Giolli conducted a routine delineation of waters of the U.S./waters of the state within the wetland delineation study area on May 29, 2013.

Field Delineation Methods

Data Collection

Field preparation included production of high resolution aerial photographs of the site. All wetland and drainage signatures on project site aerial photographs were investigated within the delineation study area. The delineation study area was walked such that visual coverage was 100 percent. All potential waters within the study area were delineated for all regulatory agencies (Corps, RWQCB, and CCC).

Data were collected at seven data points within the study area. Data point locations are shown on **Figure 3**. Data points were taken at sites representative of the vegetation, hydrology, and physical characteristics across the various potential wetland types and at adjacent upland areas, if applicable. Results were extrapolated to nearby areas exhibiting similar vegetation and hydrologic conditions. Arid West data sheets were used to record information at each data point.

Determination of Hydrophytic Vegetation

At each datapoint vegetation was analyzed within a five-foot radius for herbaceous species, 10-foot radius for shrub species, and a 30-foot radius for trees. Shrubs and trees were only recorded if they appeared to be rooted within the proposed wetland area. All species noted within the study plots were recorded on the data sheets. The indicator status of each species was confirmed in the field, to the extent feasible, with the *National Wetland Plant List* (Lichvar and Kartesz, 2012) for the Arid West Region. Dominance and/or prevalence calculations were generally performed in the field as well. When the vegetation passed either the dominance or prevalence test the point was considered to have hydrophytic vegetation.

Determination of Hydric Soils

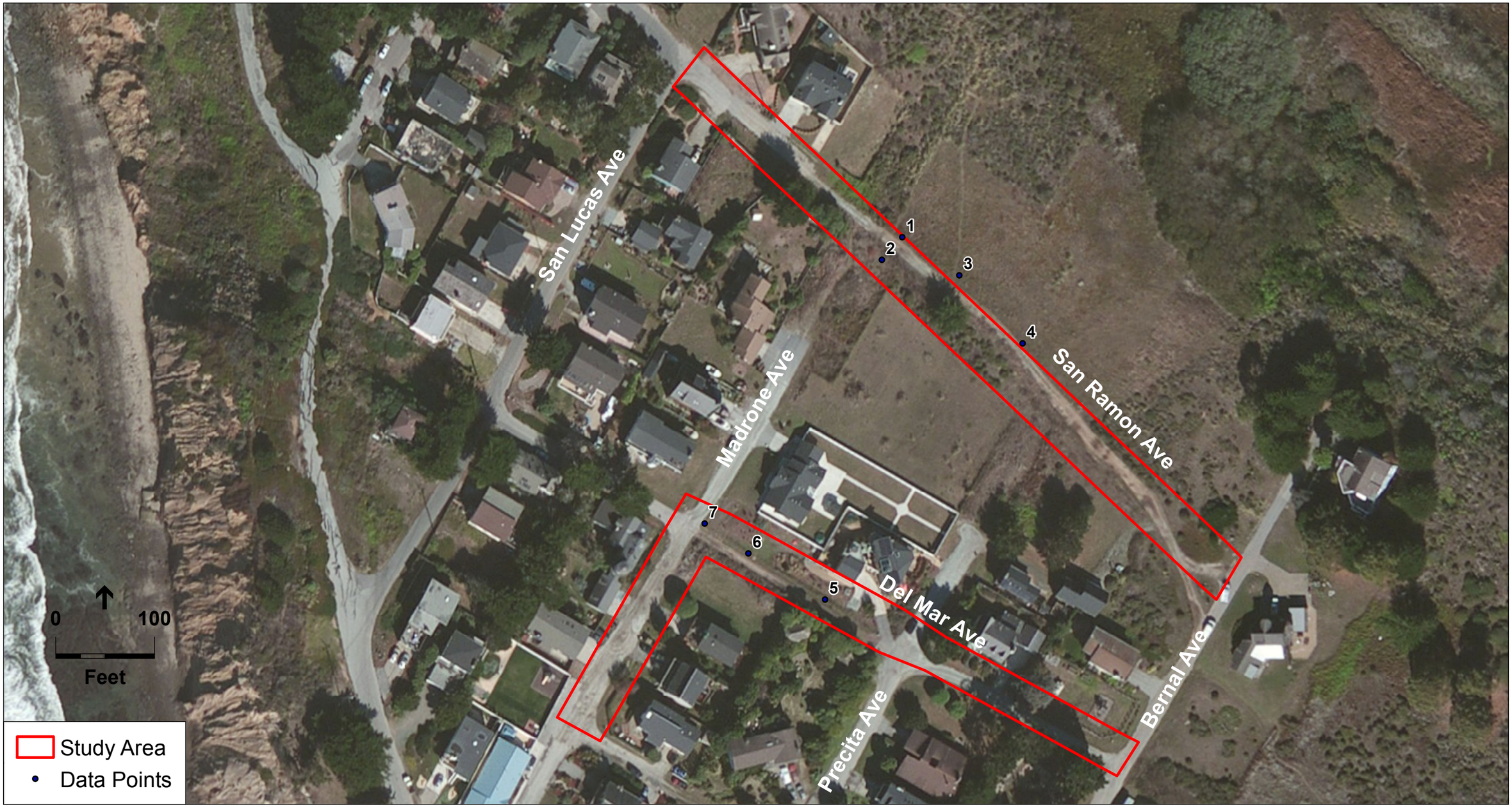
Soils were analyzed in accordance with the Corps' *Arid West Manual* (2008) and the *Field Indicators of Hydric Soils in the United States* (USDA NRCS, 2010). Soil pits were excavated to the maximum depth possible and soil color was matched against a standard color chart (Munsell, 2000). Soils were also inspected for redoximorphic features and soil texture was determined. It was then possible to determine if the soils met any of the hydric soils criteria listed on the Arid West data sheets. Where soils did not exhibit hydric soil criteria consideration was given as to whether the data point in question had the potential to be saturated, ponded or have a water table within 12 inches of the surface for 14 or more consecutive days during the growing season. With the presence of wetland vegetation and hydrology, this technical standard can be used to characterize a soil as hydric (Corps, 2008).

Determination of Wetland Hydrology

Hydrology was assessed using the Corps' 2008 *Arid West Manual's* hydrology indicators (e.g., oxidized rhizospheres along living roots, aquatic invertebrates, drift deposits and sediment deposits in a riverine system). Soils at all of the sample points were dry at the time of the delineation field work. Where hydrology indicators were weak, consideration was given as to whether the technical standard quoted above for hydrology and soils might reasonably be applied to a given site.

Mapping and Acreage Calculations

Features and data points were mapped by hand on aerial images and field notes were taken on the characteristics of each feature (vegetation type and quality, disturbance levels, etc.). Data points were then digitized using ArcGIS 10.1.



SOURCE: ESRI, 2013

Moss Beach/Seal Cove Area Roads Improvement Project. 120603.02

Figure 3

Wetland Delineation Study Area

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CHAPTER 4
Results

4.1 Organization

Field delineation results for the delineation study area are presented below. Delineation datasheets for the project, and other supporting information, such as a soils map, and representative photographs for the delineation study area are presented in Appendices A through D.

4.2 Results

Five areas that had at least some evidence of one or more wetland indicators were examined for the presence of wetland indicators. These include a velvet grass dominated grassland, a poison hemlock (*Conium maculatum*) dominated ruderal area, and an Italian ryegrass dominated grassland along San Ramon Avenue, and an Italian ryegrass dominated grassland along Del Mar Avenue. In contrast, other roadside areas were dominated by upland vegetation, including coyote brush, wild oat, and California blackberry (*Rubus ursinus*). None of the sampled locations met the criteria for jurisdictional wetlands.

Data points 1 and 3 were taken within the velvet grass dominated grassland along the northeastern edge of San Ramon Avenue. At data point 1, velvet grass, a FAC species, provided approximately 25 percent cover, while the three other dominant species (coyote brush, yarrow [*Achillea millefolia*], and California blackberry), all either FACU or UPL species, provided a total of approximately 55 percent cover. Dominants at data point 3 included sheep sorrel (*Rumex acetosella*; FACU), velvet grass, coyote brush and California blackberry. Neither data point passed the Corps Dominance Test, nor did they contain greater than 50 percent cover of wetland vegetation. Soils at these data points had a silty clay loam texture and 10YR 2/2[1] color, lacked redoximorphic features, and did not exhibit any hydric soil indicators. The area was relatively flat and did not contain any wetland hydrology indicators.

Data point 2 was taken within the poison hemlock dominated ruderal area along the southwestern edge of San Ramon Avenue. Poison hemlock (FACW), black mustard (UPL), California figwort (*Scrophularia californica*; FAC), and California blackberry (FACU) were dominant species. Hydrophytes provided approximately 50 percent cover, but did not pass the Corps Dominance Test which requires greater than 50 percent cover of OBL, FACW, or FAC species. The soil

[1] All soils sampled exhibited a low chroma of 2. These soils are mollisols, which are typical grassland soils where low chroma is not the result of hydric conditions, but rather the result of relatively high levels of below-ground organic matter input.

sample was silty clay loam with 10YR 2/2 color and lacked redoximorphic features. The data point did support any hydric soil or wetland hydrology indicators.

Data point 4 was taken within the Italian ryegrass dominated grassland along the northeastern edge of San Ramon Avenue. Italian ryegrass (FAC), coyote brush, and California blackberry were the dominant species. The area did not pass the Corps Dominance Test, but did have approximately 70 percent cover of FAC species. Similar to the previous data points, this soil sample was 10YR 2/2 silty clay loam and lacked redoximorphic features. The area was located on a relatively flat terrace and did not contain any hydric soil or wetland hydrology indicators.

Data points 5 and 6 were taken within the Italian ryegrass dominated grassland along the northeastern edge of Del Mar Avenue. Data point 5 contained 90 percent cover of Italian ryegrass and 2 percent cover of spreading rush (*Juncus patens*; FACW) and did meet the Corps Dominance Test. Data point 6 contained 90 percent cover of capeweed (*Arctotheca calendula*, NI) and 9 percent cover of Italian ryegrass (FAC), meadow barley (*Hordeum brachyantherum*; FACW), and spreading rush (FACW). Data point 6 did not meet the Corps Dominance Test. Soil samples at both data points were 10YR 3/2 silty clay with 2 to 3 percent redoximorphic concentrations. Although redoximorphic features were present, neither soil sample met any of the hydric soil indicators. Hydric soil indicator F3 (Depleted Matrix) requires a value of 4 or greater and hydric soil indicator F6 requires 5 percent or more redox concentrations with a chroma of 2 or less. The area was located above and adjacent to saturated tire ruts within Del Mar Avenue, but no hydric indicators were present within the Italian ryegrass dominated grassland.

Data point 7 was also taken within the Italian ryegrass dominated grassland adjacent to Del Mar Avenue, but in a location topographically higher than data points 5 and 6. This data point contained less than 50 percent cover of hydrophytic vegetation and lacked hydric soil and wetland hydrology indicators.

4.3 Conclusions

An evaluation of the results of the wetland delineation for each the Corps, RWQCB, and CCC is provided below. No federal or State jurisdictional wetlands or waters were observed within study area. However, the ultimate decision of jurisdiction lies with the regulating agency.

U.S. Army Corps of Engineers

No areas within the study area met all three Corps parameters (wetland hydrology, hydrophytic vegetation, and hydric soils) to be considered a federally jurisdictional wetland. The Italian ryegrass dominated grassland along the northeastern edge of Del Mar Avenue did meet the hydrophtic vegetation criteria but hydric soil characteristics were not strong enough to meet any of the hydric soil indicators. Additionally, this grassland was located on a coastal terrace and did not contain evidence of prolonged ponding or other wetland hydrology indicators.

No “other waters” of the U.S. were observed within the study area.

Regional Water Quality Control Board

The RWQCB regulates federally jurisdictional wetlands and waters of the U.S. under Section 404 of the CWA. As mentioned above, federally jurisdictional wetlands and waters of the U.S. are absent from the study area.

Additionally, the RWQCB regulates waters of the State under the Porter-Cologne Act. No areas within the study area met the State's wetland definition as wetland hydrology indicators were not observed at any of the data points within the study area.

California Coastal Commission

The LCP defines a wetland as an area with hydric soils or hydrophytic vegetation. Although the LCP states that the wetland must contain at least 50 percent of twelve specific wetland plants, San Mateo County generally relies on the CCC's wetland definition. The CCC uses a "one parameter" definition of wetlands, which only requires evidence of a single parameter to establish wetland conditions. Additionally, both the LCP and CCC define a wetland as an area where the "water table is at, near, or above the land surface long enough to promote the formation of hydric soils or support of the growth of hydrophytes." The CCC also refers to the Corps wetland delineation methods, which utilize vegetation, soils and hydrology indicators, for defining wetland parameters.

Three areas contained at least 50 percent cover of hydrophytic vegetation: the poison hemlock dominated ruderal area adjacent to San Ramon Avenue at data point 2, the Italian ryegrass dominated grassland adjacent to San Ramon Avenue at data point 4, and the Italian ryegrass dominated grassland adjacent to Del Mar Avenue at data point 5.

Poison hemlock (FACW) and California figwort (FAC) covered exactly 50 percent of data point 2, with black mustard (UPL) and prickly ox-tongue (*Helminthotheca echioides*; FACU) providing exactly 50 percent cover. This data point only slightly falls within the LCP definition of at least 50 percent cover of hydrophytic plants. No hydric soil indicators or wetland hydrology indicators were present, indicating that this area does not meet the CCC's wetland definition of an area where the "water table is at, near, or above the land surface long enough to promote the formation of hydric soils or support of the growth of hydrophytes."

At data point 4, Italian ryegrass, velvet grass and English plantain (*Plantago lanceolata*), all FAC species, provided approximately 70 percent cover within the within the Italian ryegrass dominated grassland. FAC species are generally weak wetland indicators as they are equally likely to occur in wetlands or non-wetlands. Additionally this area lacked hydric soil or wetland hydrology indicators, which provides evidence that this area does not meet the CCC's wetland definition.

The grassland at data point 5 contained 90 percent cover of Italian ryegrass, a FAC species and generally weak wetland indicator. Although soil at this soil sample did contain some redoximorphic features, it did not meet the Corps definition of a hydric soil, nor were any wetland hydrology indicators present. The lack of hydric soils and wetland hydrology indicators demonstrates that this site does not meet the CCC's wetland definition.

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CHAPTER 5
Report Preparation and References

5.1 Report Preparation

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Wetland Delineation:	M. Giolli
Report Preparation:	M. Giolli
GIS:	M. Giolli
Graphics:	M. Giolli

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APPENDIX A
Wetland Datasheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co Sampling Date: 5/29/13 ph. 3934

Applicant/Owner: San mateo co. State: CA Sampling Point: 1

Investigator(s): M. Cadli Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C Lat: 37°30'57.831"N Long: 122°30'35.743"W Datum: NAD83

Soil Map Unit Name: Typic Arginstolls loamy - Urban Land 5-15% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	5%	Y	UPL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Achillea millefolia	15	Y	FACU
2. Holcus lanatus	25	Y	FAC
3. Brassica nigra	10		UPL
4. Raphanus sativus	2		UPL
5. Conium maculatum	2		FACW
6. Cortaderia jubata	1		FACU
7. Scrophularia californica	5		FAC
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	35	Y	FACU
2.			
	35 = Total Cover		

% Bare Ground in Herb Stratum 5% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Vegetation did not pass dominance test and no hydric soils or hydrology indicators present.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100%	none				silty clay loam	Organic matter, root mass
2-15	10YR 2/2	100%	none				Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

No Redox present, no other hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): _____

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators present. Area generally flat, no signs of ponding

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo CO Sampling Date: 5/29/13

Applicant/Owner: San Mateo CO State: CA Sampling Point: 2

Investigator(s): M. Giolli Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): C Lat: 37°30'57.602"N Long: 122°30'36.106"W Datum: NAD83

Soil Map Unit Name: Typic Argiustolls loamy - Urban land 5-15% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	35	Y	FACW
2. Brassica nigra	20	Y	UPL
3. Scrophularia californica	15	Y	FAC
4. Helminthotheca echioides	5		FACU
5.			
6.			
7.			
8.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	30%	Y	FACU
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Vegetation did not pass dominance test and no hydr soils or hydrology indicators present

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 2/2	100%	none				silty clay loam	very hard

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No Redox present, no other hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology. No water present, no signs of ponding

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co. Sampling Date: 5/29/13

Applicant/Owner: San Mateo CO State: CA Sampling Point: 3

Investigator(s): M. Ciolli Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2%

Subregion (LRR): C Lat: 37°30'57.529"N Long: 122°30'35.075"W Datum: NAD83

Soil Map Unit Name: Typic Argixtolls loamy-Urban land 5-15% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	40%	Y	UPL
2.			
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Rumex acetosella	40%	Y	FACU
2. Holcus lanatus	15	Y	FAC
3. Avena barbata	2		UPL
4. Festuca perennis	2		FAC
5. unk herb	1		NI
6. Juncus patens	1		FACW
7.			
8.			
	61 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	30%	Y	FACU
2.			
	30 = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Vegetation did not pass dominance test and no hydric soils or hydrology indicators present

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100%	none				Silty Clay Loam	-dense Root mat
4-14	10YR 2/2	100%	none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

no hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co Sampling Date: 5/29/13

Applicant/Owner: San Mateo Co. State: CA Sampling Point: 4

Investigator(s): M. Gioli Section, Township, Range:

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): none Slope (%): 10

Subregion (LRR): C Lat: 37°30'56.605"N Long: 122°30'34.097"W Datum: NAD83

Soil Map Unit Name: Typic Argiustolls loamy-Urban land 5-15% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Baccharis pilularis	5%	Y	UPL
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca arundinacea	50%	Y	FAC
2. Holcus lanatus	15		FAC
3. Plantago lanceolata	5		FAC
4. Brassica nigra	5		UPL
5. Avena barbata	5		UPL
6. Bromus hordeaceus	10		FACU
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	2%	Y	FACU
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Vegetation did not pass dominance test and no hydric soils or hydrology indicators present.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100%	none			silty	clay loam	dense Root mass
1-12	10YR 2/2	100%	none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co. Sampling Date: 5/29/13

Applicant/Owner: San Mateo Co. State: CA Sampling Point: 5

Investigator(s): M. Giolli Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR): C Lat: 37°30'54.193"N Long: 122°30'36.649"W Datum: NAD83

Soil Map Unit Name: Typic Argiustolls loamy-Urban land 5-15% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks: Juncus present may have been installed as part of adjacent landscaping

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1. none			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. none			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Festuca perennis	90%	Y	FAC
2. Juncus patens	2%		FACW
3.			
4.			
5.			
6.			
7.			
8.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 5% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Juncus may have been installed as part of adjacent landscaping

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR3/2	97	7.5YR 6/8	23	C	M	Silty clay loam	occassional redox features scattered throughout matrix
Sample uniform - too hard to dig below 10"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Some Redox present (only 2-3%), but does not meet hydric soil indicators Value is too low to meet F3 and Redox cover below 5% for F6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Located above and adjacent to roadside tire ruts. Tire ruts were heavily compacted and saturated at time of survey.

No wetland hydrology indicators observed, no water or saturation at data point

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co Sampling Date: 5/29/13

Applicant/Owner: San Mateo Co State: CA Sampling Point: C6

Investigator(s): M. Giolli Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR): C Lat: 37°30'54.703"N Long: 122°30'37.565"W Datum: NAD83

Soil Map Unit Name: Typic Argiustolls loamy-Urban land 5-15% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Arctotheca calendula	90%	Y	NI
2. Festuca perennis	5%	N	FAC
3. Hordeum brachyantherum	2%	N	FACW
4. Juncus patens	2%	N	FACW
5.			
6.			
7.			
8.			
	99 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	4	x 2 =	8
FAC species	5	x 3 =	15
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	9 (A)		23 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

Did not pass Dominance Test. Did pass prevalence Index, but hydric soil and wetland hydrology are not present.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR3/2	97%	7.5YR 6/8	2-3	C	M	Silty clay	
Sample uniform - too hard to dig below 10"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Some Redox present (only 2-3%), does not meet hydric soil indicators. Value is too low to meet F3 and Redox cover below 5% for F6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Located above and adjacent to roadside tire ruts. Tire ruts were heavily compacted and saturated at time of survey.

No wetland hydrology indicators observed, no water or saturation at data point

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Seal Cove City/County: San Mateo Co Sampling Date: 5/29/13

Applicant/Owner: San Mateo Co State: CA Sampling Point: 7

Investigator(s): M. Giolli Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3%

Subregion (LRR): C Lat: 37°30'54.937"N Long: 122°30'38.13"W Datum: NAD83

Soil Map Unit Name: Typic Argixerolls loamy-Urban land 5-15% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. N/A			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Avena barbata	40	Y	UPL
2. Festuca perennis	45	Y	FAC
3. Raphanus sativus	15		UPL
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

Does pass Dominance Test.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100	none			silty	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrology indicators observed.

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APPENDIX B
Soil Map

SOURCE:ESRI, 2013; USDA NRCS

Moss Beach/Seal Cove Area Roads Improvement Project. 120603.02

Figure B-1
Soils Map

APPENDIX C

WETS Tables for Half Moon Bay, San Mateo County

>

WETS Station : HALF MOON BAY, CA3714 Creation Date: 08/29/2002
Latitude: 3728 Longitude: 12227 Elevation: 00040
State FIPS/County(FIPS): 06081 County Name: San Mateo
Start yr. - 1971 End yr. - 2000

Month	Temperature (Degrees F.) avg daily max	avg daily min	avg	Precipitation (Inches) avg	30% chance will have less than	more than	avg # of days w/.1 or more	avg total snow fall
January	58.7	43.2	51.0	5.55	2.71	6.78	8	0.0
February	59.7	44.2	52.0	4.91	2.23	6.00	7	0.0
March	59.8	44.6	52.2	4.36	2.00	5.32	7	0.0
April	60.8	44.7	52.8	1.76	0.83	2.15	3	0.0
May	61.1	47.6	54.4	0.79	0.21	0.95	1	0.0
June	63.1	49.9	56.5	0.26	0.09	0.33	0	0.0
July	64.4	51.9	58.1	0.16	0.03	0.20	0	0.0
August	65.8	53.1	59.5	0.27	0.09	0.33	0	0.0
September	67.0	51.7	59.4	0.44	0.11	0.55	1	0.0
October	65.5	48.7	57.1	1.82	0.63	2.19	2	0.0
November	62.4	45.6	54.0	3.56	1.57	4.34	5	0.0
December	58.9	43.3	51.1	4.10	2.05	5.01	6	0.0
Annual	-----	-----	-----	------	22.05	31.54	--	----
Average	62.3	47.4	54.8	------	------	------	--	----
Total	-----	-----	-----	27.98	------	------	40	0.0

GROWING SEASON DATES

Probability	Temperature: 24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	---------- > 365 days	12/19 to 12/19 > 365 days	> 365 days > 365 days
70 percent *	---------- > 365 days	12/19 to 12/19 > 365 days	> 365 days > 365 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1948-2002 prcp

Station : CA3714, HALF MOON BAY
------- Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
48							0.00	0.00	0.04	0.55	0.66	4.99	6.24
49	1.73	3.91	M4.96	0.00	0.41	0.00	0.00	0.17	M0.00	M0.00			11.18
50		M2.24	1.34	2.12	0.37	0.14	0.00	0.00	0.08	1.95	5.46	6.01	19.71
51	M5.11	2.98	2.84	0.91	0.98	0.17	0.12	0.00	0.28	1.16	M4.15	M11.30	30.00
52	9.31	2.20	6.21	0.62	0.45	1.14	0.03	0.00	0.15	0.27	2.66	M11.36	34.40
53	4.55	M0.09		M3.17	0.60	0.56	0.00	0.53	0.12	0.67	M3.33	1.04	14.66
54	4.18	2.58	5.03	1.49	0.06	0.64	0.10	0.55	0.08	0.23	1.96	4.53	21.43
55	5.06	1.37	0.28	2.50	0.36	0.07	0.17	0.12	0.28	0.21	M2.32	M13.81	26.55
56	11.38	M2.81	0.00	1.88	M1.37	M0.07	M0.25	M0.45	0.45	1.75	0.00	0.57	20.98
57	M3.31	M4.42	M5.98	1.65	4.10	0.08	0.00	0.08	1.08	3.17	1.78	M3.88	29.53
58	M6.23	M10.79	M9.38	M5.83	0.68	0.71	0.38	0.00	0.18	0.27	0.50	1.89	36.84
59	5.07	5.64	0.64	0.42	0.36	0.00	0.00	0.21	3.66	M0.40	0.00	1.97	18.37
60	M5.29	4.66	1.90	1.27	0.71	0.00	0.00	0.00	0.00	0.88	M5.12	1.70	21.53
61	M2.98	1.89	M3.25	M1.06	1.73	0.22	0.00	0.10	0.57	0.12	3.66	M3.18	18.76
62	M2.09	8.64	3.52	0.82	0.24	0.00	0.00	M0.29	0.51	10.97	0.60	M3.57	31.25
63	3.44	3.65	4.33	M5.08	0.64	0.00	0.00	0.03	0.09	2.48	4.00	1.04	24.78
64	5.32	0.52	2.46	0.23	0.47	0.58	0.00	0.00	0.00	1.89	M3.11	M7.50	22.08
65	4.41	1.40	M1.58	M5.22	0.00	0.06	0.00	0.23	0.00	0.00	5.58	4.96	23.44
66	3.77	3.51	0.68	0.71	0.20	0.00	0.12	0.27	0.25	0.00	5.18	3.62	18.31
67	10.44	0.25	6.18	7.43	0.25	1.44	0.00	0.00	0.00	0.76	2.13	2.89	31.77
68	6.19	2.62	5.78	0.61	0.24	0.00	0.00	0.28	0.00	0.65	2.69	5.90	24.96
69	8.06	8.68	2.07	2.76	0.06	0.40	0.00	0.00	0.21	1.73	0.76	4.55	29.28
70	8.49	2.31	2.04	0.32	0.27	0.21	0.00	0.00	0.00	0.90	M8.41	7.67	30.62
71	1.61	0.76	3.49	1.51	0.53	0.08	0.28	0.36	0.40	0.23	M2.29	M5.10	16.64
72	1.27	1.33	0.19	1.25	0.11	0.28	0.00	0.00	0.98	6.90	6.49	3.17	21.97
73	8.78	7.33		0.23	0.21	0.05	0.00	0.09	0.62	3.04	9.50	6.32	36.17
74	4.87	2.16	7.20	3.22	0.01	0.50	1.01	0.13	0.00	1.36	0.64	3.64	24.74
75	2.95	4.88	7.11	2.14	0.10	0.28	0.52	0.59	0.02	4.49	0.85	0.69	24.62
76	0.52	2.54	1.13	2.04	0.13	0.04	0.14	1.56	0.59	0.30	1.73	2.41	13.13
77	2.26	1.31	3.15	0.20	1.23	0.00	0.16	0.27	1.59	0.47	3.37	5.60	19.61
78	9.01	5.62	5.58	4.50	0.00	0.00	0.00	0.00	0.00	0.05	3.04	0.83	28.63
79	8.11	6.27	4.83	0.89	0.85	0.00	0.29	0.13	0.00	3.23	3.97	5.76	34.33
80	5.40	7.49	1.90	1.88	0.32	0.03	0.07	0.05	0.18	0.18	0.65	2.44	20.59
81	7.48	2.42	4.71	0.24	0.33	0.00	0.00	0.42	0.37	3.98	7.08	6.00	33.03
82	12.01	5.11	7.91	5.02	0.00	0.42	0.00	0.15	1.73	3.82	7.03	5.41	48.61
83	8.98	M9.14	M13.05	3.33	0.89	0.03	0.00	0.14	0.80	1.12	M8.07	M9.46	55.01
84	0.26	2.15	M2.12	1.09	0.20	0.46	0.06	0.33	0.18	3.81	9.86	3.20	23.72
85	1.02	2.90	5.07	0.13	0.32	0.47	0.31	0.05	0.40	1.51		3.18	15.36
86	4.98	11.48	7.12	0.50	0.84	0.09	0.08	0.25	2.20	0.42	0.32	3.10	31.38
87	5.10	3.87	4.16	0.95	0.06	0.08	0.00	0.10	0.00	M2.13	2.63	6.03	25.11
88	4.48	0.58	0.12	3.04	0.69	0.29	M0.15	0.01	0.02	0.94	3.55	5.17	19.04
89	2.01	1.30	7.95	1.83	0.31	0.10	M0.13	M0.27	M0.95	2.05	1.95	0.03	18.88
90	M4.29	M2.52	1.33	0.29	2.82	0.46	0.24	0.14	0.33	0.55	0.74	2.58	16.29
91	0.56	4.19	8.81	0.90	0.67	0.32	0.27	0.92	0.25	M2.63	M1.01	3.60	24.13
92	3.18	8.70	3.45	0.40	0.06	0.84	0.02	0.18	0.12	2.88	0.67	8.10	28.60
93	M9.21	5.59	2.79	1.68	1.38	M0.48	0.06	M0.17	M0.21	M0.62	M1.55	M2.77	26.51
94	M2.63	M5.61	M0.77	M1.85	M1.64	0.11	0.13	0.17	0.09	0.08	M5.34	3.93	22.35
95	11.38	0.26	M8.71	2.35	1.54	0.78	0.05	0.05	0.15	0.07	0.30	8.25	33.89
96	8.27	7.05	3.34	1.98	2.16	0.13	0.06	0.07	0.20	1.47	2.71	8.83	36.27
97	9.86	0.29	0.59	0.96	0.44	0.57	0.13	0.77	0.08	0.77	7.84	3.65	25.95
98	12.13	15.70	2.58	2.73	4.01	0.30	0.18	0.06	0.25	0.99	3.75	2.12	44.80
99	6.40	7.60	4.82	2.73	0.12	0.46	0.05	0.34	0.21	0.82	2.94	0.93	27.42
0	7.53	11.27	2.45	3.10	1.72	0.18	0.26	0.19	0.41	3.74	1.30	0.69	32.84

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APPENDIX D

Representative Photographs

Photo 1: View of San Ramon Avenue facing southeast from San Lucas Avenue (May 2013).

Photo 2: View of San Ramon Avenue facing northwest from Bernal Avenue (May 2013).

Moss Beach/Seal Cove Area Roads Improvements Project 120603.02 ■

Source: ESA, 2013

Figure D-1
Representative Photographs

Photo 3: View of Madrone Avenue facing southwest from Del Mar Avenue (May 2013).

Photo 4: View of Del Mar Avenue facing northwest from Precita Avenue (May 2013).

Moss Beach/Seal Cove Area Roads Improvements Project 120603.02 ■

Source: ESA, 2013

Figure D-2
Representative Photographs

Photo 5: Photo of Data Point 1 (May 2013).

Photo 6: Photo of Data Point 2 (May 2013).

Moss Beach/Seal Cove Area Roads Improvements Project 120603.02■

Source: ESA, 2013

Figure D-3
Representative Photographs

Photo 7: Photo of Data Point 3 (May 2013).

Photo 8: Photo of Data Point 4 (May 2013).

Source: ESA, 2013

Figure D-4
Representative Photographs

Photo 9: Photo of Data Point 5 (May 2013).

Photo 10: Photo of Data Point 6 (May 2013).

Moss Beach/Seal Cove Area Roads Improvements Project 120603.02 ■

Source: ESA, 2013

Figure D-5
Representative Photographs

Photo 11: Photo of Data Point 7 (May 2013).

Source: ESA, 2013

Figure D-6
Representative Photographs