Washington Street Sewer Bypass Project

Draft Initial Study – Mitigated Negative Declaration

prepared by

Castroville Community Services District
11497 Geil Street
Castroville, California 93660
Contact: Eric Tynan, General Manager

prepared with the assistance of

Rincon Consultants, Inc.
2511 Garden Road, Suite C-250
Monterey, California 93490

December 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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1 Introduction and Project Description

1.1 Project Title

Washington Street Sewer Bypass Project

1.2 Lead Agency Name and Address

Castroville Community Services District
11499 Geil Street
Castroville, California 95012

1.3 Contact Person and Phone Number

Eric Tynan, General Manager
(831) 633-2560

1.4 Scope and Use of this Document

This Initial Study-Mitigated Negative Declaration (IS-MND) provides an assessment of the potential impacts to environmental resources that would result from implementing the proposed Washington Street Sewer Bypass Project (herein referred to as "proposed project" or "project"). The discussion and level of analysis are commensurate with the expected magnitude and severity of each impact to environmental resources. This document addresses the environmental effects of installing wastewater conveyance infrastructure. The analyses in Chapter 2 are based on technical reports and studies prepared for the project, supplemented with other public information sources as provided in the list of references.

This document evaluates the potential for impacts to resources areas identified in Appendix G of the current (2022) California Environmental Quality Act (CEQA) Guidelines. These resource areas include:

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

1.4.1 Administration of the Clean Water State Revolving Fund Program in California

The Federal Water Pollution Control Act (Clean Water Act or CWA), as amended in 1987, established the Clean Water State Revolving Fund (CWSRF) program. The CWSRF program offers low interest financing agreements for water quality projects. The proposed Washington Street Sewer Bypass Project may be partially funded with a loan through the CWSRF Loan Program. The program is nationally administered by the United States Environmental Protection Agency (USEPA), and in certain instances the administration has been delegated to the individual states. In California, administration of the CWSRF program has been delegated to the State Water Resources Control Board (SWRCB). In turn, the SWRCB requires all projects being considered under the CWSRF program to comply with CEQA and certain federal environmental protection laws, including the federal Endangered Species Act (Section 7), the National Historic Preservation Act (NHPA; Section 106), the General Conformity Rule for the Federal Clean Air Act (FCAA), and other executive orders and federal regulations. Collectively, the SWRCB refers to these requirements as "CEQA-Plus."

This IS-MND has been prepared in accordance with the *State Environmental Review Process for the Clean Water State Revolving Fund Program* (SWRCB 2017) and is expanded beyond the typical content requirements of an IS-MND to include additional CEQA-Plus information. The SWRCB is a CEQA Responsible Agency for the proposed project and would consider this CEQA document prior to CWSRF loan authorization.

1.5 Project Location

The project site is located in Castroville, a census-designated place in Monterey County, on Assessor's Parcel Numbers (APNs) 133-143-016, 030-141-022 and -023, and the California Department of Transportation (Caltrans) right-of-way (ROW) that lies between them along State Route (SR) 1. Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space. Portions of the project site are within the Coastal Zone, as established by the California Coastal Commission.

The project site includes an existing Monterey One Water (M1W) pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street/SR 183, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1. The project site is relatively flat and varies in elevation from seven feet above mean sea level at each end of the pipeline to 29 feet at SR 1. The project site is approximately 1.8 miles east of the Pacific Ocean and approximately 250 feet north of Tembladero Slough.

Figure 1 shows the project site's regional context, and Figure 2 shows the project site at a local scale. Figure 3 shows the Monterey County zoning designations surrounding the site, the Caltrans ROW, and the Coastal Zone boundary.

1.6 Project Sponsor's Name and Address

Castroville Community Services District
11499 Geil Street
Castroville, California 95012

Figure 1 Regional Project Location

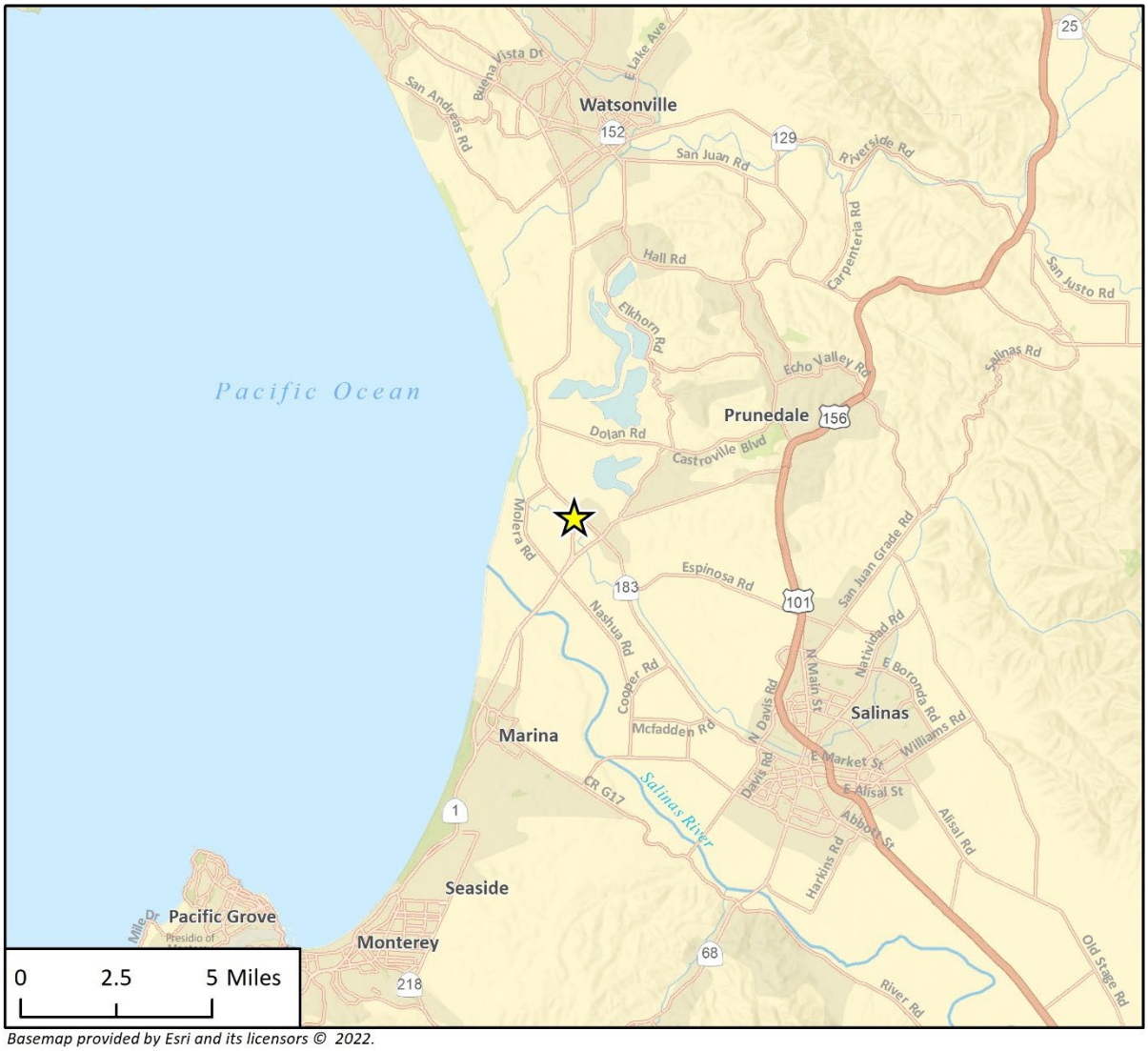

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Figure 2 Project Site Location

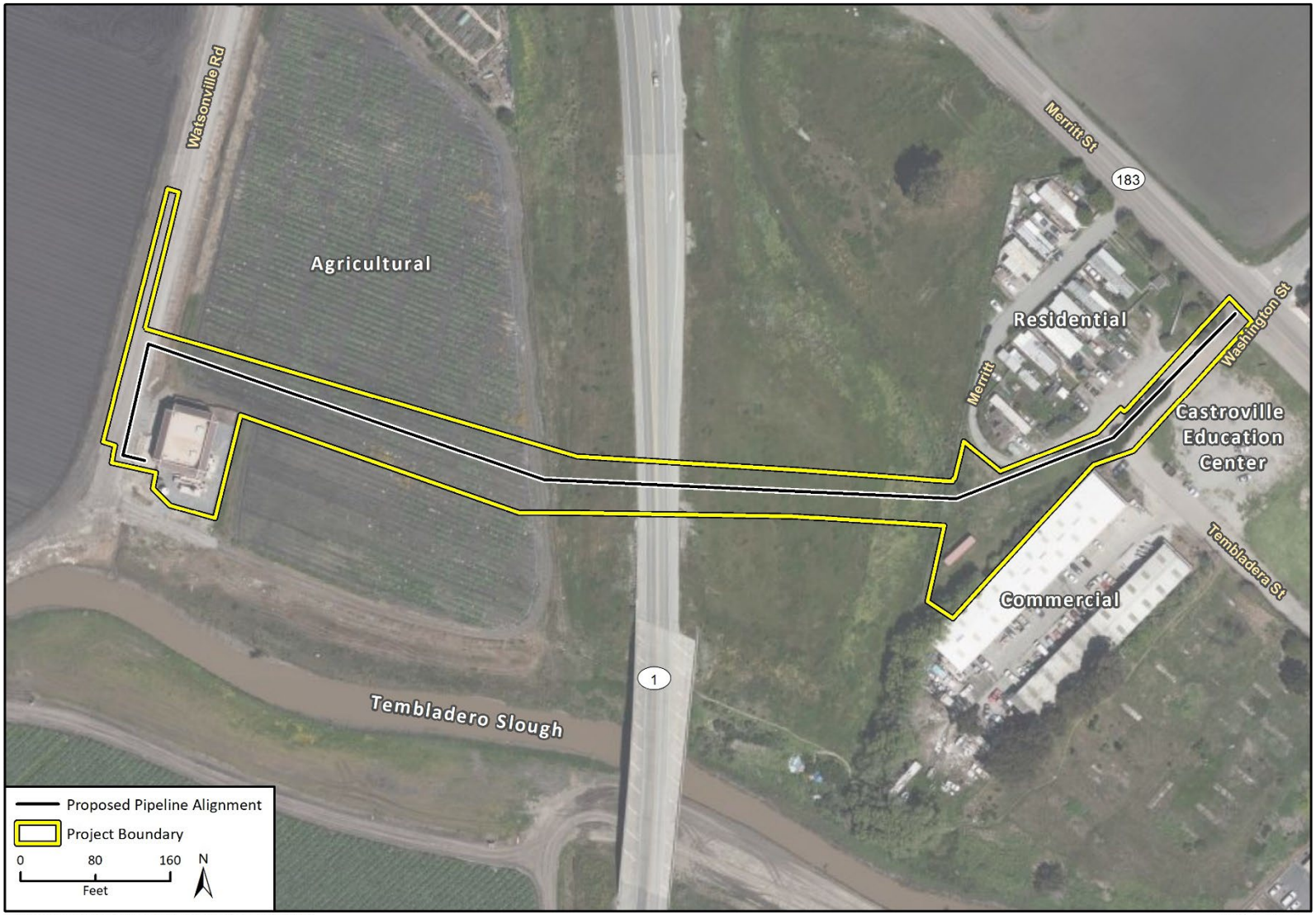

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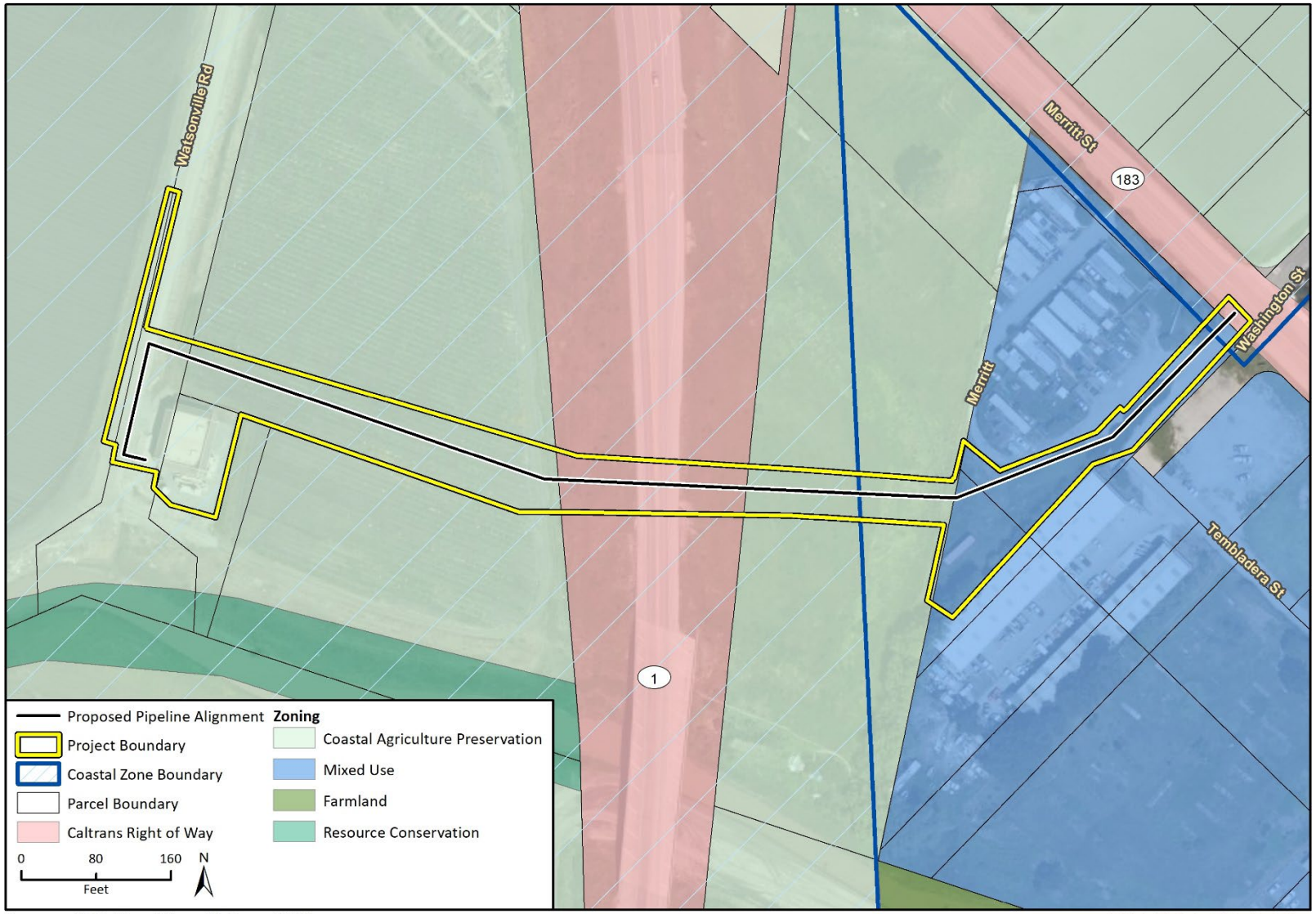
Fig 2 Project Location

Figure 3 Project Site Zoning, Caltrans Right of Way, and Coastal Zone



1.7 General Plan Designations

Mixed Use (Castroville Community Plan), public rights-of-way

1.8 Zoning

Mixed Use (MU-C), Coastal: Agricultural Preservation (CAP-CZ), County rights-of-way

1.9 Description of Project

Project Background

The Castroville Community Services District (District) provides services to customers in the Castroville area of Monterey County. Services provided include water, sewer, stormwater, street lighting, and recreational facilities. The District approximately serves 2,000 residential, commercial, and industrial connections (District 2022).

Currently, the District operates an existing 18-inch sewer line beneath Watsonville Road and Merritt Street/SR 183. There is also an existing abandoned 10-inch sewer line in this location, which roughly follows a portion of the proposed alignment (Figure 2) on the east side of SR-1. In 2013, M1W (formerly the Monterey Regional Water Pollution Control Agency) updated its Wastewater Collection System Master Plan. This updated plan identified the project as an essential improvement needed to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station located on Watsonville Road near the unincorporated community of Castroville. The existing conveyance system is difficult to access and maintain and is under capacity. According to the District, proposed developments identified in the 2006 Castroville Community Plan will exacerbate capacity issues without implementation of the project.

Project Description

The proposed project would involve installation of a 24-inch trunk sewer main, approximately 1,400 feet in length, from the intersection of Washington Street and Merritt Street/SR 183 to the corner of Washington Street and Tembladera Street in the unincorporated community of Castroville, then across undeveloped areas and underneath SR 1 to the M1W pump station located at the south end of Watsonville Road. The proposed 24-inch sewer line would bypass the existing 18-inch sewer line within Watsonville Road to 18-inch sewer upstream of the M1W pump station. The existing 18-inch sewer line would remain in place as an emergency overflow line. The purpose of the project is to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station, and to improve the accessibility of the sewer line in this location.

Pipeline construction would consist of conventional open-cut trench methods and a trenchless crossing to install a segment beneath SR 1.

Construction

Project construction would occur over approximately seven months from May 2024 to November 2024. The project would be constructed in five phases, outlined in Table 1 and described further below.

Table 1 Proposed Construction Schedule

Construction Phase	Duration	Approximate Start and End Dates
Site Preparation for Trenchless Pipeline Installation	2 weeks	May 2024
Pipeline Installation (trenchless)	1 month	June 2024 – July 2024
Site Preparation for Trenched Pipeline Installation	1 month	June 2024
Pipeline Installation (trenched)	4 months	July 2024 – October 2024
Paving and Ground Restoration	1 month	October 2024 – November 2024

Construction work would occur Monday through Friday, from 8:00 a.m. to 6:00 p.m. Construction equipment would be staged on site, as shown in Figure 4.

Site Preparation

Site preparation for trenchless and trenched pipeline installation would occur immediately prior to each phase. During site preparation activities, the project would remove vegetation and existing pavement along the open-cut trench alignment and trenchless exit and entry points. Any existing pavement would be cut and removed from the project site to be recycled or disposed of at an appropriate facility. The project would remove existing ornamental hedges located within the proposed pipeline alignment on Washington Street, to be replaced upon completion of installation if desired and in coordination with the property owner. In addition, the project would result in the disturbance of approximately 0.7 acre of landscaped vegetation within the construction work and laydown areas east of SR 1. Upon completion of pipeline installation activities, the project would involve replanting of shrubs at the intersection of Washington Street and Merritt Street within the proposed work area if desired and in coordination with the property owner.

Easements within the agricultural land and along the residential areas would be established. The type of vegetation to be replanted in disturbed areas could be determined by agreements with the existing landowner associated with the construction easement.

Pipeline Installation

During the trench and trenchless pipeline installation phases, approximately 3,000 cubic yards of soil would be excavated, of which approximately 2,700 cubic yards would be used as fill. Approximately 300 cubic yards of soil would be imported from off-site sources, and approximately 300 cubic yards of soil would be exported off-site. Haul trucks would utilize SR 1, Merritt Street/SR 183, Washington Street, Tembladera Street, and Watsonville Road to transport demolition debris and soil material to the Monterey Peninsula Landfill near the City of Marina, approximately four miles south of the site, or another location as determined by the construction contractor.

Pipeline installation would occur underneath or within roadways located within Caltrans ROW, including SR 1 and along Merritt Street/SR 183. As part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. Traffic control plans would be developed to maintain residential and commercial site access to adjacent land uses.

TRENCHLESS INSTALLATION

Trenchless installation would involve the use of a drilling rig to create an underground pathway beneath the Caltrans ROW along SR 1. The drilling rig would install a 36-inch steel casing through

Figure 4 Project Construction Areas

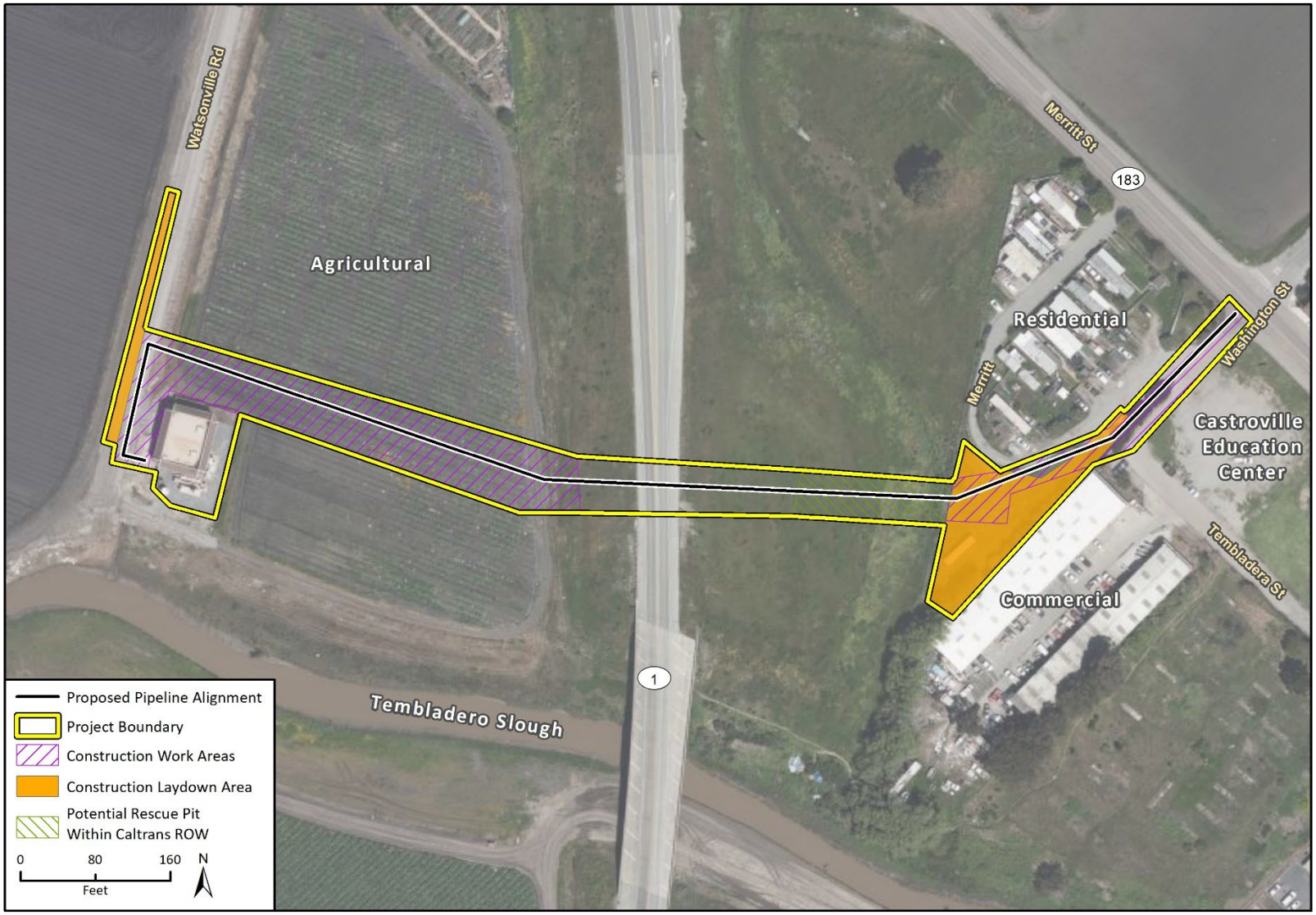


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Fig 3 Project Components

the underground pathway without disturbing the ground surface within the SR 1 Caltrans ROW. The 24-inch sewer line itself would be installed during the open-cut trench installation phase.

An entry pit would be dug on the west side of SR 1, where trenchless drilling would begin within the pit. The entry pit would be approximately 40 feet long, 15 feet across, and 10 feet deep. An exit pit would be installed on the east side of SR 1, where the trenchless drilling equipment would exit the soil. The exit pit would be approximately 12 feet long, 12 feet wide, and 15 feet deep. During trenchless installation, a 235-horsepower diesel generator would be used to power construction equipment. It is estimated the diesel generator would be used for two days for up to 12 hours per day, and an additional eight days for up to eight hours per day.

Trenchless pipeline installation would occur at a maximum depth of 30 feet below ground surface. Trenchless construction activities would also occur during normal working hours of Monday through Friday, from 8:00 a.m. to 6:00 p.m.

Due to the length of the trenchless pipeline installation, there is a possibility that drilling equipment could become stranded within and underneath SR 1 right of way during construction. Should this occur, a rescue pit within the Caltrans ROW would be installed to the east side of SR 1. If necessary, the rescue pit would be 15 feet long, 15 feet wide, and excavated to a maximum depth of 30 feet to provide access to the trenchless installation equipment. Figure 4 shows the area in which a potential rescue pit within Caltrans right-of-way could be required. To account for this possibility, this analysis conservatively assumes the potential rescue pit would be required.

OPEN-CUT TRENCH INSTALLATION

Conventional open-cut trench methods would be used to install the remainder of the pipeline alignment, including in the agricultural field west of SR 1, the undeveloped area east of SR 1, and within the ROW of Washington Street and Merritt Street/SR 183 east of SR 1. Excavation would occur at a maximum depth of 15 feet, and sections of the 24-inch sewer main would be placed along the excavated pipeline pathway. Excavated soil would either be hauled away for disposal or temporarily stored adjacent to the trenches or in construction laydown areas to be used as trench backfill. The segment of 24-inch gravity sewer beneath SR 1 would be placed in the 36-inch steel casing installed during the trenchless installation phase.

An agricultural drainage ditch is situated on the western edge of the agricultural field west of SR 1, running north to south along the eastern shoulder of Watsonville Road. The drainage ditch is likely under the jurisdiction of the United States Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). To comply with applicable regulations and jurisdictional permits, a pump with an intake filter would be used to temporarily divert flows within the drainage ditch around the section where open-cut trench sewer line installation would occur. It is anticipated this temporary bypass would be in place for approximately one day to accommodate pipeline installation activities through the drainage ditch. A biological resources pre-construction survey and biological monitoring would be undertaken during pumping activities in the drainage ditch. Section 2.4, *Biological Resources,* contains further details regarding the drainage ditch, jurisdictional permitting, and potential impacts to biological resources.

Groundwater may be encountered during trench installation on the west side of SR 1. If groundwater is encountered during excavation for trench pipeline installation, dewatering of the soil would be required. To account for this possibility, this analysis conservatively assumes dewatering would occur for the entire five-month duration of pipeline installation. Dewatering

waste would either (1) be discharged into an on-site infiltration pit, or (2) be treated and then discharged through the new sewer to the M1W pump station. The location of the on-site infiltration pit would be determined by the project construction contractor.

Paving and Ground Restoration

This final phase of construction would involve repaving portions of Washington Street and Merritt Street/SR 183 and restoring the ground surface of the agricultural lands excavated for trench pipeline installation. As described above, excavated areas would be filled with previously excavated soil and an additional 300 cubic yards of imported soil. The project would disturb approximately 0.6 acre of agricultural land during open-cut trench sewer line installation. Agricultural topsoil would be stockpiled separate from other soils and backfill, and would be restored after completion of pipeline installation.

Operation and Maintenance

Once construction of the proposed project is complete, the operation and maintenance needs of the sewer main would be reduced compared to the existing sewer line. Because of the new and improved facilities, the new sewer line would require fewer maintenance trips than the existing under-capacity sewer. The project would not introduce new electricity demands or staffing needs.

Project Design Features

The following project design feature (PDF) would be incorporated into the project.

PDF-1 Construction Best Management Practices

To avoid and/or minimize potential direct and indirect impacts associated with construction, the following Best Management Practices (BMPs) will be implemented:

a. Fugitive dust from ground disturbance activities will be minimized using water trucks and covering of soil stockpiles. Soil will not be stockpiled adjacent to the drainage ditch within the project site nor along project site boundaries adjacent to Tembladero Slough. Exposed areas will be watered up to three times daily as needed.
b. Prior to project mobilization, all limits of construction work adjacent to potentially jurisdictional waters will be clearly delineated with construction fencing or similar highly visible material and maintained throughout the duration of construction.
c. Drain inlets in the vicinity of the project site will be protected from construction runoff. Berms, silt fences, fiber rolls, covers, sand/gravel bags, and or straw wattles will be placed along slopes and property lines, in particular along Watsonville Road along the drainage ditch and the project site boundary adjacent to Tembladero Slough, to prevent construction runoff.
d. All vehicles and equipment will be in good working condition and free of leaks. The contractor will prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans will be placed below vehicles to contain fluid leaks.
e. Material storage and material/spoils from project activities will be located and stored 100 feet from waterways. Adequate spill prevention and response equipment will be maintained on site and readily available to implement to minimize impacts to the aquatic environments.
f. Off-site tracking of loose construction and landscape materials will be prevented by providing anti-tracking strips at entrances to the project site.

The District would implement additional construction BMPs as required to comply with Section 4 of the Monterey Regional Storm Water Management Program.

1.10 Coastal Zone

As shown in Figure 3, most of the project site is located in the Coastal Zone, as established by the California Coastal Commission. The California Coastal Commission has planning, regulatory, and permitting responsibilities, in partnership with local governments, for development occurring within the Coastal Zone, an area along the coastline of California. The County of Monterey maintains a Local Coastal Program (LCP), a planning document identifying allowable development within the Coastal Zone that must be certified by the California Coastal Commission. The LCP allows the County to issue Coastal Development Permits, which are required for development in the Coastal Zone. The County's LCP was certified by the California Coastal Commission in 1986, with amendments to the LCP certified in the years following, most recently in 2020.

The California Coastal Commission appeals jurisdiction includes areas within 100 feet of any wetland, estuary, or stream, among other conditions; because the project would be located within 100 feet of Tembladero Slough, the project site is considered to be in the appeals jurisdiction. None of the project site is located within the California Coastal Commission's retained permit jurisdiction. As noted in Table 2, the project would require a Coastal Development Permit from the County of Monterey.

1.11 Other Public Agencies Whose Approval is Required

This project would require permits from other public agencies, outlined below in Table 2.

Table 2 Summary of Potentially Required Approvals

Regulating Agency	Potential Permit/Approval	Reason for Permit/Approval
California Department of Transportation (Caltrans)	Encroachment Permit and Traffic Control Plan	Construction of sewer line within Caltrans ROW on SR 1 and Merritt Street/SR 183
County of Monterey	Encroachment Permit	Construction of sewer line within County roadways
	Coastal Development Permit	Construction of sewer line within Coastal Zone

Environmental Factors Potentially Affected

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

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

Determination

Based on this initial evaluation:

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

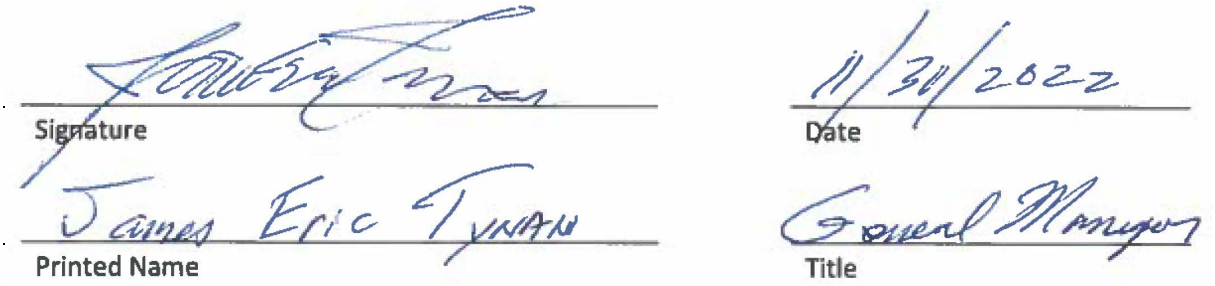
■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or

mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



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2 Environmental Checklist

1 Aesthetics

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

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

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the public benefit. Although the Monterey County General Plan does not define or identify scenic vistas, the Conservation and Open Space Element of the General Plan establishes Goal OS-1 which seeks to retain the character and natural beauty of Monterey County by preserving, conserving, and maintain unique physical features, natural resources, and agricultural operations (County of Monterey 2010). Monterey County's visual resources are linked to its geography and topography. As such, Monterey County offers numerous scenic landscapes including valleys, ridgelines, vegetation, watercourses, coastal views, and travel routes. The County of Monterey defines seascapes and coastal views as one of the most valued visual resources (County of Monterey 2008).

The project site is located primarily within developed or agricultural areas along SR 1 within the unincorporated community of Castroville. Visual resources in the vicinity of the project site consist

of views of agricultural lands on either side of SR 1 and long-range views of hillsides to the east. The Pacific Ocean is not visible from the project site due to distance. The project would involve installation of an underground sewer line on either side and underneath SR 1 between the existing M1W pump station and Washington Street. The entire pipeline would be located belowground and would therefore not be visible following the completion of project construction. During construction, equipment, worker vehicles, and the open-cut trench would be visible from SR 1 and the existing residential and commercial areas along Washington Street and Merritt Street/SR 183. However, construction would occur over approximately seven months; accordingly, impacts to views of agricultural lands and hillsides would be temporary and would return to their existing condition once construction is completed. Therefore, the project would not have a substantial adverse effect on a scenic vista, and no impact would occur.

NO IMPACT

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

According to maps prepared by Caltrans, the portion of SR 1 traversing the project site is eligible for designation as a state scenic highway. SR 156, beginning near its intersection with SR 183 approximately 0.8 mile southeast of the project site, is the closest officially designated state scenic highway to the project site (Caltrans 2018). The project site is not visible from this portion of SR 183 due to distance and intervening development. Further, the project would not require tree removal and would not damage rock outcroppings or historic buildings. Therefore, the project would not substantially damage scenic resources within a state scenic highway, and no impact would occur.

NO IMPACT

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

According to Public Resources Code 21071(a), Castroville is classified as a nonurbanized area because its population is less than 100,000 persons and it is not located adjacent to one or more incorporated cities with populations that would add up to 100,000 persons or more when combined with the population of Castroville. The proposed sewer line would be located belowground and would not result in changes to the existing visual character or quality of public views of the project site and its surroundings. The project would not require tree removal. The project would temporarily stage construction equipment on site and install the open-cut trench within existing agricultural land; however, these impacts would be temporary and would be limited to the project construction period. The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Project construction would occur during daytime only and would not introduce new sources of light or glare at the project site that would adversely affect nighttime views in the area. During

construction, sources of light or glare such as construction equipment or construction worker vehicles would be temporarily located on the project site. These sources of light and glare would be limited only to the construction period and would not adversely affect daytime views of the area. In operation, the proposed sewer line would located entirely belowground, and would not involve lights or reflective surfaces that would adversely affect views in the area. Therefore, light and glare impacts to daytime and nighttime views in the area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

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

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

According to maps prepared by the California Department of Conservation (DOC), the agricultural land within the project site west of SR 1, outside of the SR 1 Caltrans ROW, is designated as Prime Farmland (DOC 2016a). Open-cut trench installation of the sewer line within this agricultural land would result in approximately 0.6 acre of agricultural land being unavailable for use during the seven-month construction period. Excavation for the depth of the open-cut trench would also disturb the soil and topsoil within the project area. During project construction, topsoil (the top 12 to 18 inches of soil) within the area designated as Prime Farmland would be stockpiled and stored separately from other excavated soils and backfill and would be restored once construction is complete. Following construction, agricultural use would continue at its pre-project condition.

Therefore, the project would not convert Farmland to non-agricultural use, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The agricultural lands within the project site west of SR 1, outside of the SR 1 Caltrans ROW, are zoned as Coastal: Agricultural Preservation (CAP-CZ) (County of Monterey 2022a). As discussed under item (a), open-cut trench installation of the sewer line within this agricultural land would result in the temporary disruption of existing agricultural uses. However, construction activities would be temporary and would not result in permanent aboveground land use changes that would conflict with the site's zoning. The DOC's statewide map Williamson Act Contract Lands indicates the project site is not enrolled in a Williamson Act contract (2016b). Therefore, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

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

The project site does not contain forest land or timberland. According to maps prepared by the California Department of Fish and Wildlife (CDFW), the project site is not within an area identified as private timberlands or public lands with forests (CDFW 2019). The site is zoned as Coastal: Agricultural Preservation (CAP-CZ), which does not include forest land or timberland uses (County of Monterey 2022). Therefore, the project would not conflict with existing zoning or cause rezoning of forest land, timberland, or areas zoned for Timberland Production, and would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

NO IMPACT

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

The proposed project would provide additional conveyance capacity from the District wastewater collection system to the M1W pump station in order to meet existing and planned demand, and would improve the accessibility of the sewer line in this location. Upon completion of construction, the aboveground conditions would be restored to match existing conditions. The project would therefore not result in other changes which could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

NO IMPACT

3 Air Quality

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

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides (NO_X), particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Quality Standards and Attainment

The project site is located is located in the North Central Coast Air Basin, which is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). As the local air quality management agency, MBARD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the North Central Coast Air Basin is classified as being in "attainment" or "nonattainment." In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants are already occurring in that area as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. The North Central Coast Air Basin is currently designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM_{10} CAAQS but is either unclassified or designated attainment for all other NAAQS and CAAQS (CARB 2020).[2] The health effects associated with criteria pollutants for which the North Central Coast Air Basin is in non-attainment are described in Table 3.

Table 3 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Nitrogen Dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).

Source: USEPA 2021a

[2] A region is designated nonattainment-transitional for ozone when the standard has not been exceeded on more than three days at any one location during the last year.

Air Quality Management

The California Clean Air Act requires each air district with jurisdiction over a nonattainment area in the state to adopt a plan showing how the CAAQS for the ozone will be met. Most recently, MBARD adopted the 2012-2015 Air Quality Management Plan (2015 AQMP) to demonstrate a pathway for the region to make progress toward meeting the ozone CAAQS. Reducing NO_x emissions is crucial for reducing ozone formation and given that the primary sources of NO_x emissions are mobile sources, the 2015 AQMP primarily includes measures to reduce NO_x emissions, focusing on on-road and off-road vehicles.

Air Pollutant Emission Thresholds

The MBARD (2008) *CEQA Air Quality Guidelines* provide a list of construction and operational air pollutant emissions thresholds as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds.

Table 4 presents MBARD's project-level significance thresholds for construction and operational criteria air pollutant and precursor emissions. These represent levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the North Central Coast Air Basin's existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if construction or operational emissions from the project would exceed the thresholds shown in Table 4.

Table 4 Air Quality Thresholds of Significance

Pollutant	Source	Threshold of Significance
Construction Impacts		
PM_{10}	Direct	82 lbs/day[1]
Operational Impacts		
VOC	Direct and Indirect	137 lbs/day
NO_X	Direct and Indirect	137 lbs/day
PM_{10}	On-site	82 lbs/day[2]
CO	N/A	LOS at intersection/road segment degrades from LOS D or better to LOS E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more
	Direct	550 lbs/day[3]
SO_X, as SO_2	Direct	150 lbs/day

lbs/day = pounds per day; PM_{10} = particulate matter with a diameter of 10 microns or less; VOC = volatile organic compounds (also referred to as ROG, or reactive organic gases); NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; SO_2 = sulfur dioxide; LOS = level of service, V/C = volume-to-capacity

[1] This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM_{10} emissions may occur if a project uses equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBARD (2008) *CEQA Air Quality Guidelines*.

[2] MBARD's operational PM_{10} threshold of significance applies only to on-site emissions, such as project-related vehicle trips along on-site unpaved roads. These impacts are generally less than significant. However, for large development projects, even if almost all travel is on paved roads, entrained road dust from vehicular travel can exceed the significance threshold.

[3] Modeling should be undertaken to determine if the project would cause or substantially contribute (550 pounds per day) to exceedance of the carbon monoxide ambient air quality standards. If not, the project would not have a significant impact.

Source: MBARD 2008

Methodology

Air pollutant emissions generated by project construction and operation were estimated using the Roadway Construction Emission Model (RCEM), version 9.0.0. RCEM uses project-specific information, including the project's land uses, location, and construction parameters, to model construction emissions. The analysis reflects the construction of the project as described under Section 1.9, *Description of Project*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker, vendor, water truck, and haul trips. Construction of the proposed project was analyzed based on the construction schedule and construction equipment list provided by the project's engineering and design team. Construction would begin in May 2024 and occur over the course of approximately 7 months with work occurring Monday through Friday. The project would be constructed in five phases: site preparation for trenchless installation; trenchless pipeline installation; site preparation for open-trench pipeline installation; open-trench pipeline installation; and paving and ground restoration. It is assumed all construction equipment would be diesel-powered. Approximately 300 cubic yards of soil would be imported and 100 cubic yards would be exported. Vendor truck emissions were estimated in RCEM by defining user inputs in the 'Asphalt Hauling Emissions' data entry section because RCEM does not include vendor truck emissions.

As stated in Section 1.9, *Description of the Project,* the operation and maintenance needs of the sewer main would be reduced as compared to the existing sewer line. The new sewer line would require fewer maintenance trips than the existing under-capacity sewer line. The project also would not introduce new electricity demands or staffing needs. Therefore, as emissions from operations and maintenance would be similar or less than existing operations, the operational impacts are discussed qualitatively in this analysis.

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

A project would conflict with or obstruct implementation of the 2015 AQMP if either it induced population such that the population of unincorporated Monterey County exceeds the population forecast for the appropriate five-year increment utilized in the 2015 AQMP or if construction and operational emissions of ozone precursors would exceed MBARD significance thresholds (MBARD 2008).

The proposed project would provide additional conveyance capacity from the District wastewater collection system to the M1W pump station in order to meet existing and planned demand, as the existing conveyance system is under capacity. The project is not intended to accommodate future unplanned development. The project would also not directly generate population growth through construction of housing or creation of substantial employment opportunities. Therefore, the project would not directly or indirectly induce population growth such that the population of unincorporated Monterey County would exceed the population forecast utilized in the 2015 AQMP.

MBARD states construction projects using typical construction equipment that temporarily emit precursors of ozone (VOCs and NO_X) are accommodated in the emission inventories of state and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone NAAQS or CAAQS (MBARD 2008). The project would involve the use of typical construction equipment; as such, construction-related emissions of VOCs and NO_X would be less than significant. MBARD also states a project would contribute substantially to a violation of NAAQs or CAAQs if it would emit 82 lbs/day or more of PM_{10} (MBARD 2008). PM_{10} emissions from

construction of the project would not exceed MBARD thresholds as shown in Table 5 under item (b) below. Therefore, the proposed project would not conflict with or obstruct the implementation of the applicable air quality plan, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction Emissions

Construction activities such as site preparation, grading, construction worker travel to and from the project site, delivery and hauling of construction materials and debris to and from project site, and fuel combustion by on-site construction equipment would generate emissions of ozone precursors (ROG and NO_X), carbon monoxide, and fugitive dust (PM_{10} and $PM_{2.5}$). According to the MBARD guidelines, PM_{10} is typically the greatest pollutant of concern during construction.

The MBARD (2008) *CEQA Air Quality Guidelines* provide project-level thresholds for construction emissions. If a project's construction emissions fall below the project-level thresholds, the project's impacts to regional air quality are considered individually and cumulatively less than significant. Table 5 shows the estimated maximum daily emissions for each year of project construction. As shown therein, project construction would generate maximum daily PM_{10} emissions of approximately 7 lbs/day, which is well below the MBARD threshold of 82 lbs/day. In addition, MBARD states construction projects using typical construction equipment that temporarily emit precursors of ozone (VOCs and NO_X) are accommodated in the emission inventories of state and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone NAAQS or CAAQS (MBARD 2008). The project would involve the use of typical construction equipment; as such, construction-related emissions of VOCs and NO_X would be less than significant. Therefore, project construction would not 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, and impacts would be less than significant.

Table 5 Estimated Maximum Daily Construction Emissions (lbs/day)

Construction Year	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
2024	8	61	77	< 1	8	4
Maximum Emissions (lbs/day)	**8**	**61**	**77**	**< 1**	**8**	**4**
MBARD Thresholds	N/A	N/A	N/A	N/A	82[1]	N/A
Threshold Exceeded?	N/A	N/A	N/A	N/A	No	N/A

lbs/day = pounds per day; VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; N/A = not applicable

[1] This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM_{10} emissions may occur if a project uses equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBARD CEQA Guidelines (2008).

Notes: All numbers have been rounded to the nearest whole number. Emissions modeling was completed using RCEM. See Appendix A for modeling results.

Although construction-related air quality impacts would be less than significant, MBARD recommends the use of the following best management practices for the control of short-term construction emissions (MBARD 2008). These measures were not included in the modeling in order to provide a more conservative estimate of air pollutant emissions. However, if adhered to, these best management practices would further reduce air pollutant emissions:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 miles per hour)
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas
- Maintain at least two feet of freeboard on haul trucks
- Cover all trucks hauling soil, sand, and other loose materials
- Plant vegetative ground cover in disturbed areas as quickly as possible
- Cover inactive storage piles
- Sweep streets if visible soil material is carried out from the construction site
- Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall be visible to ensure compliance with Rule 402 (Nuisance)
- Limit the area under construction at any one time

Operational Emissions

Operation of the project would include routine inspections and maintenance of infrastructure; however, maintenance trips and their associated air pollutant emissions would be reduced in comparison to existing conditions. As stated under *Description of Project*, the new sewer line would require fewer maintenance trips than the existing under-capacity sewer. The project would not introduce new electricity demands or staffing needs. Therefore, project operation would not 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, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 ppm or the federal and state eight-hour standard of 9.0 ppm (CARB 2022a).

The project would result in a reduced frequency of operation and maintenance trips needed for the sewer line. Therefore, the project would not result in volumes of traffic that would create, or substantially contribute to, the exceedance of state and federal ambient air quality standards for carbon monoxide. The project would not expose sensitive receptors to substantial pollutant concentrations related to carbon monoxide hotspots, and impacts would be less than significant.

Toxic Air Contaminants

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for demolition, site preparation, trenching, infrastructure installation, paving, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998 (CARB 2022b).

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the proposed project would occur in phases over approximately 7 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose 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. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. However, young children are more sensitive to exposure to some carcinogens than adults. Therefore, OEHHA has implemented age sensitivity factors that take into account the increased sensitivity of children during early development stages (i.e., 3rd trimester exposure to 16 years). Given the age sensitivity factors, exposure at a young age to even short term projects have the potential to result in substantial risk exposure.

The maximum daily PM_{10} emissions would range from 0.75 to 0.92 lbs/day of exhaust (DPM), with the maximum emissions occurring during trenchless pipeline installation activities. The proposed project would be consistent with the applicable AQMP requirements and control strategies intended to reduce emissions from construction equipment and activities. The proposed project would also comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation. Compliance with these requirements would minimize emissions of TACs during construction. However, given the construction area's proximity to nearby sensitive receptors, including residences along Merritt Street/SR 183 and a community college building along Tembladera Street, impacts from TACs could be potentially significant. Implementation of Mitigation Measure AQ-1 would reduce potential impacts to a less than significant level.

The project would not include any mobile or stationary sources of air pollution once operational. Therefore, impacts related to TAC emissions from stationary sources would be less than significant.

Mitigation Measure

AQ-1 Construction Emissions Reduction

- The following measures shall be noted on construction plans and implemented during construction: All mobile off-road equipment (wheeled or tracked) greater than 50 horsepower used during construction activities shall meet the USEPA Tier 4 interim standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 interim standards.

- Alternative Fuel (natural gas, propane, electric, etc.) construction equipment shall be incorporated where available. These requirements shall be incorporated into the contract agreement with the construction contractor. A copy of the equipment's certification or model year specifications shall be available upon request for all equipment on-site.

Significance After Mitigation

With incorporation of Mitigation Measure AQ-1, the project would be required to use off-road diesel-powered construction equipment that meets or exceeds the most stringent and environmentally protective CARB and USEPA Tier 4 off-road emissions standards, or alternatively fueled equipment which would substantially reduce DPM emissions. The Tier 4 standards reduce DPM emissions by approximately 81 to 96 percent as compared to equipment that meet the Tier 2 off-road emissions standards, depending on the specific horsepower rating of each piece of equipment. Thus, with implementation of Mitigation Measure AQ-1, construction activities would not expose sensitive receptors to substantial TAC concentrations that would potentially exceed cancer risk greater than ten per one million population. Construction-related health impacts would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

During construction activities, temporary odors would be generated by vehicle exhaust and construction equipment. Construction-related odors would be short-term and would cease upon completion. In addition, MBARD Rule 402 prohibits the discharge of air contaminants or other emissions that would cause a nuisance or detriment to a considerable number of persons or to the public, with the exception of odors from agricultural activities. Compliance with Rule 402 is required and would further reduce construction odor impacts. Therefore, project construction would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

Land uses typically producing odorous emissions include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (MBARD 2008). The project includes replacement and rehabilitation of existing wastewater conveyance facilities that are primarily located underground and are sealed, which would reduce the potential for odorous emissions. Minor quantities of odorous emissions may be released along the pipeline alignment from vents and release valves. However, these odor sources are not new to the project area, and emissions would be temporary and limited to the immediate vicinity. Therefore, project operation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

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

Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies

within the land use control and planning authority of local jurisdictions (in this instance, the County of Monterey). The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the State under CEQA and also has direct jurisdiction under the California Fish and Game Code (CFGC). Under the California and federal Endangered Species Acts, CDFW and the United States Fish and Wildlife Service (USFWS) also have direct regulatory authority over species formally listed as threatened or endangered and species protected by the Migratory Bird Treaty Act (MBTA).

The following analysis is based primarily on the Biological Resources Assessment (BRA) prepared for the project by Rincon Consultants, Inc. (Rincon), which is included as Appendix B. For the purposes of this analysis, the study area is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts to biological resources. As part of the BRA, Rincon conducted a field reconnaissance survey of the Study Area in September 2022.

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

Special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by USFWS or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by CDFW under the California Endangered Species Act; and animals designated as "Species of Special Concern" by CDFW or "Fully Protected" under the California Fish and Game Code. Rookery sites for species that nest colonially, such as bat maternity roosts, are also treated as special status. In addition, species designated as locally important by a local agency and/or otherwise protected through ordinance or local policy are considered special status species. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and are considered as such in this document. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are part of a unique community, from the type locality, designated as rare or significant by local governments or where cumulative impacts could result in population–level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant, are not part of a unique community, and the Study Area is not known to be the type locality for any ranked plant species. Therefore, CRPR 3 and CRPR 4 species were not included in this analysis (Appendix B).

Special-status Plant Species

Based on the database and literature review performed for the BRA (Appendix B), 36 special status plant species are known to occur or have the potential to occur within the vicinity of the project site. However, due to development, landscaping, and agricultural use throughout most of the project site, and lack of native coastal vegetation communities, none were determined to have a moderate or greater potential to occur within the project site. No impact would occur.

Special-status Wildlife Species

Of the 39 special-status wildlife species evaluated in the BRA (Appendix B), two species, western pond turtle (*Emys marmorata*) and California red-legged frog (*Rana draytonii)*, have a moderate and

low potential, respectively, to occur in the project site. Western pond turtle is a CDFW Species of Special Concern found in ponds, lakes, rivers, creeks, marshes, and irrigation ditches, with abundant vegetation. It requires basking sites of logs, rocks, cattail mats, or exposed banks. There is one known occurrence of this species within five miles of the project site; this occurrence was observed in a freshwater marsh approximately 4.8 miles east of the site. The potential for this species is limited to portions of the project where suitable habitat exists, including Tembladero Slough and adjacent ruderal habitat. California red-legged frog is federally listed as threatened and is also a CDFW Species of Special Concern throughout its range. The current range of California red-legged frog extends along the coast from Mendocino County south to Mexico and inland from parts of the southern Cascade and northern Sierra Nevada ranges south to Fresno County. California red-legged frog inhabits quiet pools of streams, marshes, and ponds.

Project construction activities could directly impact western pond turtle and California red-legged frog by resulting in injury of individuals or destruction of breeding habitat, which constitute potentially significant effects. Implementation of Mitigation Measures BIO-1 and BIO-2 would be required to reduce potential impacts to western pond turtle and California red-legged frog to a less-than-significant level.

Other Protected Species

Non-game migratory birds protected under CFGC Section 3503 have the potential to breed within the project site. Native avian species common in coastal scrub, landscaping, developed, and ruderal areas have the potential to breed and forage throughout the project site. Species of birds common to the area that typically occur in the region, such as black phoebe (*Sayornis nigricans*), cliff swallow (*Petrochelidon pyrrhonota*), and other common California native bird species are likely to utilize the project site for nesting. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the project site.

Direct impacts to nesting birds may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds from construction would be potentially significant. Implementation of Mitigation Measure BIO-3 is required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-1 Western Pond Turtle Avoidance and Minimization

- A qualified biologist(s) shall conduct a pre-construction survey within 48-hours prior to the onset of work activities, as well as surveys and/or monitoring during initial disturbance of potential western pond turtle habitat. If this species is found and the individuals are likely to be injured or killed by work activities, the approved biologist shall have the authority to stop work and sufficient time to move them from the project site before work activities begin or restart. The biologist(s) must relocate any western pond turtle the shortest distance possible to a location that contains suitable habitat that is not likely to be affected by activities associated with the proposed project.
- If a western pond turtle egg clutch is discovered during pre-construction surveys, the location shall be surrounded with high visibility fencing under the guidance of a qualified biologist. The

nest shall be avoided by construction until a qualified biologist determines that the clutch has hatched. If, during construction, a western pond turtle nest is discovered, construction shall cease immediately upon the discovery and the qualified biologist notified. The same procedure described above shall then be applied.

- To the extent feasible construction activities shall be scheduled outside of the typical nesting season for western pond turtle (April-August).

BIO-2 California Red-legged Frog Avoidance and Minimization

- A qualified biologist(s) shall conduct a pre-construction survey within 48-hours prior to the onset of work activities, as well as surveys and/or monitoring during initial disturbance of potential California red-legged frog habitat or as otherwise directed by the USFWS. The USFWS should be notified if a California red-legged frog, in any of its life stages, is observed within the project site.
- Construction crew shall be taught prior to construction to check beneath the staging equipment each morning prior to commencement of daily construction activities. Should California red-legged frog occur within the staging areas, construction activities should be halted until the California red-legged frog vacates the area on its own or until a biologist with USFWS approval relocates the California red-legged frog.
- Prior to ground disturbance, a temporary wildlife exclusion barrier should be installed along the limits of disturbance. A qualified biologist should inspect the area prior to barrier installation. The barrier should be designed to prevent California red-legged frog from entering the project area and should remain in place until all development activities have been completed. This barrier should be inspected daily by a qualified biologist or the qualified biologist's designee and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs on the outer side of the barrier.
- A qualified biologist should be present during all grading and initial ground disturbing activities. Should California red-legged frog be observed within the study area, the USFWS should be notified, and construction should be halted until either the California red-legged frog exits the site on its own or until a biologist with USFWS approval relocates the California red-legged frog.
- No work should occur during a rain event (over 0.25 inch). If a rain event occurs, a qualified biologist should inspect the site again prior to resuming work.

BIO-3 Nesting Bird Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction activities:

- Initial site disturbance should occur outside the general avian nesting season (February 1 through September 15), if feasible.
- If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist shall conduct a pre-construction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey shall include the entire area of disturbance area plus a 50-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer should be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required and/or smaller buffers may be established

depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.

- If construction activities in a given work area cease for more than 14 days, additional surveys shall be conducted for the work area. If active nests are located, the aforementioned buffer zone measures shall be implemented.

Significance After Mitigation

Implementation of Mitigation Measure BIO-1 would minimize potential impacts to western pond turtle, a special-status species, through preliminary detection of individuals within the project site through a pre-construction survey and implementation of avoidance, minimization, and mitigation measures should any western pond turtle or egg clutch be encountered during the survey. Implementation of Mitigation Measure BIO-2 would similarly minimize potential impacts to California red-legged frog, a special-status species, through preliminary detection and implementation of avoidance, minimization, and mitigation measures. Finally, implementation of Mitigation Measure BIO-3 would reduce the potential for project construction activities to result in the loss of active bird nests through a pre-construction nesting bird survey and establishment of avoidance buffers around active nests, if present. Overall, implementation of these measures would reduce project impacts to special-status plant and wildlife species to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in the California Natural Diversity Database. Seven sensitive natural communities are known to occur within the seven-quadrangle search area, none of which were observed in the project site during the field reconnaissance survey - central dune scrub, central maritime chaparral, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, and Northern Coastal Salt Marsh. One vegetation alliance listed as sensitive by CDFW was observed in the project site, the small tule patches *Schoenoplectus acutus* [Global Rank GNR3 State Rank S3S44 (Appendix B)].

Only small areas of the project site adjacent to Tembladero Slough contain tules. However, no project elements are proposed in this area and tules only occur at the base of the slope below agricultural access roads outside any practical work area. Therefore, no direct effects to tule habitat or other natural communities would occur during trenching or drilling. However, there is potential for indirect impacts to sensitive habitat to occur, such as introduction of invasive species or incidental trampling of habitat as construction workers move around the area. Therefore, impacts to

3 GNR Unranked — Global rank not yet assessed.
4 S3 - Vulnerable; at moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. S4 - Apparently secure; at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

sensitive plant communities could be potentially significant, and implementation of Mitigation Measure BIO-4 would be required to reduce impacts to a less-than-significant level.

The project is located within the Coastal Zone. The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from environmentally sensitive habitat within the drainage along Watsonville Road, including those contained in the Monterey County LCP and the Monterey County Code (see Section 5.5, *Local Policies and Ordinances,* of Appendix B).However, due to construction activities occurring directly adjacent to the environmentally sensitive habitat and pumping activities within the drainage, Mitigation Measure BIO-4 would be required.

Mitigation Measures

BIO-4 Implement Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

The following measures shall be implemented for project construction activities:

- To the extent feasible, all project activities, including access routes, staging areas, stockpile areas, and equipment maintenance, shall be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas shall be mapped by a qualified biologist and clearly shown on construction plans. Bright orange protective fencing (e.g., orange snow fencing) shall be installed at the outermost edge of sensitive habitats and shall not be disturbed except as required for project activities.
- Imported soil shall be obtained from a source that is known to be free of invasive plant species.
- Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities.
- Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources and/or previous construction sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the project site. All equipment used on the premises shall be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as feasible from any water body adjacent to the project site in a level staging area. Position parked equipment also over drip pans or absorbent material.
- Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities.
- To the greatest extent feasible, stabilize all exposed or disturbed areas in the project site. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby aquatic features.

Significance After Mitigation

Mitigation Measure BIO-4 would reduce potential impacts to sensitive plant communities and environmentally sensitive habitat though avoidance, installation of protective fencing, use of on-site soils for fill, minimization of vegetation removal, and implementation of construction best

management practices. Implementation of Mitigation Measure BIO-4 would reduce project impacts to sensitive natural communities to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

As discussed in Section 1.9, *Description of Project,* a drainage ditch is situated on the western edge of the agricultural field west of SR 1, running north to south along the eastern shoulder of Watsonville Road. Because the ditch is connected to Tembladero Slough, which in turn connects to Elkhorn Slough, a traditionally navigable waterway, the ditch has a federal nexus and is likely under the jurisdiction of the USACE. In addition, it is likely under the jurisdiction of CDFW because it has surface flows sufficient to support hydric soil conditions, and under the jurisdiction of the RWQCB pursuant to the Porter-Cologne Water Quality Control Act as waters of the State and County of Monterey pursuant to the California Coastal Act and associated Coastal Commission-approved LCP because it meets the one-parameter definition of a wetland and is considered environmentally sensitive habitat area (ESHA).

The project site is within 100 feet of the top of bank of Tembladero Slough; however, no project elements are proposed for this area and no impacts would occur as a result of construction. Further, the drainage ditch is manmade, largely devoid of vegetation, and contains little habitat value. However, there is sufficient hydrology to support aquatic invertebrates and mosquito fish, and is likely under the jurisdiction of the USACE, CDFW, RWQCB and the County of Monterey pursuant to the LCP. Implementation of the project would require trenching to install the new pipeline and restoration of the site to previous conditions. Therefore, the project would not result in permanent impacts or substantial adverse effects to the drainage but would require USACE, RWQCB, CDFW, and County permitting. As a result, impacts would be potentially significant, and implementation of Mitigation Measure BIO-5 would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-5 Drainage Restoration

- Temporary impacts to the drainage shall be mitigated by fully restoring the drainage to pre-project conditions, or as required in permits obtained from regulatory agencies.

Significance After Mitigation

Mitigation Measure BIO-5 would minimize potential impacts to jurisdictional waters or wetlands by limiting the size of staging and construction areas, implementing erosion and sediment control measures, and locating vehicles and construction materials at least 100 feet from the drainage ditch. Implementation of Mitigation Measure BIO-5 would reduce project impacts to jurisdictional waters or wetlands to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The project site is not within any Essential Connectivity Areas (Appendix B) and given the relatively narrow footprint, relatively small size of the project site, degraded nature of Tembladero Slough, and the hazardous nature of the associated roads and agricultural areas, it is unlikely the project site would support a significant movement corridor for wildlife. No impact would occur.

NO IMPACT

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

The Monterey County General Plan (2010) includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats will be affected by new development. Section 2.3 of the County of Monterey's North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits all development within certain environmentally sensitive habitats as well as the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval. The North County Area Plan requires a permit for removal of oak or madrone trees. No oak or madrone trees would be removed as a result of the proposed project. As discussed in the BRA (Appendix B), impacts to special status species and sensitive plant communities (including environmentally sensitive habitats) would be less than significant with incorporation of the mitigation measures. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources.

Mitigation Measures

Mitigation Measures BIO-1 and BIO-2, listed above, would be required.

Significance After Mitigation

Mitigation Measures BIO-1 and BIO-2 would minimize impacts to special status plant and animal species that are known to occur or have moderate potential to occur within the project site, as discussed under item (a). Impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The project site is not subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

NO IMPACT

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5 Cultural Resources

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

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form. Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, the analysis under Threshold A is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.

Methodology and Results of Historic Properties Inventory Report

In October 2022, Rincon conducted a cultural resources investigation and analysis of the project site. This analysis included a cultural resources records search of the California Historical Resources Information System at the Northwest Information Center (NWIC), located at California State University, Sonoma, and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search. Rincon also conducted a pedestrian survey of the project footprint for all locations as part of the study and prepared a cultural resources assessment in the form of a Historic Properties Inventory Report (HPIR) covering the entirety of the proposed project (Appendix C).

The NWIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the project site and a one-mile radius surrounding it. The records search included a review of available records at the NWIC, as well as the National Register of Historic Places (NRHP), the CRHR, the Office of Historic Preservation Historic Properties Directory, the California Inventory of Historic Resources, the Archaeological Determinations of Eligibility list, and historical maps. The NWIC records search identified 85 cultural resources studies conducted within a one-mile radius of the project site, three of which evaluated portions of the project site. The NWIC search identified nine previously recorded cultural resources within a one-mile radius of the project site, none of which overlap portions of the project site.

On August 30, 2022, Rincon Archaeologist Laura Maldonado, MA performed a pedestrian field survey of the project site. The pedestrian survey was conducted by walking a series of north/south oriented transects spaced no more than 10 meters (approximately 30 feet) apart within the project site. Ms. Maldonado examined the project site for evidence of artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discolorations that might indicate the presence of cultural midden, soil depressions, and features indicative of the former presence of structures of buildings (e.g., standing exterior walls, postholes, foundations) or historical debris (e.g., metal, glass, ceramics). No archaeological or built environment resources were identified during the field survey. One building related to the wastewater collection system, the M1W pump station, is located in the western portion of the project site; however, it is not age-eligible and, consequently, was not documented as a part of the HPIR.

An SLF search is completed by topographic quadrangle, and a positive SLF result is returned if any sacred sites are identified within the mapping quadrangle within which a project site is located. However, no specific locational information is provided. The NAHC responded on September 27, 2022, stating the results of the SLF search were positive. The NAHC provided a list of nine Native American contacts who may have knowledge of cultural resources of Native American origin within the APE. Rincon subsequently conducted Section 106 outreach with local Native American groups to

obtain information on known Native American resources located in the vicinity. As a result, concerns from several Tribes regarding the sensitivity of the APE were documented in the HPIR (Appendix C).

Rincon also contacted the County of Monterey Historic Resources Review Board, the Monterey County Historical Society, and the Archives and Special Collections at California State University, Monterey Bay, to request information regarding historical resources in the proposed undertaking APE. Rincon prepared and emailed outreach letters to these groups on September 28, 2022. Follow-up phone calls were conducted between October 11 – 14, 2022. Outreach conversations are summarized in the HPIR (Appendix C).

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

As discussed above, the project site does not contain any built environment historical resources. The M1W pump station does not meet the age threshold to be considered for inclusion in the CRHR and is therefore not considered a historical resource. Therefore, the project would have no impact on historical resources of the built environment.

NO IMPACT

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

As discussed above, the NWIC records search and background research identified nine previously recorded cultural resources within a one-mile radius of the project site, none of which overlap portions of the project site.

Although the project site is identified by the County of Monterey as archaeologically sensitive (see Appendix C), no Native American archaeological resources have been identified within the site. The project site has been heavily graded, tilled, partially paved, and subject to development since the 1950s. The results of the soils analysis indicate the project site is not sensitive for buried resources.

As such, the project has a low likelihood of impacting any buried archaeological resources at the project site. However, the lack of surface archaeology sites does not preclude the existence of subsurface resources. The proposed project would include excavation and trenching. There is always a possibility that unknown buried archaeological resources could be encountered during project ground disturbance that may be considered important examples of California history or prehistory. Impacts are therefore potentially significant and Mitigation Measure CR-1 would be required.

Mitigation Measures

CR-1 Unanticipated Discovery of Cultural Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and impacts to the resource cannot be

avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of CCR Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The District shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS, per CCR Guidelines Section 15126.4(b)(3)(C).

Significance After Mitigation

Mitigation Measure CR-1 includes procedures for the appropriate handling of unanticipated discoveries of cultural resources. Implementation of Mitigation Measure CR-1 would reduce potential impacts to archeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The discovery of human remains is always a possibility during ground disturbing activities, which would be required for the proposed project. In addition to being potential archaeological resources, human burials have specific provisions for treatment in PRC Section 5097. Additionally, California Health and Safety Code Sections 7050.5, 7051, and 7054 contain specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains and protects them from disturbance, vandalism, or destruction. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains and establishes the NAHC as the entity to resolve any related disputes.

If human remains are found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access to the site and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Due to required compliance with PRC Section 5097.98 and California Health and Safety Code Section 7050.5, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

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

As a state, California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2022). The project would only require the usage of petroleum fuels for construction activities and maintenance trips. Therefore, petroleum fuels are the focus of this analysis. Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (United States Energy Information Administration 2022). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with approximately 12.5 billion gallons sold in 2020 (CEC 2022b). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2.9 billion gallons sold in 2020 (CEC 2022b).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project's energy consumption are discussed in detail in Section 2.3, *Air Quality*, and Section 2.8, *Greenhouse Gas Emissions*, respectively.

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

Construction

The project would require site preparation, including hauling material off-site; pipeline installation; and pavement and site restoration. During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to transport materials to and from the site. As shown in Table 6, project construction would require approximately 5,988 gallons of gasoline and approximately 33,194 gallons of diesel fuel. These

construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating every day of construction.

Table 6 Estimated Fuel Consumption during Construction

Source	Fuel Consumption (gallons)	
	Gasoline	Diesel
Construction Equipment & Water Truck/Hauling Trips	--	33,194
Construction Worker Vehicle Trips	5,988	--

See Appendix D for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and impacts would be less than significant.

Operation

The project would not result in additional vehicle fuel demands, as the maintenance needs of the sewer main would be reduced compared to the under-capacity sewer line. As such, the project would result in beneficial impacts related to vehicle fuel demands. The project would also not introduce new electricity demands, and would be consistent with similar water pipeline facilities and equipment used throughout California. Furthermore, the project would not introduce new staffing needs.

Therefore, the project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. No adverse operational energy impact would occur.

NO IMPACT

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

The District has not adopted a plan for renewable energy or energy efficiency with which the project could comply. Goal OS-9 of the Monterey County General Plan (2010) and its related policies are directed at promoting efficient energy usage. The Association of Monterey Bay Area Governments' 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) does not contain policies related to construction emissions, and the project would not include any sources of operational emissions. Therefore, the project would not conflict with the 2045 MTP/SCS and its policies. As detailed under item (a), the project would not introduce new electricity needs to the existing wastewater system and would result in fewer operations and maintenance trips, which

would further Goal OS-9 and its policies. SB 100 mandates 100 percent clean electricity for California by 2045. The proposed project would not consume electricity. However, the existing pump station at the western terminus of the project alignment is powered by the electricity grid and would eventually be powered by renewable energy mandated by SB 100. The project would not conflict with this statewide plan. Additionally, the project area is served by Central Coast Community Energy (3CE), which offers electricity supplied by approximately 31 percent renewable energy in its 3CE Choice program and electricity supplied by 100 percent renewable energy in its 3CE Prime program (3CE 2022). 3CE is subject to the requirements of SB 100 and aims to provide 100 percent clean electricity to all customers by 2030; 15 years ahead of the State's goal. As such, the proposed project would receive electricity that meets or exceeds State requirements for renewable energy generation (3CE 2022). Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

NO IMPACT

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7 Geology and Soils

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

Analysis in this section is based in part on a Soils Engineering Report prepared for the project by Geo Solutions in December 2020, included as Appendix E, and a Paleontological Resources Assessment prepared for the project by Rincon Consultants in October 2022, included as Appendix F.

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

The project site is located in a seismically active area of California; however, the project site is not located in an Alquist-Priolo Fault Zone (DOC 2019). Several known faults, such as the Reliz Fault (approximately 6 miles south), Zayante-Vergeles Fault (approximately 8.5 miles east), Chupines Fault (approximately 12 miles south), San Andreas Fault (approximately 13 miles east), and other faults exist in the vicinity of the project site (United States Geological Survey 2022a). However, these faults do not cross the project site and are not considered "active" for the purposes of the Alquist-Priolo Act because they have not ruptured in the past 11,000 years (DOC 2019). Therefore, the proposed project would not directly or indirectly cause potential adverse effects related to rupture of a known earthquake fault, and no impact would occur.

NO IMPACT

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

The San Andreas Fault system, which is the most active fault system in California, is approximately 13 miles east of the project site. Two other active faults, the Monterey Bay-Tularcitos Fault zone, (approximately 14 miles southwest of the project site) and the Palo Colorado-San Gregorio Fault zone (approximately 30 miles south of the project site) also occur in the county (Monterey County Office of Emergency Services 2022). From 2016 to 2022, Monterey County experienced 30 earthquakes with a magnitude greater than 2.5; however, none had a magnitude greater than 4.7 (United States Geological Survey 2022b).

The project site could be subject to seismic ground shaking during an earthquake along the San Andreas Fault or other active faults in the region. The project involves installation of a new sewer line; a large seismic event, such as a seismic shaking or ground failure, could result in breakage of the proposed sewer line and/or underground leakage from the pipeline. The existing facilities are subject to the same risk; therefore, there would no change in the potential for District facilities to directly or indirectly cause substantial adverse effects involving strong seismic ground shaking as compared to existing conditions. Furthermore, in the event an earthquake compromised a project component during operation, the District would temporarily shut-off the sewer line and conduct emergency repairs as soon as possible. Project design would be required to incorporate the materials and installation standards of the American Water Works Association as required pursuant to Title 22 California Code of Regulations (CCR) Chapter 16, which include appropriate standard engineering practices and specifications in pipeline design to minimize risk of structural failure in a seismic event and would reduce any potential secondary impacts. In addition, design and construction of the project would adhere to recommendations outlined in the Soils Engineering Report to minimize impacts related to excavation and potential dewatering (Appendix E).

Therefore, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is not located within a mapped liquefaction zone (California Geological Survey 2022). The project would not involve any activities (such as fracking or mining) that could trigger an earthquake that would in turn lead to damage from liquefaction. The project would not include habitable structures and would therefore not expose people to loss, injury, or death involving seismic-related ground failure, including liquefaction. Therefore, the project would not directly or indirectly cause potential adverse effects related to seismic ground failure or liquefaction, and no impact would occur.

NO IMPACT

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

The project site is not located in an earthquake-induced landslide hazard zone and is relatively flat (DOC 2021a). Therefore, landslides are not expected to occur within the project site. The project would not include habitable structures therefore not expose people to loss, injury, or death involving landslides. Implementation of the project would not exacerbate the existing risk of earthquake-induced landslides in the immediate vicinity because the project would not directly result in a seismic event or destabilize soils prone to landslide. Therefore, because the project site is not located in an earthquake-induced landslide hazard zone and the project would not introduce new infrastructure to the site that would exacerbate landslide hazards, the proposed project would not directly or indirectly cause potential adverse effects involving earthquake-induced landslides. No impact would occur.

NO IMPACT

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

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. Project construction would include dust control via use of a water truck that would water the construction area two times a day or as needed to prevent dust in areas of grading. Construction would not disturb greater than one acre; as such, coverage under the National Pollutant Discharge Elimination System Construction General Permit would not be required.

Further, as stated under Section 1.9, *Description of Project,* the project would implement PDF-1, *Construction Best Management Practices.* PDF-1 would minimize soil erosion and the loss of topsoil via watering soil stockpiles; installing berms, silt fences, straw wattles, and other runoff barriers to prevent construction runoff; and placing anti-tracking strips at entrances to the project site. In addition to these best practices, agricultural topsoil disturbed by project construction would be stockpiled separate from other soil and would be restored once construction is complete. Therefore, the project would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Although the proposed project would be located in a seismically active area, the project is not located in an earthquake-induced landslide hazard zone or liquefaction zone (DOC 2021a; California Geological Survey 2022). As discussed above under item (b), the project would occur on a relatively flat area that includes an existing sewer line. The proposed project would incorporate all applicable building standards and requirements in compliance with the California Building Standards Code and the American Water Works Association Standards for pipeline installation. Therefore, given the lack of known unstable geologic and soil conditions as well as project compliance with applicable building standards, the proposed project would not significantly affect soil stability or increase the potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No impact would occur.

NO IMPACT

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

The project site is mapped to contain soils composed almost entirely of Clear Lake clay, with small amounts of Elkhorn fine sandy loam (Natural Resources Conservation Service 2022). The borings conducted for the Soils Engineering Report confirmed that the site is underlain almost entirely by clay (Appendix E). Due to the moderate clay content of most on-site soils, there is potential for expansive soils to occur. However, the existing District facilities are subject to the same risk; therefore, there would no change in the potential for project facilities to create substantial direct or indirect risks to life or property as compared to existing conditions. Further, the project would not include habitable structures and would therefore not create substantial direct or indirect risks to life or property beyond existing conditions. As a result, the project would not create substantial direct or indirect risks to life or property as a result of expansive soil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

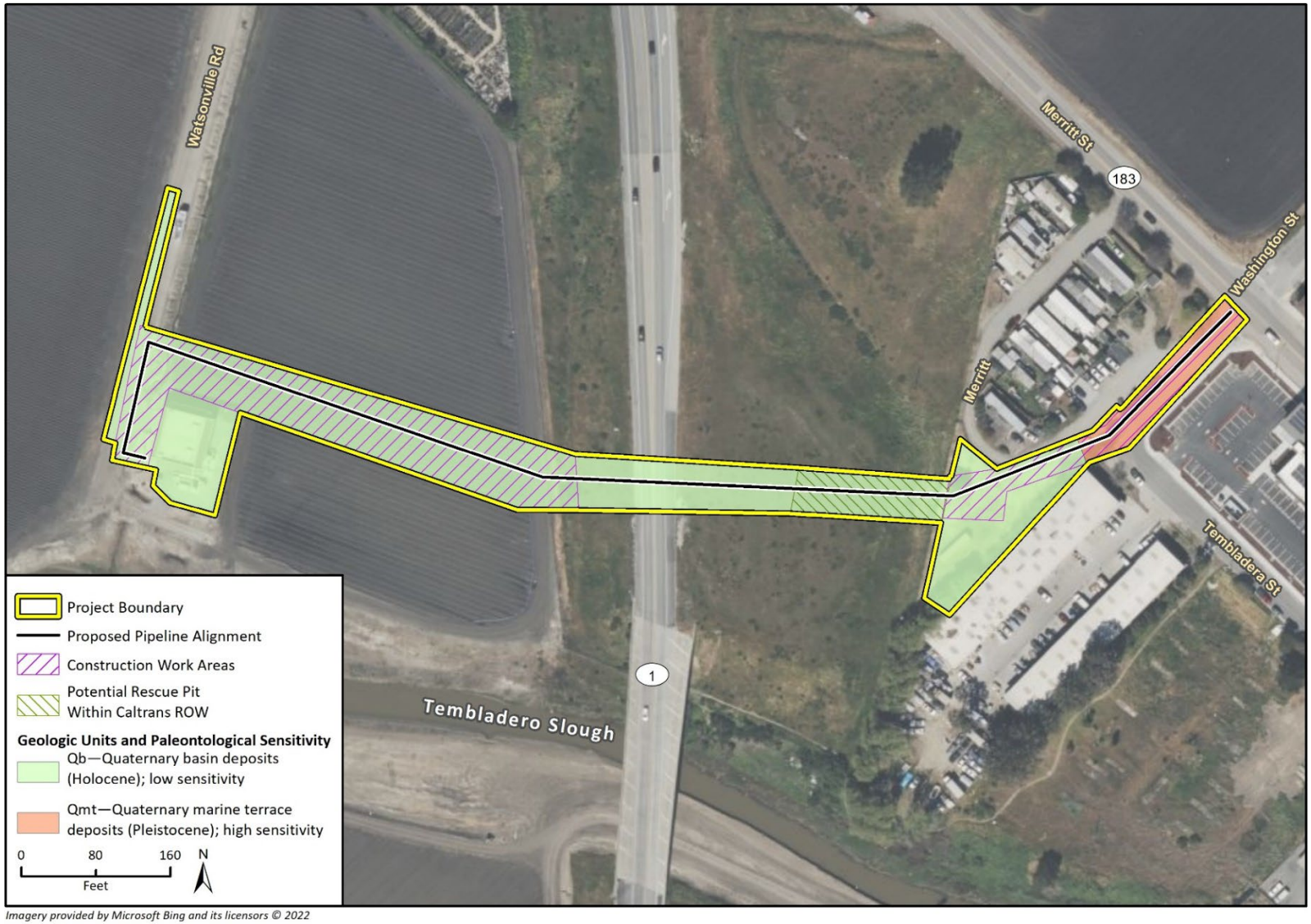
The proposed project involves replacement and upgrade of existing sewer infrastructure that eventually discharges to the M1W Regional Wastewater Facility for treatment. The project does not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

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

A Paleontological Resources Assessment was prepared in September 2022 to determine whether the proposed project would result in significant impacts to paleontological resources (Appendix F). According to this assessment, two geologic units are mapped at the surface underlying project components. As shown in Figure 5, these units consist of Quaternary

Figure 5 Geologic Map of Project Site



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Additioanl data provided by Wagner et al. 2002.

basin deposits (Qb), and Quaternary marine terrace deposits (Qmt). The assessment determined that Quaternary basin deposits have low paleontological sensitivity due to their age; however, the Quaternary marine terrace deposits have high paleontological sensitivity as similar deposits have produced vertebrate and invertebrate fossils throughout California, including in the Monterey Bay region (Appendix F).

Ground-disturbing activities (i.e., grading, excavation, boring, trenching) in sediments with low or no paleontological sensitivity are unlikely to result in significant impacts to paleontological resources under CEQA or adverse effects to paleontological resources under federal environmental protection laws. Previously undisturbed portions of the project site that are underlain by Quaternary marine terrace deposits may result in significant impacts or adverse effects to paleontological resources. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

Excavations for trenchless pipeline installation (i.e., entry pit, exit pit, and rescue pit [if needed]) are anticipated to reach up to 30 feet below ground surface. These excavations will only affect artificial fill and Quaternary basin deposits, sediments with no and low paleontological sensitivity, respectively (Figure 5). Therefore, excavations for the trenchless pipe installation are anticipated to have a less than significant impact/no adverse effects on paleontological resources.

Excavations for the open-cut trench installation (i.e., trenching) are anticipated to reach up to 15 feet below ground surface. Most of the proposed open-cut trench is underlain by low-sensitivity Quaternary basin deposits (Figure 5). However, high-sensitivity Quaternary marine terrace deposits underlie the easternmost part of the proposed trench alignment. Therefore, excavations for the open-cut trench installation in this area may result in significant impacts/adverse effects to paleontological resources.

Mitigation Measure GEO-1 is required to reduce impacts to a less-than-significant level.

Mitigation Measure

GEO-1 Paleontological Resources Monitoring and Mitigation

The following measures shall be implemented during open-cut trench installation in areas mapped as Quaternary marine terrace deposits:

Paleontological Worker Environmental Awareness Program. Prior to the start of construction, a Qualified Professional Paleontologist (as defined by SVP [2010]) or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.

Unanticipated Discovery of Paleontological Resources. In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP (2010) standards.

Significance After Mitigation

Implementation of Mitigation Measure GEO-1 requires a paleontological Worker Environmental Awareness Program training and implementation of measures in the event paleontological resources are encountered. Should such resources be discovered, they would be salvaged, evaluated for significance, and curated in a scientific institution, if appropriate. Therefore, Mitigation Measure GEO-1 would reduce project impacts to paleontological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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8 Greenhouse Gas Emissions

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

Overview of Climate Change and Greenhouse Gas Emissions

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. Most radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[5]

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of

[5] The Intergovernmental Panel on Climate Change's (2021) Sixth Assessment Report determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) Fourth Assessment Report. Therefore, this analysis utilizes a GWP of 25.

1850 through 2019, a total of 2,390 gigatonnes of anthropogenic CO_2 was emitted, worldwide. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO_2, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (United States Environmental Protection Agency 2021a). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (aimed at accelerating the state's Renewables Portfolio Standard Program). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017).

Significance Thresholds

The State of California, MBARD, County of Monterey, and District have not adopted GHG emissions thresholds for land use development projects. Therefore, this analysis utilizes the thresholds published by the Bay Area Air Quality Management District (BAAQMD), which is the air district immediately north of and adjacent to the jurisdiction of MBARD. The use of GHG thresholds developed by the adjoining BAAQMD is considered appropriate by the District because of the broad similarities between the two adjacent air basins. The NCCAB comprises the counties of Santa Cruz, Monterey, and San Benito, with a substantial portion of the air basin located within Santa Cruz and Monterey counties. The San Francisco Bay Area Air Basin that is managed by BAAQMD consists of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties. The areas managed by the two air districts - BAAQMD and MBARD - contain a mix of urban and rural areas and similar emission sources, such as construction, electricity and natural gas consumption, agriculture, and transportation. Given the similarities between the two regions, the District has determined that the thresholds set forth by the BAAQMD are appropriate to use for the project.

To determine if a project's GHG emissions are significant under CEQA, BAAQMD recommends completing a "fair share" analysis to determine how a new land use development project should be "designed and built to ensure it will be consistent with the goal of carbon neutrality by 2045" (BAAQMD 2022). BAAQMD has only recommended thresholds for evaluating a project's operational emissions because "GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions" (BAAQMD 2022). For a project's GHG emissions to be determined less than significant, a project must be consistent with a local GHG reduction strategy that meets the criteria of CEQA Guidelines Section 15183.5(b) or incorporate the following project design elements (BAAQMD 2022):

- Not include natural gas appliances or natural gas plumbing;
- Not result in wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under PRC Section 21100(b)(3) and CEQA Guidelines Section 15126.2(b);
- Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the 2017 Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target reflecting the recommendations provided in the Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018); and
- Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of California Green Building Standards Code (CALGreen) Tier 2.

Methodology

For informational purposes, GHG emissions associated with project construction and operation were estimated using RCEM, version 9.0.0, with the assumptions described under Section 2.3, *Air Quality*. For the purposes of this GHG analysis, it was assumed the project would have a 50-year lifetime. Construction emissions were amortized over the project's estimated 50-year lifetime because construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project.

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

Pursuant to BAAQMD guidance, the project's GHG emissions would be less than significant if the project includes no natural gas appliances or plumbing; would not result in wasteful, inefficient, or unnecessary energy usage; would achieve lower-than-average project-generated VMT consistent with CARB's 2017 Scoping Plan or a locally adopted VMT target; and achieve compliance with CALGreen Tier 2 requirements for off-street electric vehicle spaces (BAAQMD 2022). The project does not include natural gas connections, and as discussed in Section 2.6, *Energy*, the project would not result in wasteful, inefficient, or unnecessary energy usage. Due to enhanced system functions, the project would result in a net decrease in routine inspections and maintenance trips and their associated VMT, as detailed in Section 2.17, *Transportation*. In addition, CALGreen Tier 2 requirements for off-street electric vehicle spaces are not applicable to the project because no residential or nonresidential buildings would be constructed, and the project would not include parking. Therefore, the project would include the requisite project design elements, as applicable, and pursuant to BAAQMD guidance, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

Although impacts would be less than significant as discussed above, calculations of CO_2, methane, and nitrous oxide emissions are provided to disclose the magnitude of GHG emissions generated by the project for informational purposes. Project construction would generate temporary GHG emissions as a result of the use of construction equipment on-site as well as from vehicles transporting construction workers to and from the project site and heavy trucks transporting new materials and exported soil. As shown in Table 7, project construction would generate approximately 380 MT of CO_2e in total, or approximately 7.6 MT of CO_2e per year when amortized over a 50-year period (i.e., the expected lifetime of the proposed project for the purposes of this analysis).

Table 7 Estimated Construction GHG Emissions

Construction Year	Emissions (MT of CO_2e per year)
2024 (Total)	380
Total Amortized over 50 Years	**7.6**

MT = metric tons; CO_2e = carbon dioxide equivalents
See Appendix A for RCEM calculations.

Operation of the project would include routine inspections and maintenance of infrastructure; however, maintenance trips and their associated GHG emissions would be reduced in comparison to existing conditions. No adverse operational impact would occur.

LESS THAN SIGNIFICANT IMPACT

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

The District has not adopted a qualified GHG reduction plan; therefore, there are no regional or local GHG reduction plans that would apply to the proposed project. Nonetheless, the project would be consistent with the 2017 Scoping Plan and would not conflict with SB 32 emissions targets because the project would improve the efficiency of the existing wastewater system, thereby reducing operational GHG emissions associated with electricity usage and routine maintenance trips. The project would not emit a substantial quantity of GHG emissions, as discussed under item (a). Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and there would be no impact.

NO IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

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

Project construction would temporarily increase the transport and use of hazardous materials in the project site through the operation of vehicles and equipment. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities that would pose a significant hazard to the public or construction workers themselves. Furthermore, project construction would require the excavation and transport of paving materials and soils which could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations to minimize potential hazards to construction workers or the surrounding community.

Project operation would involve the conveyance of wastewater and would not require change in the use, storage, or disposal of hazardous materials from existing conditions. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The use, transport, and storage of hazardous materials during construction of the project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. As discussed under item (a) above, operation and maintenance of the project would not involve the routine transport, use, or disposal of hazardous materials. Therefore, potential impacts are limited to the construction period.

The presence of hazardous materials during project construction activities, including but not limited to ground-disturbing activities such as trenching and excavation, could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations, including but not limited to the California Building and Fire Codes, as well as regulations of the federal and State Occupational Safety and Health Administrations. Therefore, the project would not 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, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The nearest school to the project site is the Hartnell College Castroville Education Center, located immediately southeast of the project site's eastern terminus. As discussed above, project construction may involve the temporary transport, storage, use, and disposal of hazardous materials. The management of hazardous materials is governed by several federal, State, and local regulations. Compliance with these laws and regulations would minimize impacts related to

hazardous emissions or the handling of hazardous materials during construction near the Castroville Education Center would be less than significant. In operation, the project would not require the transport, storage, use, or disposal of hazardous materials, and would not result in hazardous emissions. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The following databases compiled pursuant to Government Code Section 65962.5 were checked for known hazardous materials contamination:

- EnviroStor Database, California Department of Toxic Substances Control (DTSC)
- GeoTracker Database, SWRCB

According to the database search, there are no known hazardous material sites within the project site or within 0.25 mile of the project site (DTSC 2022 and SWRCB 2022). The nearest listed cleanup sites are North Monterey County Middle School, located approximately 0.4 mile northeast of the project site, and a leaking aboveground diesel storage tank located at 10499 McDougall Street, approximately 0.3 mile southeast of the project site. EnviroStor classifies North Monterey County Middle School as "No Further Action," and due to this status, the site does not present a hazard in relation to the proposed project. The site located at 10499 McDougall Street is classified as "Completed – Case Closed" by GeoTracker, indicating that environmental clean-up efforts have been completed. Project construction would not disturb either of these sites. Therefore, the proposed project would not be located on a site that is included on a list of hazardous materials site and would not create a significant hazard to the public or the environment as a result. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The closest public or private airport to the project site is the Marina Municipal Airport, located approximately six miles to the south. The project site is not located within this airport's Airport Influence Area (Monterey County Airport Land Use Commission 2019). Thus, the project would not result in a safety hazard or excessive noise for people working in the project area due to proximity to an airport, and no impact would occur.

NO IMPACT

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

The County of Monterey has published an Emergency Operations Plan establishing policies and procedures and identifying responsibilities of key officials and agencies to manage emergencies and disasters within the Monterey County Operational Area. The plan provides information on the County's emergency management structure, protocols for when the Monterey County Emergency Operations Center is activated, and procedures for notification and activation (County of Monterey

2014). The Emergency Operations Plan does not include policies specific to the project site or project activities; therefore, this analysis focuses on the project's potential to generally interfere with emergency response activities in the project site vicinity.

During construction, temporary single-lane closures of Washington Street, Merritt Street/SR 183, and Tembladera Street along the project alignment may be required to accommodate trenching and pipeline installation within the public ROW. As part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County ROW. As described in Section 2.17, *Transportation*, project impacts on circulation would be minor and temporary and therefore would not interfere with emergency response and/or evacuation.

Project operation would be similar to existing conditions, and routine maintenance trips would be reduced in frequency as compared to existing conditions due to enhanced system functions. Project components would be located underground, and therefore would not obstruct access to any roadways or structures. Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site and surrounding area is located within a Local Responsibility Area for Fire Protection Responsibility and is not within a designated Very High Fire Hazard Severity Zone (California Department of Forestry and Fire Protection 2007). However, the project would involve the use of heavy equipment in open vegetated space within the public ROW, which could potentially result in sparks which could ignite surrounding vegetation. Potential ignition sources may include sparks from exhaust pipes, contact of mufflers with dry grass, and spills or releases of flammable materials such as gasoline. The project would be required to comply with applicable regulations relating to construction in vegetated and forested landscapes, including mandatory use of spark arrestors (Public Resource Code [PRC] Section 4442), maintenance of fire suppression equipment during the highest fire danger period (PRC Section 4428), and adherence to standards for conducting construction activities on days when a burning permit is required (PRC Sections 4427 and 4431). With adherence to these regulatory requirements, construction-related wildland fire risks would be less than significant.

The project would not include housing or other structures which could accommodate occupants, and therefore, would not house occupants which could potentially be exposed to risk of loss, injury, or death involving wildland fires. Impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

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

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

The project site is located in the Central Coast hydrological region. The nearest surface water bodies are Tembladero Slough, which is immediately south of the project site, and the Pacific Ocean, which is approximately 1.6 miles west of the project site. During borings conducted for the Soils Engineering Report (Appendix E), groundwater was encountered approximately 29 feet below ground surface at a site east of SR 1, and approximately 3.5 feet below ground surface at a site west of SR 1. Excavation, grading, and construction activities associated with project construction would result in soil disturbance. Stormwater flowing through a construction site can collect sediment, debris, and chemicals, and transport them to receiving water bodies, which could result in potentially significant impacts to surface or ground water quality.

As detailed in Section 2.7*, Geology and Soils*, erosion during project construction would be limited given the relatively small footprint of each project component. As described in Section 2.9, *Hazards and Hazardous Materials,* accidental leaks or spills of hazardous materials that may occur during project construction would be cleaned up and disposed of in accordance with applicable regulations. In addition, as discussed in Section 1.9, *Description of Project,* the project would involve implementation of PDF-1, *Construction Best Management Practices,* which would involve implementation of stormwater and potential pollutant control measures within the project site. Therefore, project construction activities would not substantially degrade surface water quality.

As described in Section 1.9, *Description of Project,* if temporary dewatering activities are required, groundwater would either (1) be discharged into an on-site infiltration pit, or (2) be treated and then discharged through the new sewer to the M1W pump station. Groundwater percolated back into the underlying groundwater basin would not adversely impact groundwater quality because groundwater would be percolated directly back into its source groundwater basin. Therefore, project construction activities would not substantially degrade groundwater quality.

Upon completion of the proposed project, the existing potential for unexpected leaks and/or breakages of existing infrastructure, which could affect water quality, would be reduced due to system improvements. Therefore, operation of the project would not violate any water quality standards or waste discharge requirements or substantially degrade surface or groundwater quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site overlies the Salinas Valley Groundwater Basin (SVGB), for which the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) is the Groundwater Sustainability Agency. The SVBGSA adopted a groundwater sustainability management plan for the SVGB on January 9, 2020.

Dewatering activities, if required, would be temporary and short-term. An on-site infiltration pit would facilitate groundwater recharge within the project site, and wastewater discharged through the existing M1W pump station would be treated at the M1W Regional Wastewater Facility and would primarily be recycled for crop irrigation or purified for groundwater replenishment (M1W 2022). Therefore, dewatering during project construction would not substantially decrease groundwater supplies. No long-term use of groundwater supplies would be required for the proposed project.

Groundwater recharge would not be substantially reduced because the project would not increase the amount of impervious surfaces within the project site, as compared to existing conditions, because the proposed sewer line would be located underground. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner that would impede or redirect flood flows?

The project would involve installation of a new underground sewer line. The project would not include components that would result in alterations to the course of a stream or river. As described in Section 1.9, *Description of Project,* project construction activities would temporarily divert flow of the drainage ditch west of Watsonville Road during open-cut trenching; however, these activities are anticipated to occur within one day, and the drainage ditch would return to existing conditions afterward. As described above under item (b), the project would not add impervious surfaces to the site, and ground surfaces would be restored upon completion of construction. Therefore, the project would not alter the existing drainage pattern along the pipeline alignment as compared to existing conditions. No impact would occur.

NO IMPACT

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

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the southwestern portion of the project site is located within a regulatory floodway. The western and eastern ends of the project site would be within Zone AE, which has a one percent annual chance of flood hazard, and the portion of the project site generally within the Caltrans ROW would be within an area with a 0.2 percent annual chance of flood hazard (FEMA 2017). Although the project site would be located within flood hazard zones, the proposed sewer line would be located entirely below ground. Further, the project would not increase the amount of wastewater traveling within

the project site, and would not require storage of hazardous materials or other potential pollutants on site. Therefore, the project would not risk release of pollutants due to flooding.

The project site is located entirely within a tsunami inundation zone, according to DOC Tsunami Inundation Maps (DOC 2021b). The project site is also adjacent to Tembladero Slough, which could be subject to risk of seiche. However, as described above, the project would be located entirely below ground, and would not require storage of chemicals or hazardous materials on-site. Therefore, the project would not present a new risk of pollutant release due to project inundation. Monterey County Code (MCC) Section 16.16.050(F) sets standards for utilities, including requirements for sanitary sewage systems to be designed to minimize or eliminate the infiltration of flood waters into the system and the discharge from systems into flood waters. Therefore, the project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is subject to the 2019 Water Quality Control Plan for the Central Coast Basin (Basin Plan), established by the Central Coast Regional Water Quality Control Board. The Basin Plan establishes narrative and numerical water quality objectives and includes total daily maximum loads, which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region (Central Coast Regional Water Quality Control Board 2019). As discussed under item (a), the proposed project would not generate substantial erosion, and all accidental leaks or spills of hazardous materials that may occur during construction would be remediated in accordance with applicable regulations. Further, the project would involve implementation of PDF-1, *Construction Best Management Practices,* which would reduce the risk of pollutants entering the drainage ditch or Tembladero Slough. As such, the proposed project would not conflict with or obstruct implementation of the Basin Plan.

As mentioned under item (b), the SVBGSA is the Groundwater Sustainability Agency for the SVGB. In January 2020, the SVBGSA adopted a groundwater sustainability management plan, subject to Sustainable Groundwater Management Act requirements. If temporary dewatering activities are required during project construction, groundwater would either (1) be discharged into an on-site infiltration pit, or (2) be treated and then discharged through the new sewer to the M1W pump station. Groundwater percolated back into the underlying groundwater basin would not adversely impact groundwater quality because groundwater would be percolated directly back into its source groundwater basin. Therefore, the project would not conflict with or obstruct implementation of the SVBGSA groundwater sustainability management plan.

Therefore, the project would not increase groundwater extraction, substantially impede groundwater recharge, or interfere with sustainable groundwater management. As such, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

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

a. Would the project physically divide an established community?

The proposed project would bypass an existing underground pipeline with a larger underground pipeline. During construction, pipeline installation along Washington Street and Merritt Street/SR 183 would be temporary in nature and would maintain roadway access, although temporary lane closures may be required during work in public ROW. In operation, the project would be located entirely underground. Therefore, the project would not physically divide an established community, and no impact would occur.

NO IMPACT

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

The project site is located within unincorporated Monterey County, partially within the community of Castroville. The project would bypass an existing underground pipeline in parcels zoned as Mixed Use (MU-C), Coastal: Agricultural Preservation (CAP-CZ), and within public ROW. Pursuant to MCC Sections 20.30.030 and 21.17.030, water system facilities are permitted in Agricultural Preservation and Mixed Use zones. The project would be subject to compliance with the applicable site development standards outlined in MCC Section 20.17.030.

The project would be in furtherance of County of Monterey General Plan Goal PS-4, which aims to ensure adequate treatment and disposal of wastewater (County of Monterey 2010). In addition, the following goal from the Castroville Community Plan would be applicable to the proposed project (County of Monterey 2007):

- **Goal 10:** Continue to ensure that adequate levels of public services and infrastructure are available to meet the needs of new and existing development.

The proposed project would install a sewer line to serve the needs of existing and development planned under the Castroville Community Plan. Therefore, the project would be consistent with the Castroville Community Plan. Furthermore, as noted throughout this document, the project would

result in no impact, less than significant impacts, or less than significant impacts with the incorporation of mitigation measures for all issue areas evaluated, including biological resources, cultural and tribal cultural resources, paleontological resources, and noise. As a result, the proposed project would be consistent with the goals and policies outlined in the MCC, Monterey County General Plan, and Castroville Community Plan as they relate to these topics. The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

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

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

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

According to Mineral Land Classification Maps prepared by the California Geological Survey, the project site is in an area where available geologic information indicates there is low potential for the presence of significant construction aggregate resources (California Geological Survey 2021). The County of Monterey General Plan does not identify specific areas within the county known to contain significant mineral resources (County of Monterey 2010). Regardless, the proposed project would not involve mineral extraction or changes in land use that could affect the availability of mineral resources. The project site is not currently used for mineral resource extraction. Therefore, no impact to mineral resources would occur.

NO IMPACT

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13 Noise

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

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as

one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels.

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this analysis are the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL).

The L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using CNEL, which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 8.

Table 8 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec PPV)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 9.

Table 9 Vibration Annoyance Potential Criteria

	Vibration Level (in/sec PPV)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources[1]
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020

Project Noise Setting

SENSITIVE RECEIVERS

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Noise sensitive receptors generally include schools, parks, residential areas, hospitals, churches, courts, libraries, and care facilities. While neither the District nor the County

define specific noise-sensitive land uses, the County's most stringent noise compatibility standards are for the following land uses: residential (low-density, single-family, duplex, mobile homes), residential (multi-family), transient lodging (hotels, motels), schools, libraries, churches, hospitals, and nursing homes. Noise-sensitive receivers nearest to the project site include single-family residences located approximately 25 feet from the project alignment along Merritt Street, and the Hartnell College Castroville Education Center approximately 130 feet from the project alignment at its nearest point.

AMBIENT NOISE LEVELS

The most common source of noise in the project site vicinity is vehicular traffic (e.g., automobiles, buses, and trucks) on SR 1. Noise levels along SR 1 in the project site vicinity vary from 60 to 70 CNEL, depending on the distances from this roadway (County of Monterey 2010). Ambient noise levels are generally highest during the daytime and rush hour unless congestion substantially slows speeds. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create sustained noise levels. There are no other significant sources of noise in the project vicinity.

Regulatory Setting

The District has not adopted noise thresholds for construction or operational activities; therefore, thresholds outlined in the 2010 Monterey County General Plan and the MCC are utilized in this analysis.

Monterey County General Plan

The 2010 Monterey County General Plan Safety Element contains a land use and noise compatibility matrix (shown in Table 10), which summarizes the normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. Portions of the project site are located within areas designated for residential use or are adjacent to residential properties. According to the County's noise standards shown in Table 10, ambient noise levels up to 60 CNEL or less are normally acceptable for residential uses, which is the most stringent of the land uses adjacent to the project site.

Table 10 Land Use Noise Compatibility Matrix - Community Noise Equivalent Levels (DNL or CNEL, dBA)

Land Use Categories	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential (Low-Density Single-Family, Duplex, Mobile Homes)	<60	55-70	70-75	75+
Residential (Multi-Family)	<65	60-70	70-75	75+
Transient Lodging (Hotels, Motels)	<65	60-70	70-80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	80+
Auditoriums, Concert Halls, Amphitheaters	N/A	<70	65+	N/A
Sports Arena, Outdoor Spectator Sports	N/A	<75	70+	N/A
Playgrounds, Neighborhood Parks	<70	67.5-75	72.5+	N/A

Land Use Categories	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	70-80	N/A	80+
Office Buildings, Business Commercial and Professional	<70	67.5-77.5	75+	N/A
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	75+	N/A

N/A = Not Applicable (The County of Monterey has not established noise level ranges for these categories.)

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: County of Monterey 2010

The following noise-related policies are provided in the 2010 Monterey County General Plan:

- **Policy S-7.4**: New noise generators may be allowed in areas where projected noise levels (shown in Figure 10 of the Monterey County General Plan) are "conditionally acceptable" only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.
- **Policy S-7.5**: New noise generators shall be discouraged in areas identified as "normally unacceptable." Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels will be required.
- **Policy S-7.6**: Acoustical analysis shall be part of the environmental review process for projects when:
  - Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.
- **Policy S-7.8**: All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.
- **Policy S-7.9**: No construction activities pursuant to a County permit that exceed "acceptable" levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to:
  - Constructing temporary barriers, or
  - Using quieter equipment than normal.

- **Policy S-7.10**: Construction projects shall include the following standard noise protection measures:
  - Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
  - All equipment shall have properly operating mufflers; and
  - Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

Monterey County Code

MCC Chapter 10.60 enforces construction and operational noise regulations. MCC Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. MCC Section 10.60.040 limits nighttime noise levels to 45 dBA L_{eq} and 65 dBA L_{max} at 50 feet between 9:00 p.m. and 7:00 a.m. MCC Section 10.60.040(C) provides exemptions to compliance with the exterior nighttime noise level standards, including for equipment used in an emergency, which is defined as a situation arising from fire, explosion, act of God, or act of public enemy which, if not corrected immediately, will potentially result in the loss of life, property or substantial environmental resources. However, there is no exemption provided for nighttime construction noise. The MCC does not include quantitative standards for groundborne vibration.

Noise Level Increases over Ambient Noise Levels

The operational and construction noise limits used in this analysis are set at reasonable levels at which a substantial noise level increase as compared to ambient noise levels would occur. Operational noise limits are lower than construction noise limits to account for the fact that permanent noise level increases associated with continuous operational noise sources typically result in adverse community reaction at lower magnitudes of increase than temporary noise level increases associated with construction activities that occur during daytime hours and do not affect sleep. Furthermore, these noise limits are tailored to specific land uses; for example, the noise limits for residential land uses are lower than those for commercial land uses. The difference in noise limits for each land use indicates that the noise limits inherently account for typical ambient noise levels associated with each land use. Therefore, an increase in ambient noise levels that exceeds these absolute limits would also be considered a substantial increase above ambient noise levels. As such, a separate evaluation of the magnitude of noise level increases over ambient noise levels would not provide additional analytical information regarding noise impacts and is therefore not included in this analysis.

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

Construction Noise

Project construction activities would generate temporary noise in the project site vicinity, exposing sensitive receivers located adjacent to the project alignment on Washington Street to increased noise levels. Construction noise would be generated by heavy-duty diesel construction equipment used for site preparation, trenching, paving, drilling, and ground restoration activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would be short-term and temporary at the

individual locations of project components given that construction at each location would only occur for a fraction of the overall eight-month construction period.

MCC Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. However, the nearest sensitive receivers to the project site are located approximately 25 feet from noise generated by construction equipment. Given the proximity of sensitive receivers to the project site, this analysis assumes a threshold of 85 dBA at 25 feet rather than the established threshold of 85 dBA at 50 feet. This represents a conservative analysis because actual noise levels would be greater at 25 feet.

Table 11 presents estimated construction noise levels at 25 feet for various pieces of heavy equipment anticipated to be utilized for project construction activities. As shown therein, construction equipment noise levels would range from 76 to 93 dBA L_{eq} at 25 feet, which would exceed the threshold of 85 dBA L_{eq} at 25 feet. Therefore, project construction would generate a substantial temporary increase in ambient noise levels in the vicinity of the project, including at nearby noise-sensitive receivers, and impacts would be potentially significant. Mitigation Measure N-1 is required to reduce construction noise impacts to a less-than-significant level.

Table 11 Estimated Construction Equipment Noise Levels[1]

Equipment	Construction Noise Levels at 25 Feet (dBA L_{eq})
Air Compressor	87.5
Backhoe	87.5
Cement and Mortar Mixer	92.5
Concrete/Industrial Saw	83.5
Compactor	89.5
Crane	90.5
Excavator	84.5
Forklift[2]	75.5
Generator	89.5
Front End Loader	87.5
Paver	92.5
Pumps	84.5
Roller	92.5
Sweeper/Scrubber	79.5
Welder	77.5
Threshold	**85**
Threshold Exceeded?	Yes

dBA = A-weighted decibels; L_{eq} = equivalent noise level

[1] FTA provides reference construction noise levels at 50 feet for each piece of equipment. Noise levels at 25 feet for each piece of equipment were calculated using an attenuation rate of 7.5 dBA per doubling of distance.

[2] Because forklift noise levels were not available, noise levels for a manlift were used as a proxy for the purposes of this analysis because these two pieces of equipment are generally similar in size and operational characteristics.

Source: FTA 2018; Federal Highway Administration Roadway Construction Noise Model 2006

Operational Noise

Upon completion, project components would resume operating in a similar fashion to existing conditions. Therefore, project operation would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project, and impacts would be less than significant.

Mitigation Measures

N-1 Temporary Noise Barriers

During construction of the eastern end of the sewer line, temporary noise barriers and/or blankets with a minimum height of eight feet shall be constructed along the entire eastern portion of the project site (along approximately 400 feet of the sewer line alignment) where the project alignment borders residential, commercial, and educational uses on Merritt Street and Washington Street. The temporary noise barriers and/or blankets shall be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations.

Significance After Mitigation

Implementation of Mitigation Measure N-1 would reduce noise levels at the nearest sensitive receivers by approximately 10 dBA. With mitigation incorporated, noise levels at the nearest sensitive receivers would range from approximately 66 to 83 dBA L_{eq} at 25 feet, which would be below the threshold used in this analysis of 85 dBA L_{eq} at 25 feet. Therefore, Mitigation Measure N-1 would reduce the project's construction-related noise impacts to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Construction

Pursuant to Policy S-7.8 of the 2010 Monterey County General Plan, construction equipment that creates vibrations that could cause structural damage to structures within 100 feet of the construction area require additional vibrational analysis. The District and County of Monterey have not adopted quantitative standards to assess vibration impacts during construction and operation. However, Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. The thresholds of significance used in this analysis to evaluate vibration impacts are based on these impact criteria, as summarized in Table 8 and Table 9.

Project construction may require operation of vibratory equipment such as bulldozers and loaded trucks within 25 feet of the residential buildings. As shown in Table 12, vibration levels from individual pieces of construction equipment would not exceed 0.20 in/sec PPV during operation of large bulldozers, which is the threshold at which damage can occur to residential structures, and would not exceed 0.25 in/sec PPV, which is the level at which transient vibration sources are distinctly perceptible. Because the use of construction equipment would not exceed the threshold for structural damage, project construction would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

Table 12 Vibration Levels at Sensitive Receivers

Equipment	Estimated PPV at Nearest Building (25 feet)
Large Bulldozer	0.09
Loaded Truck	0.01
Threshold For Structural Damage to Residential Buildings	**0.20**
Threshold Exceeded?	No
Threshold For Human Annoyance	**0.25**
Threshold Exceeded?	No

See Appendix G for vibration analysis worksheets.

Operation

The proposed project does not include components with the potential to generate significant vibration during operation, such as manufacturing or heavy equipment. No operational vibration impact would occur.

LESS THAN SIGNIFICANT IMPACT

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

The nearest airport to the project site is the Marina Municipal Airport, located approximately 5.8 miles to the south. The project site is not located within this airport's Airport Influence Area (Monterey County Airport Land Use Commission 2019). Because the project site is not located in the vicinity of a private airstrip, airport land use plan, or within two miles of a public or public use airport, the project would not expose people residing or working in the project area to excessive aircraft-related noise. No impact would occur.

NO IMPACT

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14 Population and Housing

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

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

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

The project would involve installation of a sewer line and would not include housing or other infrastructure that would lead directly to population growth. The project would provide additional conveyance capacity from the District wastewater collection system to the M1W pump station in order to meet existing and planned demand. The proposed project would not allow development of land which previously could not be developed due to wastewater service constraints. Furthermore, the project does not include new connections to residences or businesses. As a result, the project would not indirectly induce substantial unplanned population growth. In addition, the project does not include components that would displace existing people or result in the demolition of housing. Therefore, no impact to population and housing would occur.

NO IMPACT

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15 Public Services

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

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

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

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

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

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

The project involves installation of a new sewer line and would not introduce new infrastructure requiring additional fire or police protection services. As described in Section 2.14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Castroville or Monterey County. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives. No impacts would occur.

NO IMPACT

16 Recreation

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

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

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

As described in Section 2.14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Castroville or Monterey County. Therefore, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. The project also does not include recreational facilities or require the construction or expansion of recreational facilities. No impacts related to recreation would occur.

NO IMPACT

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17 Transportation

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

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

The Circulation Element of the 2010 Monterey County General Plan includes goals to facilitate traffic movement and alleviate congestion by protecting public transportation facilities, encouraging land use patterns that reduce automobile dependence, and requiring new development to be located and designed with convenient access to efficient transportation options.

Construction-related vehicle trips would include construction workers traveling to and from the project site, haul trucks (for moving and importing soil), and other trucks associated with equipment and material deliveries. Such trips would occur on area roadways, such as SR 1, Washington Street, Merritt Street/SR 183, and Watsonville Road. Temporary single-lane closures of Washington Street and Merritt Street/SR 183 along the project alignment would be required to accommodate trenching and pipeline installation within public ROW. However, as part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County ROW. Construction equipment and materials would be staged along road shoulders and alongside existing commercial structures, as shown in Figure 4 in Section 1.9. Given that construction would be a short-term and temporary activity, trips would account for a relatively small portion of existing traffic on area roadways, and traffic control plans would be implemented, construction-related traffic impacts would not be substantial. Therefore, project construction would not conflict with a program, plan, ordinance, or policy addressing the circulation system impacts, and impacts would be less than significant.

The proposed project involves installation of a sewer line, which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. Project components would be located underground. Operation of the project

would include routine inspections and maintenance trips. However, maintenance trips would be reduced in comparison to existing conditions due to enhanced system functions. Therefore, project operation would not conflict with a program, plan, ordinance, or policy addressing the circulation system, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. Neither the District nor Monterey County have adopted VMT thresholds, although the 2018 Monterey County Active Transportation Plan includes Policy C-2.4, which encourages a reduction in the number of VMT per person (Transportation Agency of Monterey County 2018). According to CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit and proximity to other destinations.

A VMT calculation is typically conducted on a daily or annual basis for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would be temporarily increased during project construction due to worker trips and the necessary transport of construction vehicles and equipment to the project site. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, after completion of the proposed project, routine operation and maintenance trips for the project would be less frequent in comparison to existing conditions due to enhanced system functions. Thus, operational VMT would decrease as compared to existing conditions. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and no impact would occur.

NO IMPACT

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

The project would not involve the construction of new roads or reconfiguration of roadways or intersections that could result in a substantial increase in traffic hazards. Construction equipment would be primarily staged within the project site outside of roadways, as shown in Figure 4 in Section 1.9, *Description of Project*. However, pipeline installation would require construction equipment within the Washington Street, Merritt Street/SR 183, and/or Tembladera Street. A traffic control plan would be prepared for work within the Caltrans and County ROW as part of the encroachment permitting process, which would minimize the potential for traffic hazards. As such, the project would not substantially increase hazards due to a geometric design feature or incompatible use, and no impact would occur.

NO IMPACT

d. Would the project result in inadequate emergency access?

During construction, temporary single-lane closures of Washington Street, Merritt Street/SR 183, and Tembladera Street along the project alignment may be required to accommodate trenching and pipeline installation within public rights-of-way. As part of the encroachment permitting process,

traffic control plans would be prepared for work within the Caltrans and County ROW. As described above, construction would not result in a significant increase in traffic, and operation of the improved pipeline would not introduce a new source of vehicle trips. The project site is easily accessible by emergency vehicles via SR 1, Watsonville Road, Washington Street, and Merritt Street/SR 183, and the project would not permanently alter emergency access or traffic congestion in the area. As a result, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

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

AB 52 of 2015 expanded CEQA by defining a new resource category, "tribal cultural resources." AB 52 states "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A-B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying

these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

Pursuant to PRC 21080.3.1 and AB 52, the District sent notification letters via email on September 26, 2022 to the following nine Native American tribes that are traditionally and culturally affiliated with the project site:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Esselen Tribe of Monterey County
- Indian Canyon Mutsun Band of Costanoan (Hollister)
- Indian Canyon Mutsun Band of Costanoan (San Jose)
- Ohlone/Costanoan Esselen Nation
- Wuksache Indian Tribe/Eshom Valley Band
- Rumšen Am:a Tur:ataj Ohlone

The District received a response from Chairperson Dee Ybarra of the Rumšen Am:a Tur:ataj Ohlone Tribe requesting consultation under AB 52. The District held a consultation meeting with Chairperson Ybarra and Daniel Quiroga, Cultural Advisor of the Rumšen Am:a Tur:ataj Ohlone Tribe on October 31, 2022. The results of this meeting are summarized below. The District concluded consultation with consensus on November 14, 2022. No other consultation requests were received.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

The SLF search was returned on September 27, 2022 with positive results for sacred lands within the project site. As described above, the District sent notification letters via email to nine Native American tribes that are affiliated with the project site. One Native American Tribe, the Rumšen Am:a Tur:ataj Ohlone Tribe, requested consultation under AB 52. During the consultation meeting held on October 31, 2022, Chairperson Ybarra and Mr. Quiroga indicated the cultural importance and sensitivity of the project area to the Rumšen Am:a Tur:ataj Ohlone Tribe. Consequently, impacts to tribal cultural resources would be potentially significant.

During the consultation meeting, the District and representatives from the Rumšen Am:a Tur:ataj Ohlone Tribe came to a consensus about an appropriate mitigation measure for the proposed project. Mitigation Measure TCR-1, Native American Monitoring, is incorporated herein. In addition, Mitigation Measure CR-1 in Section 2.5, *Cultural Resources,* includes procedures for the appropriate

handling of unanticipated discoveries of cultural resources, including tribal cultural resources. Per Mitigation Measure CR-1, if a discovered resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall be contacted to participate in the evaluation of the resource.

Mitigation Measures

TCR-1 Native American Monitoring

The District shall retain a Native American consultant to conduct Native American monitoring of project-related ground disturbing activities related to the excavation of the receiving and sending pits that are associated with the jack and bore process. Native American monitoring shall be provided by a locally affiliated tribal member. The monitor shall have the authority to halt and redirect work should any Native American archaeological resources be identified during monitoring. If Native American archaeological resources are encountered during ground-disturbing activities, work within 60 feet of the find shall halt, and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology in either prehistoric or historic archaeology shall be contacted immediately to evaluate the find for inclusion in the CRHR and NRHP.

Native American monitoring may be reduced to spot-checking or eliminated at the discretion of the monitor, in consultation with the District, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance would extend to depths not previously reached (unless those depths are within bedrock). The Native American monitor will prepare daily monitoring logs that include a description of construction activities, hours worked, and other applicable observations. In the event Native American archaeological resources are identified, they will be described in the daily monitoring log and the District will be notified.

Significance After Mitigation

Mitigation Measure TCR-1 would require Native American monitoring during excavation of the receiving and sending pits associated with the trenchless pipeline installation process. Mitigation Measure CR-1 includes procedures for the appropriate handling of unanticipated discoveries of cultural resources, including tribal cultural resources. Implementation of these measures would reduce potential impacts to tribal cultural resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

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

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

Water

The project would include installation of a sewer line. The project would not require or result in the relocation or construction of new or expanded water facilities; therefore, no impact would occur.

Wastewater Treatment

The proposed project would itself involve installation of a sewer line, the environmental impacts of which are analyzed throughout this document. No additional environmental impacts associated with the construction or relocation of wastewater facilities would occur beyond those analyzed herein.

Stormwater Drainage

As discussed in Section 2.10, *Hydrology and Water Quality*, the project would have no effect on the amount of impervious surfaces within the project site as compared to existing conditions because the project would be located underground. Therefore, the proposed project would not alter the drainage pattern within the project site and would not increase stormwater flow such that new or expanded stormwater drainage systems would be necessary. No impact would occur.

Electricity and Natural Gas

As discussed in Section 2.6, *Energy*, the project would not require electricity in operation. The project would not require natural gas connections. Therefore, the project would not require or result in the relocation or construction of new or expanded electricity or natural gas facilities. No impact would occur.

Telecommunications

The project would not involve components requiring telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, no impact would occur.

Summary

In summary, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. There would be no impact.

NO IMPACT

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

The project consists of the installation of a sewer line. Small quantities of water would be required during construction for dust suppression, which would be provided by the District. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered. As described in Section 1.9, *Description of Project,* if temporary dewatering activities are required, groundwater would either be discharged into an on-site infiltration pit, or be treated and then discharged through the new sewer to the M1W pump station. The project does not include development of structures or infrastructure that would directly or indirectly increase the population of Castroville or Monterey County such that water demand would increase. Therefore, impacts to water supplies would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The District collects and processes wastewater from the Castroville area, which is conveyed to the M1W Moss Landing Pump Station and eventually discharged for treatment to the M1W Regional Wastewater Facility, which has a design capacity of 29.6 million gallons per day (M1W 2022).

The proposed project is itself an improvement to the wastewater system, and would upgrade an under-capacity segment of the conveyance infrastructure. As discussed in Section 2.14, *Population and Housing*, the purpose of the project is to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station in order to meet existing and planned demand. The proposed project would not allow development of land which previously could not be developed due to wastewater service constraints, and would not introduce a new demand for wastewater treatment. As such, the project would have a beneficial impact to wastewater infrastructure, and no adverse impact would occur.

NO IMPACT

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

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

Construction activities may temporarily generate solid waste, including soils and construction waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. While most soil is expected to be reused as backfill material within the project area, approximately 100 cubic yards of soil would be exported off-site. Haul trucks would transport debris and soil material to the Monterey Peninsula Landfill near the City of Marina, approximately four miles south of the project site, or another location as determined by the construction contractor. The Monterey Peninsula Landfill had a remaining capacity of 48,560,000 cubic yards as of 2021 (California Department of Resource Recycling and Recovery 2022). Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at Monterey Peninsula Landfill. Therefore, waste generated by demolition and construction activities would not exceed the available capacity at the landfill serving the project area that would accept debris generated by the project, and impacts would be less than significant.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the project would include unmanned facilities that would not generate solid waste. Therefore, solid waste impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

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

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

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

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

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

The project site and surrounding area is located within a Local Responsibility Area for Fire Protection Responsibility and is not within a designated Very High Fire Hazard Severity Zone. The nearest State Responsibility Area is 2.7 miles northeast of the project site (California Department of Forestry and Fire Protection 2007). Therefore, the proposed project would not be located in or near a State Responsibility Area or land classified as a Very High Fire Hazard Severity Zone. No impact related to wildfire would occur.

NO IMPACT

21 Mandatory Findings of Significance

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

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

As discussed in Section 2.4, *Biological Resources*, the proposed project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 2.5, *Cultural Resources*, and Section 2.18, *Tribal Cultural Resources,* the project would not have the potential to eliminate important examples of the major periods of California history or prehistory with the incorporation of

Mitigation Measures CR-1, TCR-1, and GEO-1. Therefore, impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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)?

As described in Sections 2.1 through 2.20, the proposed project would not result in significant and unmitigable impacts to the environment with respect to all environmental issues. This is largely because project construction activities would be temporary, low-intensity, and would not significantly alter the environmental baseline condition. In addition, upon the completion of construction, there would be a reduction in the operation and maintenance needs of the proposed pipeline as compared to baseline conditions because the project would enhance existing system functions.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level.

Seven planned development projects are in the vicinity of the project site, which are summarized in Table 13. The exact implementation timing of these projects is not known at this time; therefore, it is conservatively assumed that construction of these planned projects could overlap with construction of the proposed project. These planned projects are generally located east of the project site in the unincorporated community of Castroville.

Table 13 Cumulative Development Projects

No.	Project Name	Project Location	Project Components	Status
1	Castroville Oaks Affordable Housing Subdivision	SR 156 and Castroville Boulevard, 1.2 miles east of the project site	90 lot single-family residential subdivision on approximately 29 acres and a 125-unit affordable multi-family apartment building on approximately 16 acres	Application submitted to Monterey County
2	PLN220141	8025 Sombrero Court, 3.6 miles northeast of the project site	Construction of a 2,340 square-foot barn and associated site improvements	Permit approved in May 2022
3	PLN220080	15185 Amaral Court, 4 miles northeast of the project site	Coastal Administrative Permit to construct a 5,000 square-foot boat/RV shop building and an 800 square-foot detached accessory dwelling unit	Under consideration by Monterey County
4	PLN190056-AMD1	2040 Elkhorn Road, 3.4 miles northeast of the project site	Construction of a 2,360 square foot barn and two-story addition to an existing single-family residence	Application incomplete in February 2022
5	PLN220012	11561 Preston Street, 0.7 mile east of the project site	Construction of two duplexes with combined area of 8,440 square feet	Permit approved in January 2022

No.	Project Name	Project Location	Project Components	Status
6	PLN210222	11090 Sanchez Street, 0.4 mile southeast of the project site	Demolition of an existing single-family residence and construction of a new single- family residence	Under consideration by Monterey County
7	PLN210118	11421 Palmer Street	Design Approval to allow the construction of a 1,120 square-foot manufactured dwelling unit with a detached 242 square-foot garage and 1,025 square-foot detached manufactured accessory dwelling unit	Design Approval approved in May 2021

Source: County of Monterey 2022b

Project impacts are primarily temporary, localized effects that would occur during construction activities. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following issue areas:

- **Air Quality.** Because the NCCAB is designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM_{10} CAAQS, cumulative air quality impacts currently exist for these pollutants. As discussed in Section 2.3, *Air Quality*, project construction activities would not generate emissions of this air pollutant exceeding MBARD significance thresholds, which are intended to assess whether a project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources.** Most cumulative impacts to biological resources occur when a disproportionate number of development projects occur at once and regionally impact a local population of a special status species, riparian habitat, sensitive natural communities, wetlands, or other locally protected biological resources. In this case, Project Nos. 1, 2, and 7 would occur in undeveloped areas; Project Nos. 2, 3, and 4 would occur within partially developed or previous developed areas; and Project Nos. 5 and 6 would occur in previously developed areas. Project Nos. 1 through 4 and No. 7 would include elements that have the potential to result in significant impacts to special status plant and wildlife species or sensitive natural communities. Due to the nature of these projects and the discretionary approvals required for each one, these development projects would be required to undergo CEQA review to identify the extent of these biological resources impacts and to mitigate those impacts appropriately. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to biological resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures BIO-1 through BIO-5 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Cultural and Tribal Cultural Resources.** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. Project Nos. 6 and 7 would occur within developed sites with low potential to impact cultural resources (County of Monterey 2022b). In addition, as mentioned above, the cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural and tribal cultural resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to known or unknown cultural or tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these

projects, this analysis conservatively assumes a significant cumulative impact to cultural and tribal cultural resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures CR-1 and TCR-1 to reduce its impacts to cultural and tribal cultural resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

- **Greenhouse Gas Emissions.** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 2.8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 2.8, *Greenhouse Gas Emissions*, project emissions would be below the identified threshold of significance and would therefore not be cumulatively considerable.
- **Hazards and Hazardous Materials.** Similar to the proposed project, cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction, effects are generally limited to site-specific conditions. Therefore, cumulative impacts related to accidental release of hazardous materials would be less than significant.
- **Noise.** Overlapping construction activities associated with cumulative development projects in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive receivers located throughout the area, especially during construction activities. However, similar to the proposed project, cumulative development projects would be subject to compliance with the noise level limits established in MCC Chapter 10.60. Therefore, cumulative construction noise impacts would be less than significant.
- **Transportation.** Overlapping construction schedules associated with cumulative development projects in conjunction with proposed project activities could result in cumulative transportation impacts. Similar to the proposed project, cumulative projects would be required to prepare traffic control plans as part of the encroachment permitting process for construction within Caltrans or County ROW, which would minimize impacts to transportation hazards and emergency access. The project would require fewer maintenance trips in operation compared to existing conditions; accordingly, there would be no cumulative operational impact. Therefore, cumulative transportation impacts would be less than significant.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As discussed in Section 2.3, *Air Quality*, the proposed project would not result in significant air quality impacts during construction or operation. As discussed in Section 2.9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the

transportation of hazardous materials would minimize the potential for an accidental release of hazardous materials during construction, and the proposed project would not involve the use of hazardous materials during operation. As discussed in Section 2.13, *Noise*, the project would not generate substantial temporary or permanent increases in ambient noise levels in the vicinity of the project site with implementation of Mitigation Measure N-1. Therefore, the proposed project would not adversely affect human beings, directly or indirectly, and impacts would be less than significant with mitigation incorporated.

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3 Federal Cross-Cutting Environmental Regulations Evaluation

The proposed project may receive funding from the CWSRF, which is administered in California by SWRCB on behalf of USEPA. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this document includes analysis pertinent to several federal cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus). The basic rules for complying with cross-cutting federal authorities under this program are set-out in the CWSRF regulations at 40 Code of Federal Regulations (CFR) Section 35.3145.

This section describes the project's status of compliance with relevant federal laws, executive orders, and policies, and any consultation that has occurred to date or will occur in the near future. The topics are based in part on the SWRCB's CWSRF Program Evaluation Form for Environmental Review and Federal Coordination.

3.1 Federal Endangered Species Act

Section 7 of the federal Endangered Species Act requires federal agencies, in consultation with the Secretary of the Interior, to ensure their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7, a project that could result in incidental take of a listed threatened or endangered species must consult with the USFWS to obtain a Biological Opinion (BO). If the BO finds that the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion. For the purpose of this project, the SWRCB would act as the federal lead or responsible agency.

As discussed in Section 2.4, *Biological Resources,* and in the BRA (Appendix B), no federally listed species were determined to have a moderate or greater potential to occur within the project site based on the lack of suitable habitat. Thus, the project would not jeopardize listed species and the lead agency would be in compliance with the federal Endangered Species Act.

3.2 National Historic Preservation Act, Section 106

The purpose of the NHPA is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Section 106 requires federal agencies to consider effects on historic properties. Section 106 review involves a step-by-step procedure detailed in the implementing regulations found in 36 CFR Part 800.

As discussed in Section 2.5, *Cultural Resources*, and the HPIR prepared for the project (Appendix C), there are no historic properties within the project site. Ground disturbance associated with project construction may result in a substantial adverse change in the significance of these archaeological resources should the project disturb or destroy intact portions of these resources that contribute to their significance. However, the project would be required to implement Mitigation Measure CR-1, which would avoid and minimize the potential for adverse effects to these resources. Therefore, as concluded in the HPIR, the project would result in no adverse effect to historic properties under

Section 106 of NHPA. As discussed in the HPIR, several Tribes requested consultation under Section 106. If the District pursues federal funding, the requests for consultation will be submitted to the SWRCB. As the lead federal agency under Section 106, the SWRCB will be responsible for conducting consultation, pursuant to Section 106, with the Tribes.

3.3 Clean Air Act

The 1990 Amendment to FCAA Section 176 requires USEPA to promulgate rules to ensure federal actions conform to the appropriate State Implementation Plan. This rule, known as the General Conformity Rule (40 CFR Subpart W and 40 CFR Part 93 Subpart B: General Conformity), requires any federal agency responsible for an action in a federal nonattainment or maintenance area to demonstrate conformity with the applicable State Implementation Plan, by determining the action is either exempt from the General Conformity Rule requirements or subject to a formal General Conformity Determination. Actions would be exempt, and thus conform to the State Implementation Plan, if an applicability analysis shows that total direct and indirect project emissions of criteria pollutants for which the project area is designated nonattainment or maintenance would be less than specified emission thresholds, known as *de minimis* rates. If not exempt, an air quality conformity analysis would be required to determine conformity.

As outlined in the Federal Clean Air Act General Conformity Applicability Analysis included as Appendix H, the project site is located within the North Central Coast Air Basin, which is designated attainment or unclassified for all NAAQS. Therefore, no *de minimis* rates are applicable, and general conformity requirements do not apply to the project. A formal conformity determination is not required for the project, and the lead agency would be in compliance with the FCAA.

3.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, is designed to balance competing land and water issues in coastal zones. It also aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Within California, the CZMA is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the California Coastal Commission.

The proposed project is located partially within the Coastal Zone. As discussed in Section 1.10, *Coastal Zone,* the County of Monterey maintains an LCP that has been certified by the California Coastal Commission. Because the project would be located within 100 feet of Tembladero Slough, the project site is in the appeals jurisdiction. None of the project site is located within the California Coastal Commission's retained permit jurisdiction. As noted in Table 2, the project would require a Coastal Development Permit from the County of Monterey. Therefore, through required compliance with County of Monterey coastal regulations, the lead agency would be in compliance with the CZMA.

3.5 Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The FPPA is intended to minimize the impact of

federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with State, local, and private programs and policies to protect farmland.

As described in Section 2.2, *Agriculture and Forestry Resources*, the property west of SR 1 that the proposed sewer line would traverse is designated as Prime Farmland by the DOC (DOC 2016a). Open-cut trench installation of the sewer line within this agricultural land would make approximately 0.6 acre of agricultural land temporarily unavailable for use during the seven month construction period. As described in Section 2.2, *Agriculture and Forestry Resources*, agricultural topsoil would be stockpiled separately from other soils and backfill, and would be restored once project construction is complete. Therefore, the proposed project would not permanently convert farmland to nonagricultural uses, and the lead agency would be in compliance with the FPPA.

3.6 Executive Order 11988 – Floodplain Management

Executive Order (EO) 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains.

As described in Section 3.10, *Hydrology and Water Quality*, portions of the project site are within a regulatory floodway, a one percent annual chance of flood hazard zone, and/or a 0.2 percent annual chance of flood hazard zone, as designated by FEMA (FEMA 2017). However, the proposed sewer line would be located entirely underground. As such, the project would not interfere with floodplain management or expose people or structures to a significant risk of loss, injury or death involving flooding. The lead agency would therefore be in compliance with this EO.

3.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 (September 22, 2000) requires that any project with federal involvement address impacts of federal actions on migratory birds.

As described in Section 2.4, *Biological Resources*, the proposed project would have a less-than-significant impact on nesting birds with implementation of Mitigation Measure BIO-3 if construction cannot be avoided during nesting season. Thus, the lead agency would be in compliance with this EO.

3.8 Executive Order 11990 – Protection of Wetlands

Under EO 11990 (May 24, 1977), federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

As described in Section 2.4, *Biological Resources*, the drainage ditch within the project site is likely under the jurisdiction of the RWQCB pursuant to the Porter-Cologne Water Quality Control Act as waters of the State and County of Monterey pursuant to the California Coastal Act and associated Coastal Commission-approved LCP because it meets the one-parameter definition of a wetland. This drainage ditch is manmade, largely devoid of vegetation, and contains little habitat value. However, there is sufficient hydrology to support aquatic invertebrates and mosquito fish.

Implementation of the project would require trenching to install the new pipeline and restoration of the site to previous conditions. Therefore, the project would not result in permanent impacts or substantial adverse effects to the drainage but would require USACE, RWQCB, and CDFW permitting. Compliance with applicable regulations, permitting requirements, and Mitigation Measure BIO-5, *Drainage Mitigation,* would minimize potential effects to the drainage ditch. Impacts would be less than significant with mitigation and thus, the District would be in compliance with EO 11990.

3.9 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value.

There are no designated Wild and Scenic Rivers within the project area (National Wild and Scenic Rivers System 2022) and no designated rivers would be adversely affected by the proposed project. As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

3.10 Safe Drinking Water Act – Source Water Protection

Section 1424(e) of the Safe Drinking Water Act established the USEPA's Sole Source Aquifer Program. This program protects communities from groundwater contamination from federally-funded projects.

Within the USEPA Region 9, which includes California, there are nine sole source aquifers. None of these sole source aquifers are located within the project area (USEPA 2022). Therefore, the Sole Source Aquifer Program does not apply to the proposed project, and the lead agency would be in compliance with Section 1424(e) of the Safe Drinking Water Act.

3.11 Executive Order on Trails for America in the 21st Century

The EO on Trails for America (January 18, 2001) requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. No trails exist in the vicinity of the project site with which the proposed project could interfere (County of Monterey 2010). As a result, no adverse effects on trails would occur, and the lead agency would be in compliance with this EO.

3.12 Executive Order 13007 – Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The proposed project would not be located on or impact any federal lands and therefore would not affect any Native American sacred sites protected under this EO. As a result, the lead agency would be in compliance with this EO.

3.13 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the United States Exclusive Economic Zone. It establishes exclusive United States management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat (EFH), as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

The proposed project would not be located in or impact any United States federal waters regulated under the Magnuson-Stevens Act. EFH includes those habitats that support the different life stages of each managed species. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions. EFH can consist of both the water column and the underlying surface (e.g., streambed) of a particular area. As described in Section 2.4, *Biological Resources*, the project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area. As a result, the lead agency would be in compliance with this Act.

3.14 Environmental Justice

The USEPA defines environmental justice as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (USEPA 2016). This section describes existing socioeconomic conditions in the project area and the regulatory setting pertaining to environmental justice-related issues. This section also evaluates the potential for the proposed project to disproportionately affect minority or low-income groups.

Minority, Low-Income, and Disadvantaged Communities

According to USEPA guidelines, a minority population is present in a study area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The project site is located just outside of the community of Castroville in unincorporated Monterey County. Demographics for Castroville are provided in the United States Census Bureau's American Community Survey Estimates (United States Census Bureau 2020).

Table 14 summarizes socioeconomic demographic data for Castroville, Monterey County, and California.

Table 14 Socioeconomic Demographics Within and Near Project Area

Community	Percent Minority	Percentage of People in Poverty	Median Household Income
Community of Castroville	94%	10.2%	$66,839
Monterey County	70.6%	11.6%	$76,943
California	63.2%	11.5%	$78,672

Source: United States Census Bureau 2020

As shown in Table 14, 94 percent of the total population in Castroville identify as a race other than Caucasian. Therefore, the project site does have a minority population exceeding 50 percent and is identified as a minority population for the purposes of environmental justice analysis.

USEPA guidelines recommend analyses of low-income communities consider the US Census poverty level definitions, as well as applicable State and regional definitions of low-income and poverty communities. According to US Census estimates, approximately 10.2 percent of the population of Castroville is at or below the poverty level. In comparison, the percentage of persons in poverty in Monterey County is 11.6 percent and the entire state of California is 11.5 percent. Therefore, the community of Castroville has a poverty rate that is below the state average and below the County average.

A Disadvantaged Community (DAC) is defined as a community with a median household income (MHI) less than 80 percent of the California MHI (PRC Section 75005[g]). According to US Census data, the statewide MHI was $78,672 in 2020. A DAC would therefore be defined as a community with a MHI of $62,937 or less. According to the California Department of Water Resources DAC Mapping Tool, the project site is located in a DAC block group, as informed by 2016 to 2020 census data (California Department of Water Resources 2022). As such, the area around the project site would be considered a DAC.

Analysis and Conclusion

For the purposes of this analysis, an impact related to environmental justice would be significant if the proposed project would cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.

The proposed project would involve installation of a new sewer line. Although project has the potential for short-term effects related to temporary construction activities, the provision of an upgraded wastewater system would have the long-term benefit of increasing the reliability of the wastewater system for all Castroville community members. Construction would generate localized environmental impacts (e.g., dust, traffic, and noise), but such activities would be intermittent and temporary and would cease upon completion of work activities. These activities would also be typical of construction projects occurring throughout the state on an ongoing basis and therefore would not result in disproportionately high impacts to the community of Castroville. Where potential impacts could occur, mitigation measures have been identified throughout this document to reduce such effects to less-than-significant levels. Therefore, the proposed project would not result in any disproportionately high impacts on minority or low-income communities. Thus, no adverse environmental justice impacts would occur.

4 Environmental Alternative Analysis

Although not required by CEQA, CWSRF funding applicants are required to complete an Environmental Alternative Analysis as part of the Environmental Package of the funding application. The following sections provide descriptions of each project alternative; a comparative environmental analysis among the project alternatives for direct, indirect, and cumulative environmental impacts; potential reasonably foreseeable future environmental impacts for each alternative; suggested mitigation measures beyond those already required for the proposed project, if necessary; and a discussion of the environmental reasoning for selection of the proposed project. This Environmental Alternative Analysis provides a range of reasonable alternatives that meet the District's project needs and objectives, including a "no project/no action" alternative. The build alternative (Alternative 2) is based upon an earlier design option for the project prepared by MNS Engineers.

4.1 Alternative 1: No Project/No Action

Description

Under this alternative, the proposed sewer line would not be constructed, and the existing infrastructure would continue to operate in its current condition. Over time, the risk of leaks, breakages, and other system failures would increase due to aging and deteriorating infrastructure. Further, the District identified that development projected in the 2006 Castroville Community Plan will exacerbate capacity issues without implementation of the project.

Environmental Analysis

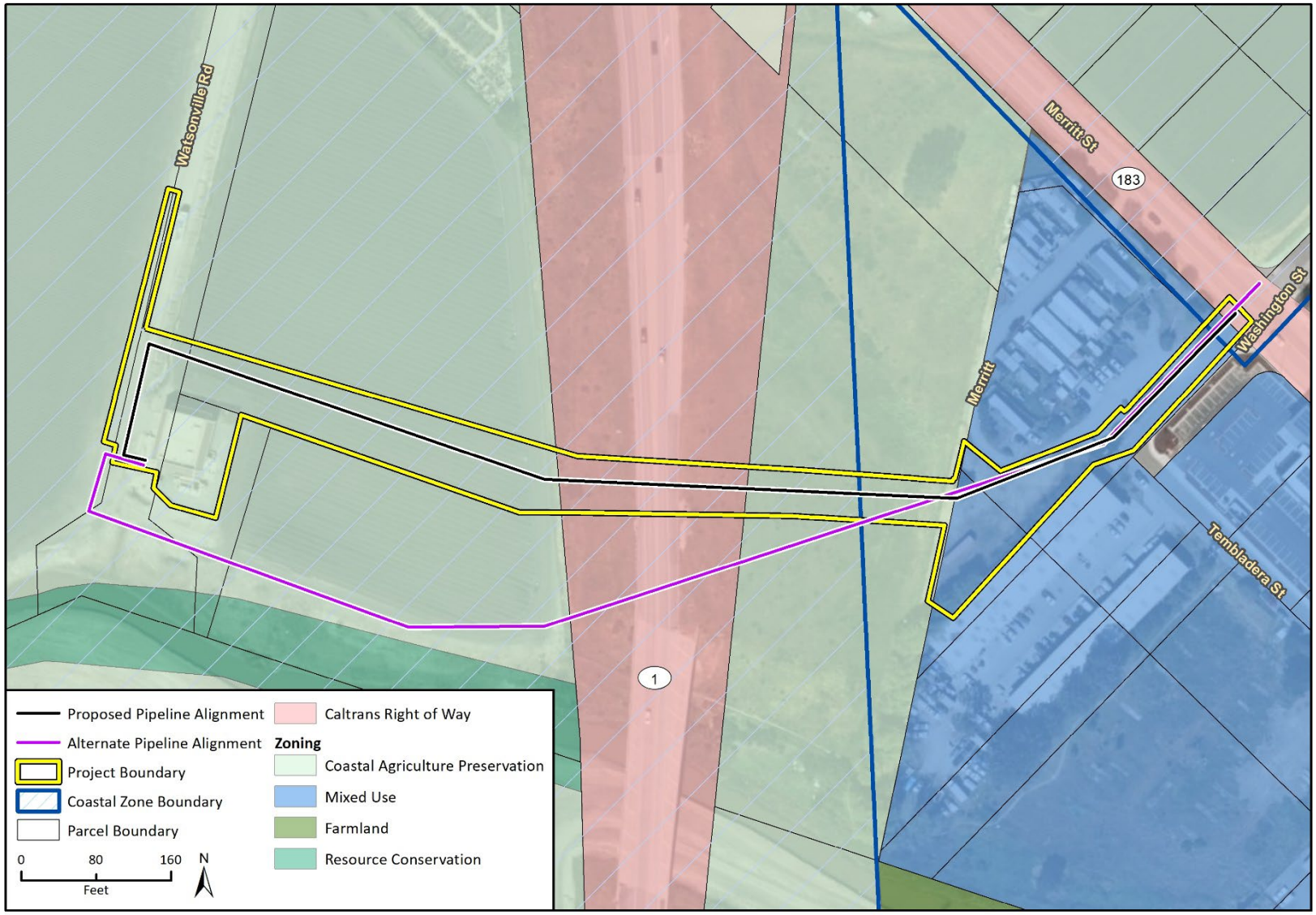
Because this alternative would not require construction activities, none of the proposed project's potentially significant but mitigable construction-related environmental impacts to air quality, biological resources, cultural and tribal cultural resources, paleontological resources, and noise would occur. None of the mitigation measures required for the proposed project would apply. However, the risk of unexpected leaks, breakages, and capacity issues associated with existing infrastructure would increase over time, and depending on the locations of possible infrastructure issues, nearby environmental resources such as Tembladero Slough, the drainage ditch on site, and the Monterey Bay may be adversely affected by unforeseen releases of untreated sewer flows. This alternative would also potentially result in greater impacts to public services, as additional new or improved sewer infrastructure may be required elsewhere so the District can adequately serve the community of Castroville.

4.2 Alternative 2: Alternate Alignment

Description

Under this alternative, the sewer line would be aligned south of the existing pump station at the southern end of Watsonville Road and would travel along the southern edge of the existing agricultural lands west of SR 1. The sewer line would cross beneath SR 1 and the Caltrans ROW, then travel slightly north to follow the proposed alignment. Figure 6 shows the alternate alignment.

Figure 6 Alternate Sewer Line



Similar to the proposed project, this alternative would involve installation of a 24-inch trunk sewer main to connect the existing M1W pump station to the intersection of Washington Street and Merritt Street/SR 183 in the community of Castroville. The Alternative 2 alignment would be approximately 100 feet longer than the proposed project, and would be approximately 1,550 feet in length. Alternative 2 would involve a construction schedule similar to the proposed project, and would be installed via open-cut trench on either side of SR 1 in agricultural fields, undeveloped lands and roadways, and via trenchless installation within the Caltrans ROW. In addition, this alternative would involve demolition and removal of an existing sewer manhole and construction of two new manholes immediately west of the existing M1W pump station. Alternative 2 would also involve replacing five feet of existing sewer line adjacent to the new sewer manholes.

Environmental Analysis

Aesthetics

Under this alternative, the sewer line would be located entirely belowground, and would therefore result in no change to the existing aesthetic environment. This alternative would involve demolition of one sewer manhole and construction of two new sewer manholes; the manholes would be located within and nearby the footprint of the existing manhole, and would be visually consistent with existing utility infrastructure in the project area. Therefore, aesthetic impacts would be less than significant, similar to the proposed project.

Agriculture and Forestry Resources

Alternative 2 would involve construction of the sewer line along the southern boundary of the agricultural land west of SR 1, which is designated as Prime Farmland. The alternative would require a 20-foot easement along the alternate sewer line alignment, similar to the proposed project; however, only the northern half of the easement would fall within the agricultural land. Therefore, this alternative would result in less Prime Farmland being temporarily unavailable than the proposed project. Similar to the proposed project, topsoil would be stockpiled separate from other backfill soils, and the topsoil would be restored after construction. Impacts would be reduced compared to the proposed project and would remain less than significant.

Air Quality

Construction of the Alternative 2 would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips and construction equipment would be required for the demolition and construction of manholes west of the M1W pump station. The emissions associated with the proposed project are 91 percent below MBARD thresholds; therefore, the incremental increase in air pollutant emissions associated with this alternative would not be expected to exceed MBARD thresholds for construction activities. Therefore, as with the proposed project, impacts to air quality would be less than significant under this alternative, although construction-related air pollutant emissions would be incrementally greater.

Biological Resources

Similar to the proposed project, Alternative 2 would involve trenching through the drainage ditch alongside the agricultural land, and this ditch is likely under the jurisdiction of the USACE, CDFW, RWQCB and the County of Monterey pursuant to the LCP. As discussed in Section 2.4, *Biological Resources,* trenching associated with project would likely require USACE, RWQCB, and CDFW

permitting, and impacts would be potentially significant. In addition, the Alternative 2 would be located approximately 150 feet closer to Tembladero Slough than the proposed project alignment, and would involve construction immediately adjacent to the bank of the slough. As a result, the project would have an increased risk of erosion, runoff, construction materials, and accidental spills entering the slough. Similar to the proposed project, implementation of PDF-1 and Mitigation Measure BIO-5 would reduce impacts to potentially jurisdictional waters to less than significant, but this alternative would have an increased risk of impacts to the slough compared to the proposed project. Therefore, impacts would be greater than the proposed project but would remain less than significant.

Cultural Resources

Alternative 2 would occur in generally the same area as the proposed project with similar ground disturbance activities, and would therefore have similar impacts to cultural resources as the proposed project. Therefore, as with the proposed project, implementation of Mitigation Measure CR-1 would be required for this alternative to reduce impacts to cultural resources to a less-than-significant level.

Energy

Construction of Alternative 2would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips would occur during demolition of the existing sewer manhole and construction of two new sewer manholes. However, the incremental increase in energy consumption associated with this alternative would not be wasteful, inefficient, or unnecessary because demolition and construction of the manholes would only occur for the minimum timeframe needed to complete infrastructure improvements. Therefore, as with the proposed project, impacts to energy would be less than significant under this alternative, although construction-related energy consumption would be incrementally greater.

Geology and Soils

Construction of Alternative 2 would occur in generally the same area as the proposed project, and Alternative 2 would not be located in an area more susceptible to landslides, lateral spreading, subsidence, liquefaction, or collapse than the proposed project. Similar to the proposed project, Alternative 2 would be located entirely belowground about would not include habitable structures; therefore, this alternative would not create substantial direct or indirect risks to life or property beyond existing conditions. Because this alternative would involve ground disturbing activities within geologic units with high paleontological sensitivity, similar to the proposed project, this alternative would involve implementation of Mitigation Measure GEO-1. Therefore, impacts to geology and soils would be less than significant with mitigation under this alternative, similar to the proposed project.

Greenhouse Gas Emissions

Construction of this alternative would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips would occur during demolition of the existing sewer manhole and construction of two new sewer manholes. However, the increase in construction-related GHG emissions associated with this alternative would be incremental. Similar to the proposed project, this alternative would result in incremental GHG emissions during operation. Therefore, similar to the proposed project, impacts to GHG emissions would be less than

significant under this alternative, although construction-related GHG emissions would be incrementally greater.

Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would require the use, transport, and storage of hazardous materials during construction, which would be regulated by existing laws and requirements. Although Alternative 2 is approximately 150 feet south of the proposed sewer line alignment, this alternative would similarly not be located on a site that is included on a list of hazardous material sites, near an airport, or in an area subject to wildland fire risk because the alternative occurs in the same area as the proposed project. In addition, this alternative would not include features that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As with the proposed project, impacts related to hazards and hazardous materials under this alternative would be less than significant.

Hydrology and Water Quality

This alternative would involve generally similar levels of ground disturbance, associated drainage changes, and water quality impacts as the proposed project. This alternative would also install an on-site infiltration pit if groundwater is encountered during project construction, and dewatering activities would be temporary and short-term, similar to the proposed project. Because Alternative 2 would be located closer to Tembladero Slough, this alternative would be located in FEMA flood hazard zones with a higher annual chance of floods; however, similar to the project, the proposed sewer line would be located entirely belowground. As such, this alternative would not substantially alter the existing drainage pattern of the site. Impacts to hydrology and water quality would be less than significant, similar to the proposed project.

Land Use and Planning

As with the proposed project, Alternative 2 would not result in any barriers that would divide an established community. Because this alternative would be located closer to Tembladero Slough, portions of Alternative 2 would be located in areas zoned as Resource Conservation by Monterey County Code. Pursuant to MCC Section 21.36.050, Resource Conservation districts conditionally allow public utility facilities such as pipelines; therefore, Alternative 2 would be consistent with underlying zoning. Similar to the proposed project, this alternative would be subject to compliance with the applicable development standards in the Monterey County Code, and relevant policies of the Castroville Community Plan. Thus, this alternative would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Similar to the proposed project, no land use and planning impacts would occur under this alternative.

Mineral Resources

Alternative 2 is located in generally the same area and the proposed project, which is not underlain by known mineral resources. This alternative would not involve mineral extraction, construction, or changes in land use that could affect the availability of mineral resources. Therefore, similar to the proposed project, no impacts to mineral resources would occur under Alternative 2.

Noise

Construction of Alternative 2 would require generally similar construction methods and associated equipment as the proposed project; therefore, construction noise and vibration levels would be the same as those estimated for the proposed project. Therefore, implementation of Mitigation Measure N-1 would also be required under this alternative to reduce construction noise where the alignment borders residential, commercial, and educational uses on Merritt Street/SR 183 and Washington Street. Similar to the proposed project, this alternative would resume operating in a similar fashion to existing conditions and would not generate substantial amounts of noise. Overall, noise and vibration impacts would be similar to those of the proposed project and would be less than significant with mitigation incorporated.

Population and Housing

As with the proposed project, this alternative would not directly or indirectly induce population growth because this alternative would not increase pipeline conveyance capacity to accommodate future unplanned growth. In addition, Alternative 2 would not involve displacement of existing housing or people. Therefore, similar to the proposed project, no impacts related to population and housing would occur under this alternative.

Public Services

Alternative 2 would not change existing demand for public services (e.g., fire and police protection, schools, parks, or libraries) because neither direct nor indirect population growth would result from construction of this alternative. As with the proposed project, no impacts to public services would occur.

Recreation

Neither direct nor indirect population growth would result from construction of Alternative 2; therefore, this alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities. In addition, this alternative does not propose recreational facilities and would not require their construction or expansion. Therefore, similar to the proposed project, no impacts related to recreation would occur under Alternative 2.

Transportation

Construction of this alternative would require generally similar construction methods and associated vehicle trips as the proposed project. However, additional truck trips would occur during demolition and construction of sewer manholes. Nevertheless, as with the proposed project, construction-related traffic volumes are not expected to be substantial under this alternative. In addition, temporary impacts to the transportation network during construction would occur during sewer line installation within Merritt Street/SR 183 and Washington Street. Similar to the proposed project, this alternative would include preparation of traffic control plans to minimize impacts to the transportation network and emergency access. Therefore, as with the proposed project, transportation impacts under Alternative 2 would be less than significant, although construction-related traffic volumes would be incrementally greater.

Tribal Cultural Resources

Ground disturbing activities under Alternative 2 would occur in generally the same area as the proposed project; therefore, this alternative would have similar impacts to tribal cultural resources

as the proposed project. As with the proposed project, implementation of Mitigation Measure TCR-1 would be required under this alternative to reduce impacts to a less than significant level.

Utilities and Service Systems

Alternative 2 would not require new water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. This alternative would not increase long-term demand for potable water supplies and would generate minimal quantities of solid waste during construction that would be disposed of in accordance with applicable laws and regulations. Therefore, similar to the proposed project, impacts related to utilities and service systems under this alternative would be less than significant.

Wildfire

As with the proposed project, this alternative would not be located in a State Responsibility Area of Very High Fire Hazard Severity Zone. Therefore, similar to the proposed project, no wildfire impacts would occur.

Cumulative Impacts

As discussed in Section 2.21, *Mandatory Findings of Significance*, seven planned projects are located in the vicinity of the project site. As with the proposed project, the impacts of this alternative would be primarily temporary, localized effects that would occur during construction activities. Similar to the proposed project, this alternative would not contribute cumulatively considerable impacts with implementation of mitigation measures. Therefore, this alternative's contribution to cumulative impacts would be similar to those of the proposed project and would be less than significant with mitigation incorporated.

Conclusion

Alternative 2 would result in incrementally greater construction-related impacts to air quality, biological resources, energy, and GHG emissions as compared to the proposed project and generally similar impacts to all other environmental resources. The same mitigation measures required for the proposed project would be sufficient to mitigate impacts under this alternative to less-than-significant levels. This alternative would meet the objectives of the project.

4.3 Selection of the Chosen Project Alternative

The District has selected the proposed project (preferred alternative) as the chosen alternative to build and operate. The proposed project and Alternative 2 would result in generally similar direct, indirect, and cumulative environmental impacts. Alternative 2 would result in incrementally greater construction-related impacts to air quality, energy, and GHG emissions as compared to the proposed project due to more intensive construction activities, as well as slightly greater impacts to biological resources due to increased proximity to the slough. The District has selected the proposed project as the thorough analysis demonstrated that this alternative is able to provide infrastructure improvements to existing District facilities with its environmental impacts mitigated to a less-than-significant level. As detailed above, Alternative 2 is not environmentally superior as compared to the proposed project.

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1.2. List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to Castroville Community Services District. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Appendix A

Road Construction Emissions Model Output

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Wa St Swr Bpss				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	1.93	20.03	16.72	2.35	0.75	1.60	1.02	0.69	0.33	0.04	4,229.88	0.73	0.08	4,273.19
Grading/Excavation	1.63	18.47	13.47	2.21	0.61	1.60	0.90	0.56	0.33	0.04	3,705.55	0.55	0.08	3,743.01
Drainage/Utilities/Sub-Grade	3.52	35.91	30.06	2.87	1.27	1.60	1.50	1.17	0.33	0.08	7,940.78	1.15	0.21	8,031.00
Paving	2.10	22.40	17.35	0.80	0.80	0.00	0.72	0.72	0.00	0.05	5,069.92	1.15	0.09	5,126.59
Maximum (pounds/day)	7.26	76.78	60.87	7.44	2.68	4.80	3.42	2.45	1.00	0.18	16,716.24	2.85	0.38	16,900.60
Total (tons/construction project)	0.17	1.78	1.39	0.18	0.06	0.11	0.08	0.06	0.02	0.00	375.95	0.06	0.01	379.93

Notes:

Project Start Year ->	2024
Project Length (months) ->	8
Total Project Area (acres) ->	2
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	40	400	40
Grading/Excavation	0	0	0	40	400	40
Drainage/Utilities/Sub-Grade	23	0	120	40	600	80
Paving	0	0	0	40	480	40

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

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Wa St Swr Bpss				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.03	0.33	0.28	0.04	0.01	0.03	0.02	0.01	0.01	0.00	69.79	0.01	0.00	63.96
Grading/Excavation	0.07	0.81	0.59	0.10	0.03	0.07	0.04	0.02	0.01	0.00	163.04	0.02	0.00	149.41
Drainage/Utilities/Sub-Grade	0.04	0.40	0.33	0.03	0.01	0.02	0.02	0.01	0.00	0.00	87.35	0.01	0.00	80.14
Paving	0.02	0.25	0.19	0.01	0.01	0.00	0.01	0.01	0.00	0.00	55.77	0.01	0.00	51.16
Maximum (tons/phase)	0.07	0.81	0.59	0.10	0.03	0.07	0.04	0.02	0.01	0.00	163.04	0.02	0.00	149.41
Total (tons/construction project)	0.17	1.78	1.39	0.18	0.06	0.11	0.08	0.06	0.02	0.00	375.95	0.06	0.01	344.67

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

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Appendix B

Biological Resources Assessment

Washington Street Sewer Bypass Project

Biological Resources Assessment

prepared for

Castroville Community Services District
11497 Geil Street
Castroville, California 93660
Contact: Eric Tynan, General Manager

prepared by

Rincon Consultants, Inc.
2511 Garden Road, Suite C-250
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December 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Washington Street Sewer Bypass Project

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Executive Summary

Rincon Consultants, Inc. has prepared this Biological Resources Assessment to document existing conditions and provide a basis for evaluation of potential impacts to special status biological resources during development and implementation of the Washington Street Sewer Bypass Project (herein referred to as "proposed project" or "project"). The project is located in Castroville, a census-designated place in unincorporated Monterey County. The project is proposed by the Castroville Community Services District (District) and is intended to provide additional conveyance capacity from the District wastewater collection system to the Monterey One Water (M1W) pump station, and to improve the accessibility of the sewer line in this location. The proposed project consists of the installation of a 24-inch trunk sewer main, between the intersection of Washington Street and Merritt Street/State Route (SR) 183 to the corner of Washington Street and Tembladera Street in the unincorporated community of Castroville, then across undeveloped areas and underneath SR 1 to the M1W pump station located at the south end of Watsonville Road. The proposed 24-inch sewer line would bypass the existing 18-inch sewer line within Watsonville Road to the manhole immediately upstream of the M1W pump station. This study has been completed in accordance with the California Environmental Quality Act (CEQA)-Plus standards of the State Water Resources Control Board's State Revolving Fund program for compliance with the CEQA, National Environmental Policy Act, and federal Endangered Species Act.

The Area of Potential Effects (APE) analyzed herein is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts. Four terrestrial vegetation and land cover types were observed within the APE during the biological field survey: developed, agricultural, ruderal, and waters. Jurisdictional areas within the APE include the Tembladero Slough and a roadside drainage and are identified as Environmentally Sensitive Habitat Areas. Given the project would temporarily impact the roadside drainage, the project is anticipated to require permits from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and County of Monterey (for development in the Coastal Zone).

Based on the habitats found on site, two special status species have the potential to be encountered during project activities, the western pond turtle (*Emys marmorata*), a California species of special concern, and California red-legged frog (*Rana draytonii*), a federally threatened species. In addition, sensitive tule (*Schoenoplectus acutus*) patches occur along the edges of the Tembladero Slough. Direct and indirect impacts to sensitive plant communities, western pond turtle, and jurisdictional areas during construction activities would be minimized and/or avoided to the greatest extent feasible with the implementation of measures described in Section 5, *Impact Analysis and Mitigation Measures*. The Tembladero Slough is federally designated critical habitat for steelhead south-central California coast Distinct Population Segment within the APE, but no impacts to the slough or its adjacent vegetation are anticipated. Therefore, the project would not adversely affect federally listed fish species or federally designated critical habitat. Vegetation within and adjacent to the project site offers potential nesting habitat for bird species that are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. No adverse direct and indirect affects to nesting birds would occur with implementation of the proposed avoidance and minimization measures.

1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Resources Assessment (BRA) to document existing conditions and provide a basis for the evaluation of potential impacts to special status biological resources from the implementation of the proposed Washington Street Sewer Bypass Project (herein referred to as "proposed project" or "project") located in Monterey County, California.

This BRA has been prepared to provide technical information and impact analysis in sufficient detail to determine to what extent the proposed project may impact special status species and sensitive natural communities in support of project review under the California Environmental Quality Act (CEQA). This assessment focuses on the biological resources that may occur in the vicinity of the project site and may be impacted by the proposed project. In addition, Rincon understands the District is seeking funding from the State Water Resources Control Board (SWRCB) for the project through the Clean Water State Revolving Fund, which SWRCB administers in California on behalf of the United States Environmental Protection Agency, a federal agency. Therefore, this BRA was completed in accordance with CEQA-Plus standards for compliance with the CEQA, National Environmental Policy Act, and federal Endangered Species Act.

1.1 Project Location and Area of Potential Effects

The project site is located in Castroville, a census-designated place in Monterey County, on Assessor's Parcel Numbers (APNs) 133-143-016, 030-141-022 and -023, and the California Department of Transportation (Caltrans) right-of-way (ROW) that lies between them along State Route (SR) 1 (Figure 1). Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space.

The project site includes an existing Monterey One Water (M1W) pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street/SR 183, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1 (Figure 2). The project site is relatively flat and varies in elevation from seven feet above mean sea level at each end of the pipeline to 29 feet at SR 1. The project site is approximately 1.8 miles east of the Pacific Ocean and approximately 250 feet north of Tembladero Slough. Portions of the project site are within the Coastal Zone, as established by the California Coastal Commission (CCC) (Figure 3).

The project Area of Potential Effects (APE) generally depicts all areas expected to be affected by the proposed project, including construction staging areas. Construction staging areas are shown in Figure 4. The project site must additionally be considered as a three-dimensional space and includes any ground disturbance associated with the project. As such, the APE analyzed herein is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts to biological resources.

Figure 1 Regional Location Map

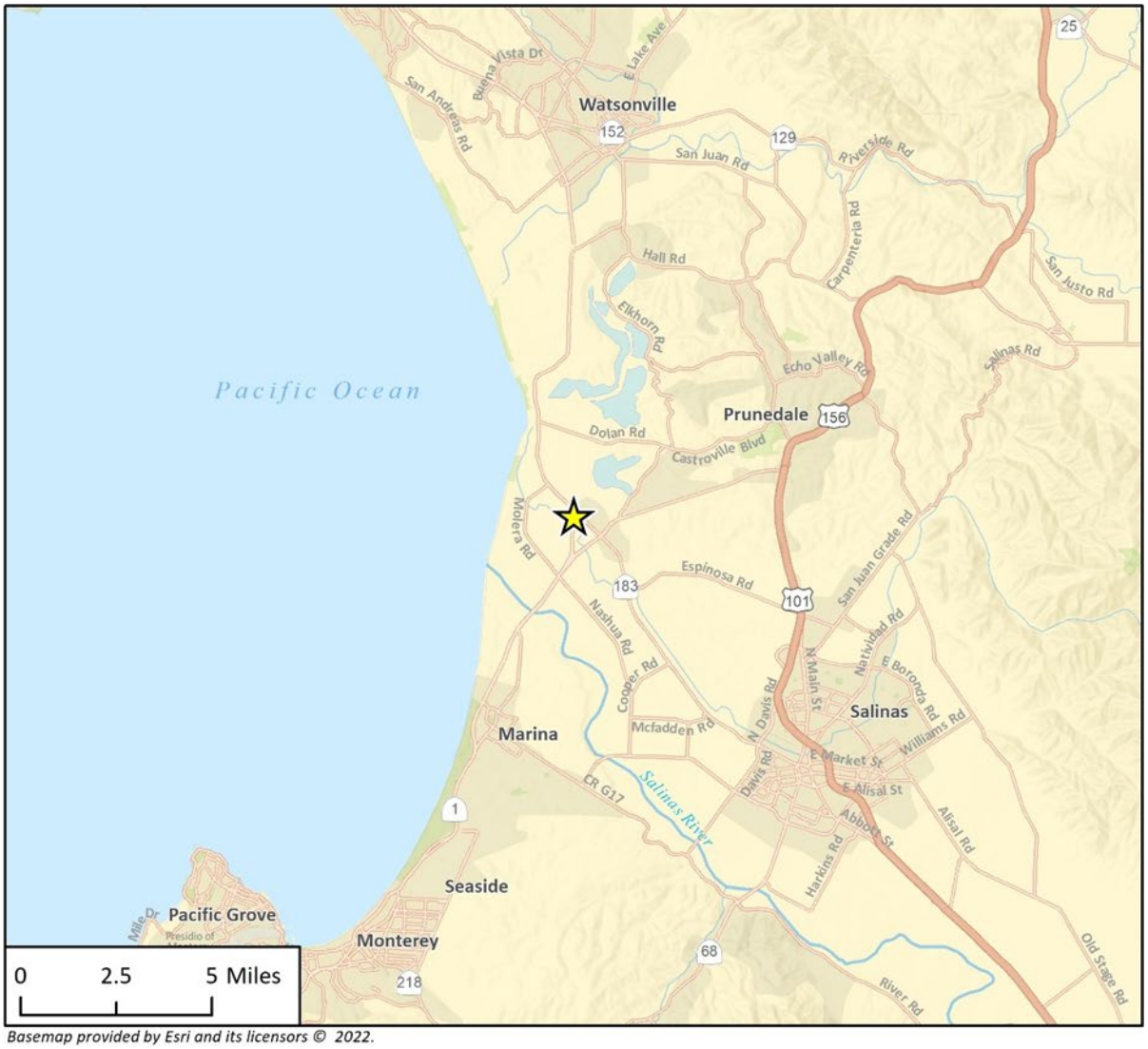

Figure 2 Area of Potential Effects – Northern Extent

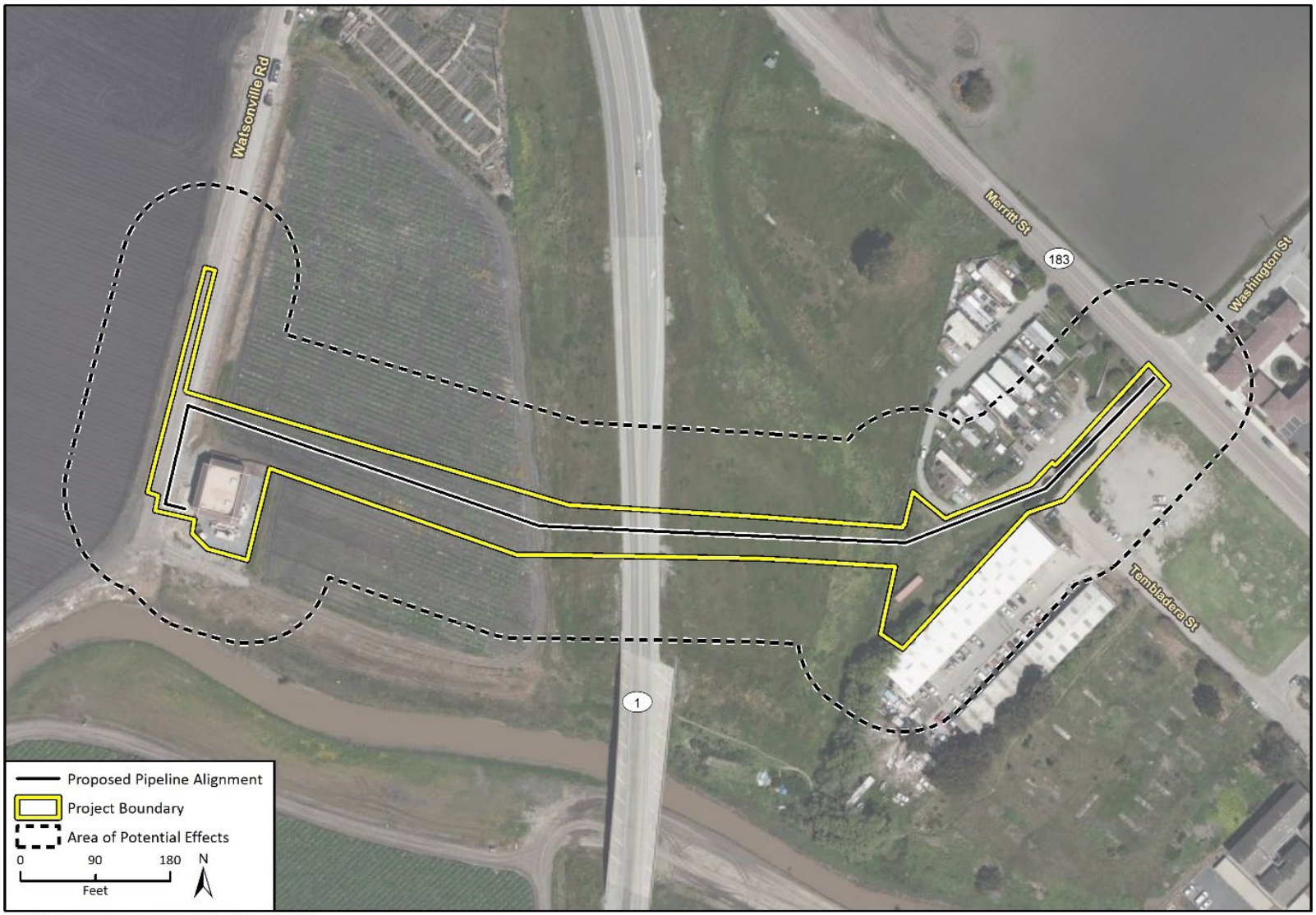

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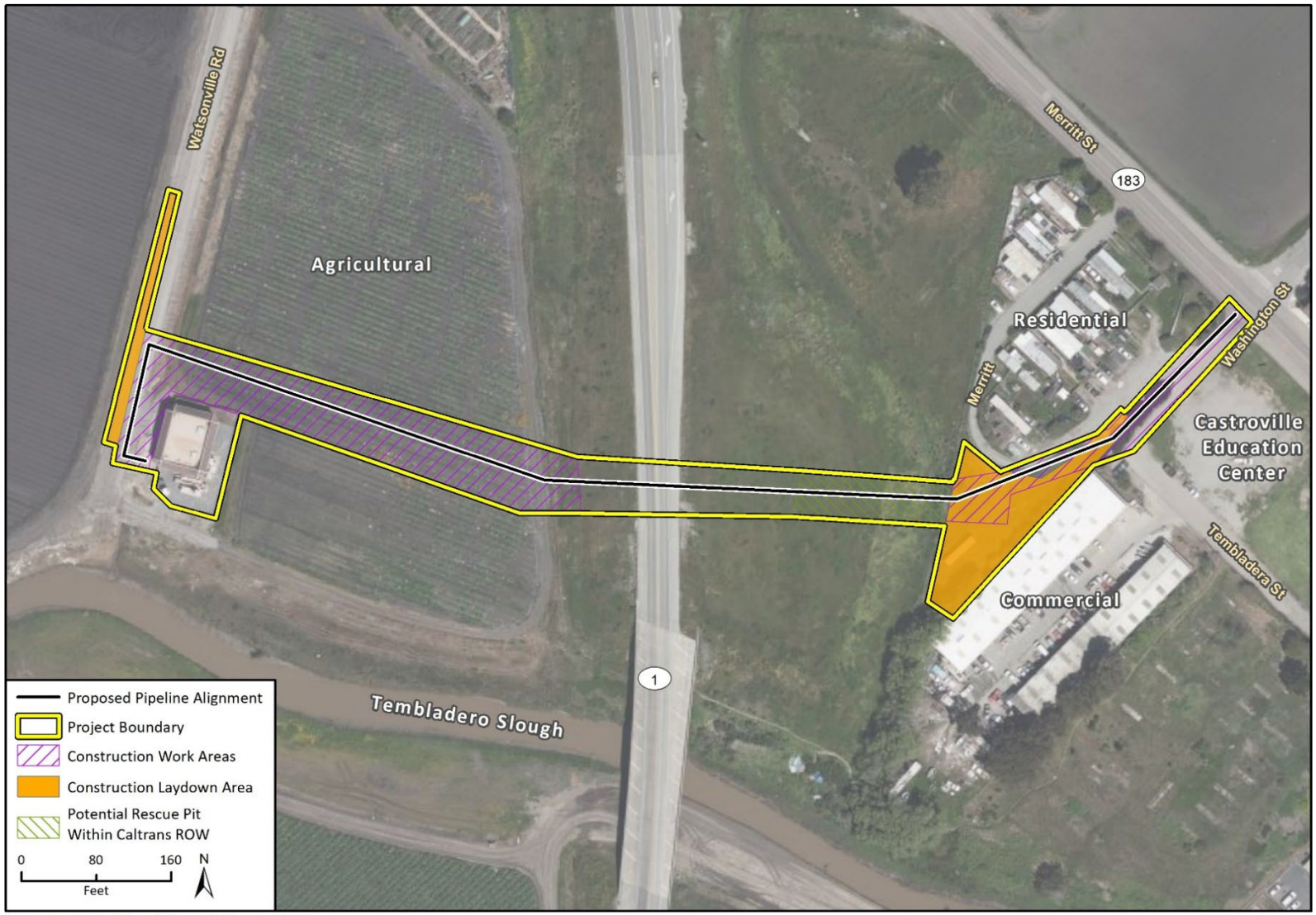
Figure 3 Project Site Zoning, Caltrans Right of Way, and Coastal Zone

Figure 4 Project Construction Areas



1.2 Project Description

The proposed project would involve installation of a 24-inch trunk sewer main, approximately 1,400 feet in length, from the intersection of Washington Street and Merritt Street/SR 183 to the corner of Washington Street and Tembladera Street in the unincorporated community of Castroville, then across undeveloped areas and underneath SR 1 to the M1W pump station located at the south end of Watsonville Road. The proposed 24-inch sewer line would bypass the existing 18-inch sewer line within Watsonville Road to the sewer main upstream of the M1W pump station. The purpose of the project is to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station, and to improve the accessibility of the sewer line in this location.

Pipeline construction would consist of conventional open-cut trench methods and a trenchless crossing to install a segment beneath SR 1.

Construction

Project construction would occur over approximately seven months from May 2024 to November 2024. The project would be constructed in five phases, outlined in Table 1 and described further below.

Table 1 Proposed Construction Schedule

Construction Phase	Duration	Approximate Start and End Dates
Site Preparation for Trenchless Pipeline Installation	2 weeks	May 2024
Pipeline Installation (trenchless)	1 month	June 2024 – July 2024
Site Preparation for Trenched Pipeline Installation	1 month	June 2024
Pipeline Installation (trenched)	4 months	July 2024 – October 2024
Paving and Ground Restoration	1 month	October 2024 – November 2024

Construction work would occur Monday through Friday, from 8:00 a.m. to 6:00 p.m. Construction equipment would be staged on site.

Site Preparation

Site preparation for trenchless and trenched pipeline installation would occur immediately prior each phase. During site preparation activities, the project would remove vegetation and existing pavement along the open-cut trench alignment and trenchless exit and entry points. Any existing pavement would be cut and removed from the project site to be recycled or disposed of at an appropriate facility. The project would remove existing ornamental hedges located within the proposed pipeline alignment on Washington Street, to be replaced upon completion of installation. In addition, the project would result in the disturbance of approximately 0.7 acre of landscaped vegetation within the construction work and laydown areas east of SR 1. Upon completion of pipeline installation activities, the project would involve replanting of shrubs at the intersection of Washington Street and Merritt Street within the proposed work area.

Easements within the agricultural land and along the residential areas would be established. The type of vegetation to be replanted in disturbed areas could be determined by agreements with the existing landowner associated with the construction easement.

Pipeline Installation

During the trench and trenchless pipeline installation phases, approximately 3,000 cubic yards of soil would be excavated, of which approximately 2,700 cubic yards would be used as fill. Approximately 200 cubic yards of soil would be imported from off-site sources, and approximately 200 cubic yards of soil would be exported off-site. Haul trucks would utilize SR 1, Merritt Street/SR 183, Washington Street, Tembladera Street, and Watsonville Road to transport demolition debris and soil material to the Monterey Peninsula Landfill near the City of Marina, approximately 4 miles south of the project site, or another location as determined by the construction contractor.

Pipeline installation would occur underneath or within roadways located within Caltrans ROW, including SR 1 and along Merritt Street/SR 183. As part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. Traffic control plans would be developed to maintain residential and commercial site access to adjacent land uses.

TRENCHLESS INSTALLATION

Trenchless installation would involve the use of a drilling rig to create an underground pathway beneath the Caltrans ROW along SR 1. The drilling rig would install a 36-inch steel casing through the underground pathway without disturbing the ground surface within the SR 1 Caltrans ROW. The 24-inch sewer line itself would be installed during the open-cut trench installation phase. An entry pit would be dug on the west side of SR 1, where trenchless drilling would begin. The entry pit would be approximately 40 feet long, 15 feet across, and 10 feet deep. An exit pit would be installed on the east side of SR 1, where the trenchless drilling equipment would exit the soil. The exit pit would be approximately 12 feet long, 12 feet wide, and 15 feet deep.

Trenchless pipeline installation would occur at a maximum depth of 30 feet below ground surface. Trenchless construction activities would also occur during normal working hours of Monday through Friday, from 8:00 a.m. to 6:00 p.m.

Due to the length of the trenchless pipeline installation, there is a possibility that drilling equipment could become stranded within and underneath SR 1 right of way during construction. Should this occur, a rescue pit within the Caltrans ROW would be installed to the east side of SR 1. If necessary, the rescue pit would be 15 feet long, 15 feet wide, and excavated to a maximum depth of 30 feet to provide access to the trenchless installation equipment. To account for this possibility, this analysis conservatively assumes the potential rescue pit would be required.

OPEN-CUT TRENCH INSTALLATION

Conventional open-cut trench methods would be used to install the remainder of the pipeline alignment, including in the agricultural field west of SR 1, the undeveloped area east of SR 1, and within the ROW of Washington Street and Merritt Street/SR 183 east of SR 1. Excavation would occur at a maximum depth of 15 feet, and sections of the 24-inch sewer main would be placed along the excavated pipeline pathway. Excavated soil would either be hauled away for disposal or temporarily stored adjacent to the trenches or in construction laydown areas to be used as trench backfill. The segment of 24-inch gravity sewer beneath SR 1 would be placed in the 36-inch steel casing installed during the trenchless installation phase.

An agricultural drainage ditch is situated on the western edge of the agricultural field west of SR 1, running north to south along the eastern shoulder of Watsonville Road. The drainage ditch is likely under the jurisdiction of the United States Army Corps of Engineers (USACE), the Regional Water

Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). To comply with applicable regulations and jurisdictional permits, a pump with an intake filter would be used to temporarily divert flows within the drainage ditch around the section where open-cut trench sewer line installation would occur. It is anticipated this temporary bypass would be in place for approximately one day to accommodate pipeline installation activities through the drainage ditch. A biological resources pre-construction survey and biological monitoring would be undertaken during pumping activities in the drainage ditch. Section 3.2, *Watersheds and Drainages,* contains further details regarding the drainage ditch, jurisdictional permitting, and potential impacts to biological resources.

Groundwater may be encountered during trench installation on the west side of SR 1. If groundwater is encountered during excavation for trench pipeline installation, dewatering of the soil would be required. To account for this possibility, this analysis conservatively assumes dewatering would occur for the entire five-month duration of pipeline installation. Dewatering waste would either (1) be discharged into an on-site infiltration pit, or (2) be treated and then discharged through the new sewer to the M1W pump station. The location of the on-site infiltration pit would be determined by the project construction contractor.

Paving and Ground Restoration

This final phase of construction would involve repaving portions of Washington Street, Merritt Street/SR 183, and Watsonville Road, and restoring the ground surface of the agricultural lands excavated for trench pipeline installation. As described above, excavated areas would be filled with previously excavated soil and an additional 200 cubic yards of imported soil. The project would disturb approximately 0.6 acre of agricultural land during open-cut trench sewer line installation. Agricultural topsoil would be stockpiled separate from other soils and backfill, and would be restored after completion of pipeline installation.

Operation and Maintenance

Once construction of the proposed project is complete, the operation and maintenance needs of the sewer main would be reduced compared to the existing sewer line. Because of the new and improved facilities, the new sewer line would require fewer maintenance trips than the existing under-capacity sewer. The project would not introduce new electricity demands or staffing needs.

Project Design Features

The following project design feature (PDF) would be incorporated into the project.

PDF-1 Construction Best Management Practices

To avoid and/or minimize potential direct and indirect impacts associated with construction, the following Best Management Practices (BMPs) will be implemented:

a. Fugitive dust from ground disturbance activities will be minimized using water trucks and covering of soil stockpiles. Soil will not be stockpiled adjacent to the drainage ditch within the project site nor along project site boundaries adjacent to Tembladero Slough. Exposed areas will be watered up to three times daily as needed.

b. Prior to project mobilization, all limits of construction work adjacent to potentially jurisdictional waters will be clearly delineated with construction fencing or similar highly visible material and maintained throughout the duration of construction.

c. Drain inlets in the vicinity of the project site will be protected from construction runoff. Berms, silt fences, fiber rolls, covers, sand/gravel bags, and or straw wattles will be placed along slopes and property lines, in particular along Watsonville Road along the drainage ditch and the project site boundary adjacent to Tembladero Slough, to prevent construction runoff.
d. All vehicles and equipment will be in good working condition and free of leaks. The contractor will prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise). When vehicles or equipment are stationary, mats or drip pans will be placed below vehicles to contain fluid leaks.
e. Material storage and material/spoils from project activities will be located and stored 100 feet from waterways. Adequate spill prevention and response equipment will be maintained on site and readily available to implement to minimize impacts to the aquatic environments.
f. Off-site tracking of loose construction and landscape materials will be prevented by providing anti-tracking strips at entrances to the project site.

The District would implement additional construction BMPs as required to comply with Section 4 of the Monterey Regional Storm Water Management Program.

1.3 Coastal Zone

Most of the project site is located in the Coastal Zone, as established by the CCC (Figure 3). The CCC has planning, regulatory, and permitting responsibilities, in partnership with local governments, for development occurring within the Coastal Zone, an area along the coastline of California. The County of Monterey (County) maintains a Local Coastal Program (LCP), a planning document identifying allowable development within the Coastal Zone that must be certified by the CCC. The LCP allows the County to issue Coastal Development Permits, which are required for development in the Coastal Zone. The County's LCP was certified by the CCC in 1986, with amendments to the LCP certified in the years following, most recently in 2020.

The CCC appeals jurisdiction includes areas within 100 feet of any wetland, estuary, or stream, among other conditions. Since the project would be located within 100 feet of Tembladero Slough, the project site is in the appeals jurisdiction. None of the project site is located within the CCC's retained permit jurisdiction. The project would require a Coastal Development Permit from the County.

2 Methodology

2.1 Regulatory Overview

Regulated resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the County of Monterey).

Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (species that are under review may be included if there is a reasonable expectation of listing within the life of the project)
- Species listed as candidate, rare, threatened, or endangered under the California Endangered Species Act or Native Plant Protection Act
- Species designated as Fully Protected, Species of Special Concern, or Watch List by CDFW
- Species designated as locally important by the local agency and/or otherwise protected through ordinance or local policy. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this document. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are part of a unique community, from the type locality, designated as rare or significant by local governments or where cumulative impacts could result in population–level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant, are not part of a unique community, and the APE is not known to be the type locality for any ranked plant species. Therefore, CRPR 3 and CRPR 4 species were not included in this analysis.

2.2 Environmental Statutes

For the purpose of this report, potential impacts to terrestrial and marine biological resources were analyzed based on the following statutes, which are detailed in Appendix A:

- CEQA
- Federal Endangered Species Act
- California Endangered Species Act
- Native Plant Protection Act
- Federal Clean Water Act
- California Fish and Game Code
- Porter-Cologne Water Quality Control Act
- California Coastal Act (administered through the County's LCP)

- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- Coastal Zone Management Act
- Protection of Wetlands – Executive Order 11990
- Wild and Scenic Rivers Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Fish and Wildlife Coordination Act
- Monterey County General Plan

With respect to the requirements of the federal Fish and Wildlife Coordination Act, it is anticipated that SWRCB would perform informal consultation with the United States Fish and Wildlife Service (USFWS) as part of its review of the project's eligibility for Clean Water State Revolving Fund program assistance.

2.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by Appendix G of the CEQA Guidelines, were used to evaluate potential environmental impacts. Based on these criteria, the proposed project would have a significant impact on biological resources if it would:

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

2.4 Literature Review

Queries of the USFWS Information for Planning and Consultation System (IPaC; 2022a), CDFW California Natural Diversity Database (CNDDB; 2022), and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (Online Inventory; 2022) were conducted to obtain comprehensive information regarding State and federally listed species as well as other special status species considered to have potential to occur within the *Watsonville East, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle and the

surrounding six quadrangles (*Soquel, Watsonville West, Moss Landing, Prunedale, Salinas,* and *Marina*; no quadrangles occur west of *Moss Landing* and *Marina* because of the presence of the Pacific Ocean). The results of these scientific database queries were compiled into a table that is presented in Appendix B, and the results of the IPaC query are included in Appendix C.

In addition, the following resources were reviewed for information about the APE:

- Aerial photographs of the APE and vicinity (Google Earth 2022)
- *Watsonville East, California* USGS 7.5-minute topographic quadrangle
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2022a)
- Critical Habitat Portal (USFWS 2022b)
- National Marine Fisheries Service (NMFS) Critical Habitat (National Oceanic and Atmospheric Administration Fisheries 2022)
- National Wetlands Inventory (NWI; USFWS 2022c)

2.5 Field Reconnaissance Survey

A reconnaissance survey was conducted within the APE by Rincon Biologist Samantha Kehr on September 2, 2022. The field reconnaissance survey was conducted on foot where access was available to record all biological resources encountered in the APE. The survey was conducted to document existing site conditions and to evaluate the potential for presence of regulated biological resources, including special status plant and animal species, sensitive plant communities, and habitat for nesting birds protected by federal and State laws. Site photographs taken during the survey are included in Appendix D. During the survey, an inventory of all plant and animal species observed was compiled (Appendix E) and an evaluation of potentially jurisdictional aquatic features was conducted.

Plant species nomenclature and taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). All plant species encountered were noted and identified to the lowest possible taxonomic level. The vegetation classification system used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009) and *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986), but has been modified as needed to accurately describe the existing habitats observed on site.

Wildlife identification and nomenclature followed standard reference texts, including Sibley Birds West: Field Guide to Birds of Western North America (Sibley 2016), Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and Mammals of North America (Bowers et al. 2004).

The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the APE during the field survey. Several special status species were eliminated from consideration as having no potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or knowledge of regional distribution.

3 Existing Conditions

This section summarizes the results of the reconnaissance-level field survey and literature review. Discussions regarding the general environmental setting, vegetation communities present, plant and animals observed, and the potential for special status species to occur on site are presented below. Representative photographs of the APE are provided in Appendix D, and a complete list of all plant and animal species observed on site during the field survey is presented in Appendix E.

3.1 Physical Characteristics

The APE is in Monterey County where the moderate climate typifies a Mediterranean climate throughout the year. Most rainfall occurs during the winter months. The APE is also within the Central Coast geographic subregion of California. The Central Coast subregion is a component of the larger Central Western California Region, which occurs within the even larger California Floristic Province (Baldwin et al. 2012).

The APE is located in Castroville, a census-designated place in Monterey County, on APNs 133-143-016, 030-141-022 and -023, and the Caltrans ROW that lies between them along SR 1. Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space. Portions of the APE are within the Coastal Zone, as established by the CCC.

The APE includes an existing M1W pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street/SR 183, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1. The APE is relatively flat and varies in elevation from seven feet above mean sea level at each end of the pipeline to 29 feet at SR 1. The APE is approximately 1.8 miles east of the Pacific Ocean and approximately 250 feet north of Tembladero Slough. Most of the project site has been previously developed and disturbed because it is within roadway rights-of-way and agricultural areas.

3.2 Watershed and Drainages

The APE is located within the Alisal Slough-Tembladero Slough Watershed (Hydrologic Unit Code 12 – 180600150103). The NWI depicts freshwater pond, lake, Freshwater Emergent Wetland, Freshwater forested/shrub wetland, Riverine, Estuarine and Marine Wetland, and Estuarine and Marine Deepwater occurring at or within 100 feet of some project components (USFWS 2022c). The Tembladero Slough is mapped as tidal riverine and is generally consistent with observations made during the field reconnaissance survey. Additionally, a drainage ditch not mapped in NWI was observed along the east side of Watsonville Road. This drainage is fed through a culvert under the road by an agricultural pump on the west side. This drainage is largely unvegetated and highly disturbed, however there are sufficient flows to provide habitat for aquatic snails (mollusk), crayfish (Arthropod), and mosquitofish (*Gambusia affinis*).

The NWI also mapped a roadside ditch on the east side of SR 1 at the base of the slope leading down from the bridge over the slough as Riverine and Freshwater Forested/Shrub Wetland. However, this feature is simply a topographic low area and does not have defined bed and banks or sufficient hydrology to support wetland vegetation and does not function as a drainage or wetland. Non-

native annual grasses, such as wild oats (*Avena* sp.), as well as coyote brush (*Baccharis pilularis*), English plantain (*Plantago lanceolata*), and field bindweed (*Convolvulus arvensis*) were observed in this swale.

3.3 Soils

The USDA, NRCS Web Soil Survey delineates three soil map units within the APE: Alviso silty clay loam; Clear Lake clay, 2 to 1 percent slopes; and Elkhorn fine sandy loam, 5 to 9 percent slopes (USDA, NRCS 2022a). Soil distribution within 100 feet of the locations of project components is depicted in Figure 3, and each soil map unit is described below. For each one, the description indicates whether the soil map unit is included on the *National Hydric Soils List*, which lists soils that are permanently or seasonally saturated (USDA, NRCS 2022b).

Alviso Silty Clay Loam

Alviso silty clay loam is a nearly level soil consisting of very poorly drained soil that formed in alluvium derived from sedimentary rock. These soils are in tidal flats and basin floors. This soil type is not considered prime farmland. This soil map unit is included on the *National Hydric Soils List* (USDA, NRCS 2022b).

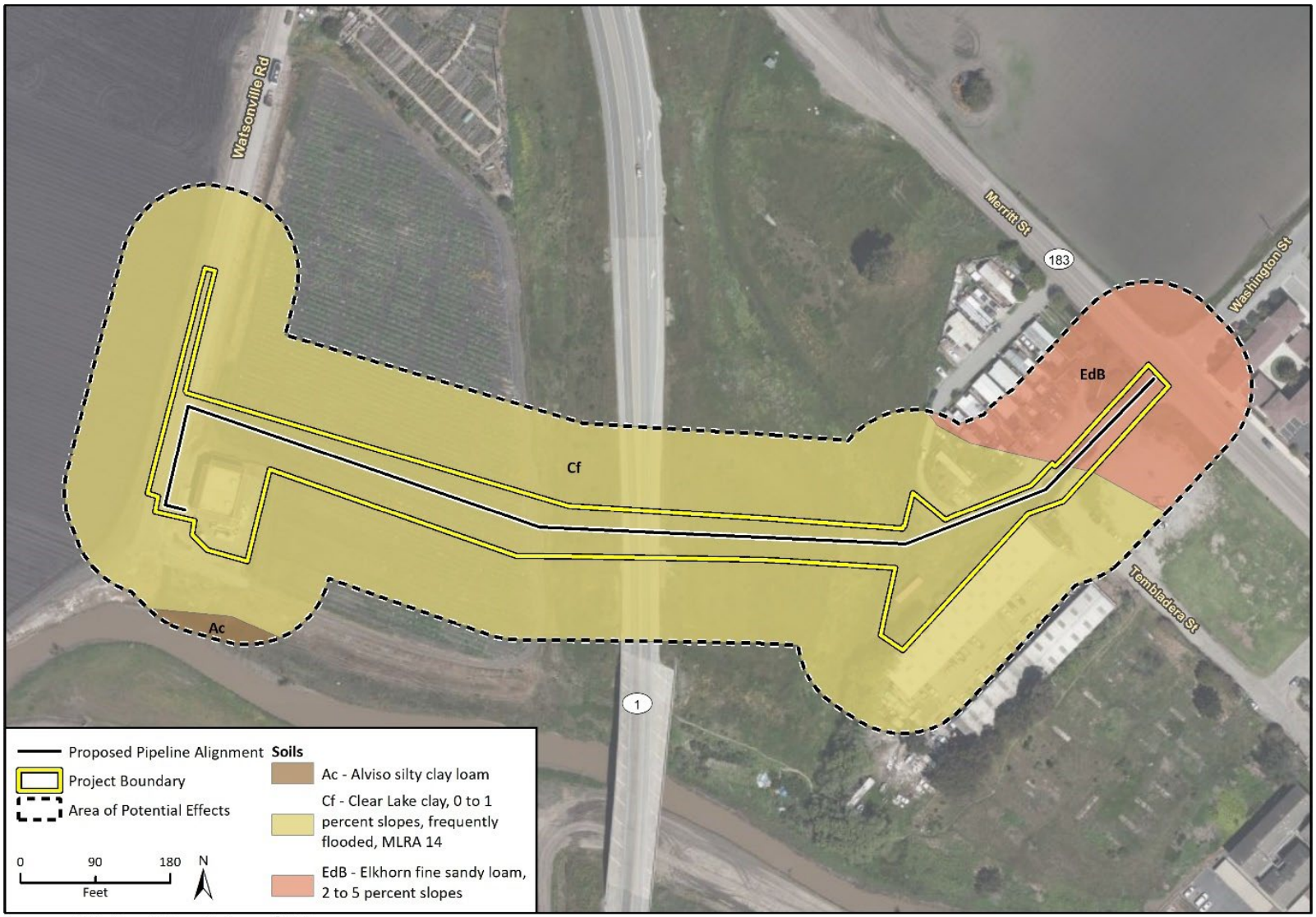
Clear Lake Clay, 02 to 1 percent slopes

Clear Lake clay is a nearly level soil consisting of very poorly drained soil that formed in alluvium derived from igneous, metamorphic and sedimentary rock. These soils are in flood plain alluvium and basin floors. This soil is considered prime farmland if irrigated. This soil map unit is included on the *National Hydric Soils List* (USDA, NRCS 2022b).

Elkhorn Fine Sandy Loam, 2 to 5 Percent Slopes

Elkhorn fine sandy loam, 2 to 5 percent slopes is a moderately sloping well drained soil on marine terraces and benches. This soil was formed in material underlain by weakly consolidated sandy sediments or ferruginous sandstones. This soil is considered prime farmland if irrigated. This soil map unit is not included on the *National Hydric Soils List* (USDA, NRCS 2022b).

Figure 5 Soil Map Units within the APE



Imagery provided by Microsoft Bing and its licensors © 2022
Additional data provided by Natural Resource Conservation Service Soil Survey Geographic, 2022.

3.4 Vegetation and Other Land Cover

Four terrestrial vegetation communities or land cover types occur within the APE: developed, agriculture, ruderal, and waters. Vegetation was classified and mapped during the reconnaissance-level survey conducted on September 2, 2022 to characterize the APE. The vegetation/land cover types identified in the APE are depicted in Figure 4.

Habitat characterizations were based on the classification system presented in MCV2 (Sawyer et al. 2009) and *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) but have been modified slightly to reflect existing site conditions accurately. The CDFW California Wildlife Habitat Relationships database was also referenced for describing the habitat types within the APE (Mayer and Laudenslayer 1988). Plant species nomenclature and taxonomy used for the APE follow treatments within Baldwin et al. (2012).

Agriculture

The agricultural land cover type is approximately 3.57 acres of the APE. This land cover consists of cultivated agriculture for various agriculture species.

Agricultural areas are not classified in the MCV2 classification system (Sawyer et al. 2009) or the Holland (1986) classification system but are included in the CDFW California Wildlife Habitat Relationships database as Irrigated Row and Field Crops (Mayer and Laudenslayer, Jr. 1988).

Developed

The developed land cover type is the most prevalent land cover type within the APE, occupying approximately 3.83 acres. This land cover type includes roads, residential and commercial buildings, parking lots, and the existing M1W pump station. Residential and commercial areas of this land cover type also contain landscaped vegetation.

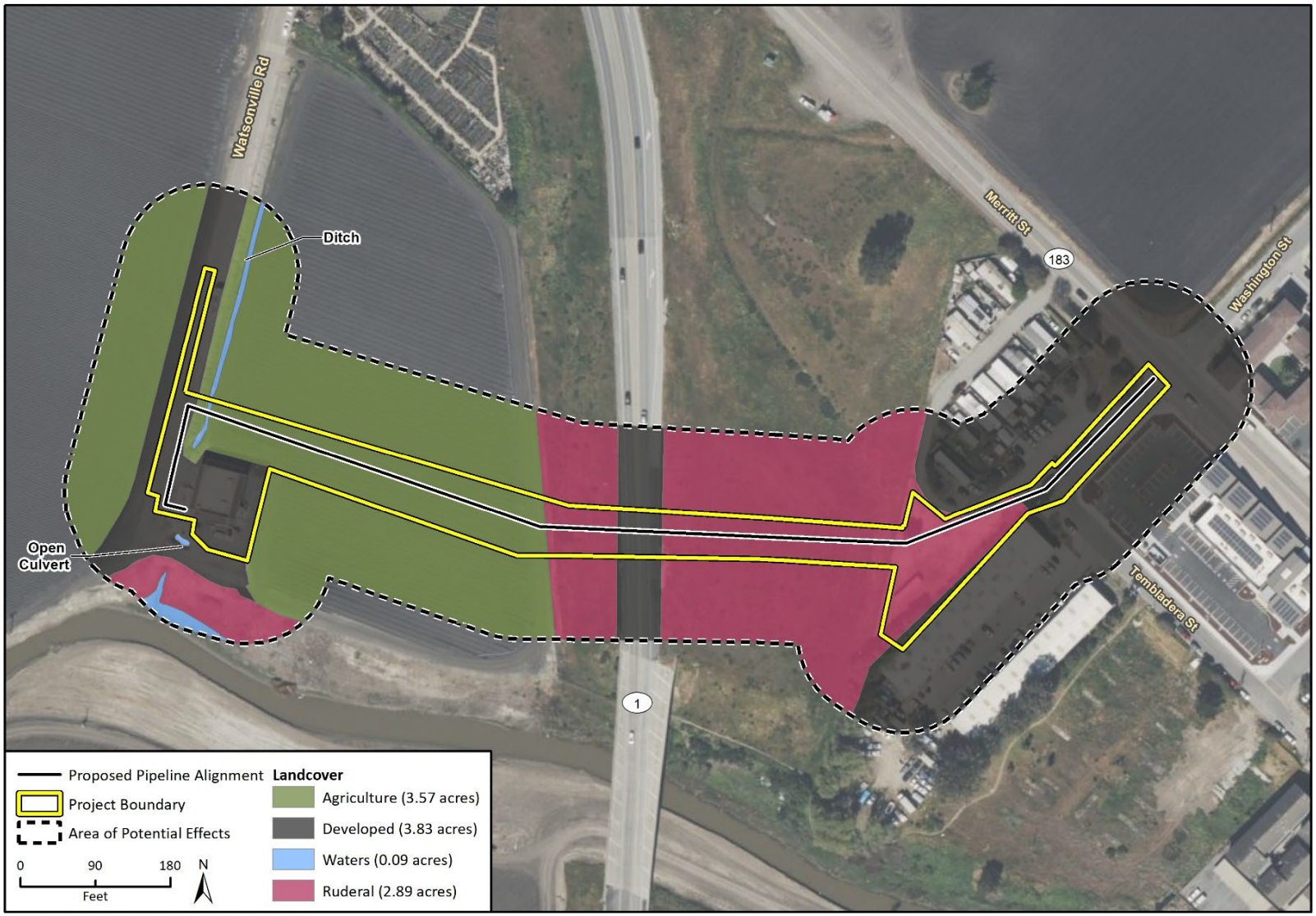
Developed areas are not classified in the MCV2 classification system (Sawyer et al. 2009) or the Holland (1986) classification system but are included in the CDFW California Wildlife Habitat Relationships database as Urban (Mayer and Laudenslayer, Jr. 1988).

Waters

Waters cover approximately 0.09 acre of the APE. This land cover type includes the Tembladero Slough and a drainage ditch on the east side of Watsonville Road. Aquatic species are found within this land cover type. Hydrophytic vegetation along the banks of Tembladero Slough is limited to small patches of tule (*Schoenoplectus acutus*), and the ditch is largely unvegetated, with some non-native grasses.

Jurisdictional waters are not classified in the MCV2 classification system (Sawyer et al. 2009) or the Holland (1986) classification system but is included in the CDFW California Wildlife Habitat Relationships database as Riverine (Mayer and Laudenslayer, Jr. 1988).

Figure 6 Vegetation and Land Cover Types



Ruderal

The APE contains approximately 2.89 acres of ruderal land cover. Ruderal areas are primarily found along the edges of roadways and agricultural areas within the APE and have been heavily disturbed or altered such that natural vegetation has largely been removed. Ruderal areas on site have had visible disturbance of soil or vegetation and are colonized by weeds and disturbance-tolerant natives, such as English plantain, coyote brush, and non-native annual grasses such as wild oats. Ruderal areas along Tembladero Slough include large fruited amaranth (*Amaranthus deflexus*), bristly ox-tongue (*Helminthotheca echioides*), fat-hen (*Atriplex prostrata*), and perennial pepperweed (*Lepidium latifolium*). This community does not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems but is included in the CDFW California Wildlife Habitat Relationships database as Urban (Mayer and Laudenslayer, Jr. 1988).

3.5 General Wildlife

Wildlife activity was low during the field reconnaissance survey. The ruderal and landscaped vegetation within and adjacent to the APE provides habitat for a variety of birds such as house finch (*Haemorhous mexicanus*), black phoebe (*Sayornis nigricans*), and rock pigeon (*Columba livia*). Tembladero Slough provides habitat for native and non-native aquatic species, including Pacific lamprey (*Lampetra tridentata*), threespine stickleback (Gasterosteus aculeatus) fathead minnow (*Pimephales promelas*), mosquitofish, and American bullfrog (*Lithobates catesbeianus*). For a complete list of wildlife observed, see Appendix E.

4 Regulated Biological Resources

Local, State, and federal agencies regulate special status species and other sensitive biological resources. This section discusses regulated biological resources observed in the APE and evaluates the potential for the APE to support additional regulated biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB and Online Inventory, species occurrence records from other sites in the vicinity of the APE, and the results of the survey of the APE. The potential for each special status species to occur in the APE was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All of the habitat components meeting the species requirements are present, and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB or other reports) on the site recently (within the last five years).

4.1 Special Status Species

For this report, special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by USFWS or NMFS under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act or Native Plant Protection Act; and animals designated as “Species of Special Concern” by CDFW or “Fully Protected” under the California Fish and Game Code. Additionally, rookery sites for species that nest colonially, such as bat maternity roosts, are also treated as special status.

Special Status Plant Species

Based on the database and literature review of records from the CNDDB and Online Inventory for the *Watsonville East, California* USGS 7.5-minute topographic quadrangle and surrounding six quadrangles as well as the USFWS IPaC list of federally listed species, 36 special status plant species are known to occur or have the potential to occur within the vicinity of the APE (Appendix B). However, due to development, landscaping, and agricultural use throughout most of the APE, and

lack of native coastal vegetation communities, none were determined to have a moderate or greater potential to occur within the APE.

Special Status Wildlife Species

Of the 39 special status wildlife species evaluated (Appendix B), two species, western pond turtle (*Emys marmorata*) and California red-legged frog (*Rana draytonii*), have a moderate and low potential, respectively, to occur and are discussed further below. Five additional species have a low potential to occur within the APE: tidewater goby (*Eucyclogobius newberryi*), Monterey hitch (*Lavinia exilicauda harengus*), steelhead - south-central California coast Distinct Population Segment (DPS) (*Oncorhynchus mykiss*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). For the purposes of CEQA analysis, non-listed special status species with low potential to occur will not be addressed further because these species have a low likelihood of being present within the vicinity of the project site. Furthermore, listed special status fish species with low potential to occur will not be addressed further because no direct or indirect impacts to the slough will occur and thereby, no adverse effects to these species would occur. The remaining 33 special status species evaluated are not expected to occur in the APE due to a lack of species-specific habitat requirements within the APE, the overall lack of suitable habitat such as natural vegetation communities or natural wetland habitats (e.g., marshes or seeps), and/or because the range of the species does not overlap with the APE. No federally or State listed or other special status wildlife species were observed during the field survey. California Fish and Game Code (CFGC) Section 3503 and the federal Migratory Bird Treaty Act (MBTA) protect native bird species and their nests.

Western Pond Turtle

Western pond turtle is a CDFW Species of Special Concern that is found in ponds, lakes, rivers, creeks, marshes, and irrigation ditches, with abundant vegetation. It requires basking sites of logs, rocks, cattail mats, or exposed banks. Western pond turtle is active from approximately February to November. This species will estivate during summer droughts by burying itself in soft bottom mud. When creeks and ponds dry up in summer, some turtles travel along the creek until they find an isolated deep pool, others stay within moist mats of algae in shallow pools, and many turtles move to woodlands above the creek or pond and bury themselves in loose soil. Pond turtle will overwinter underground until temperatures warm up and the heavy winter flows of the creek subside. They return to the creek in the spring.

There is one known occurrence of this species within five miles of the APE. This occurrence was observed in a freshwater marsh approximately 4.8 miles east of the APE. The potential for this species is limited to portions of the APE where suitable habitat occurs, including Tembladero Slough and adjacent ruderal habitat.

California Red-legged Frog

California red-legged frog is federally listed as threatened and is also a CDFW Species of Special Concern throughout its range. The current range of California red-legged frog extends along the coast from Mendocino County south to Mexico and inland from parts of the southern Cascade and northern Sierra Nevada ranges south to Fresno County. California red-legged frog inhabits quiet pools of streams, marshes, and ponds. Adults and juveniles are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial

impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation (USFWS 2011).

The Tembladero Slough within the APE contains potentially suitable breeding and/or foraging habitat for California red-legged frogs and they are known to occur in the Elkhorn Slough and surrounding areas. If individuals are present during construction, the project may result in direct or indirect impacts to individual frogs.

Other Protected Species

Nesting Birds

Non-game migratory birds protected under CFGC Section 3503 have the potential to breed throughout the APE. Native avian species common in coastal scrub, landscaping, developed, and ruderal areas have the potential to breed and forage throughout the APE. Species of birds common to the area that typically occur in the region, such as black phoebe, cliff swallow (*Petrochelidon pyrrhonota*), and other common California native bird species are likely to utilize the APE for nesting. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the APE.

4.2 Sensitive Plant Communities and Critical Habitats

Sensitive Natural Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in CNDDB. Sensitive natural communities included in the CNDDB follow the original methodology according to “Preliminary Descriptions of the Terrestrial Natural Communities of California” (Holland 1986). The methodology for determining sensitivity continues to be revised and is now based on MCV2 (Sawyer et al. 2009). Communities considered sensitive by CDFW are published in the California Sensitive Natural Communities List (CDFW 2022a).

Seven sensitive natural communities are known to occur within the seven-quadrangle search area, none of which were observed in the APE during the field reconnaissance survey - central dune scrub, central maritime chaparral, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, and Northern Coastal Salt Marsh. One vegetation alliance listed as sensitive by CDFW was observed in the APE, the small tule patches *Schoenoplectus acutus* [Global Rank GNR[1] State Rank S3S4[2] (CDFW 2022a)].

Critical Habitat

Critical habitat for steelhead south-central California coast DPS is mapped within the APE in the Tembladero Slough (NOAA 2022); however, the slough is highly degraded due to historical agricultural use and channelization.

[1] GNR Unranked — Global rank not yet assessed.

[2] S3 - Vulnerable; at moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. S4 - Apparently secure; at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

California Coastal Zone and Environmentally Sensitive Habitat Areas

Most of the APE occurs within the Coastal Zone designated by the CCC under the California Coastal Act. Since the locations occur within the jurisdiction of the County, these project components would be regulated pursuant to the County's LCP, specifically by the North County Land Use Plan, which includes the Castroville Community Plan (2007). LCPs typically identify Environmentally Sensitive Habitat Areas (ESHAs), which are areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The CCC considers saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens to be wetlands (California Coastal Act Section 30121). Coastal wetlands include "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" (California Code of Regulations Section 13577[b]). No project elements are proposed in Tembladero Slough; however, the project would require installation of the new sewer line below the drainage on the east side of Watsonville Road, which would likely be considered an ESHA due the fact that it provides habitat for wildlife, although marginal.

4.3 Jurisdictional Waters and Wetlands

As noted in Section 3.2, *Watershed and Drainages*, and Section 3.4, *Vegetation and Other Land Cover*, one roadside drainage observed during the reconnaissance survey occurs within the APE within the sewer line alignment and is likely under the jurisdiction(s) of USACE because it meets the definition of waters of the U.S. and drains to Tembladero Slough which, in turn, conveys water to Elkhorn Slough, a traditionally navigable water. It is also likely under the jurisdictions of the RWQCB pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act as waters of the State, CDFW per CFGC Section 1600 et seq. as streambed habitat, and County pursuant to the California Coastal Act and associated CCC-approved LCP because it meets the one-parameter definition of a wetland and is considered an ESHA.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations or those populations that are at risk of becoming isolated. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The APE is not within any Essential Connectivity Areas (CDFW 2010) and given the relatively narrow footprint, relatively small size of the APE, degraded nature of the Tembladero Slough, and the hazardous nature of the associated roads and agricultural areas, it is unlikely the APE would support a significant movement corridor for wildlife.

4.5 Resources Protected by Local Policies and Ordinances

Areas of the APE located outside of the Coastal Zone are included in the Monterey County General Plan (2010), which includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats would be affected by new development. The County also requires that migratory bird nests be protected during the nesting season (February 1 to September 15) by means of pre-construction surveys and no-disturbance buffers.

Under the County's LCP, the project site is also subject to the policies of the North County Land Use Plan, which includes the Castroville Community Plan (2007). Section 2.3 of the North County Land Use Plan prohibits all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures in the following environmentally sensitive habitats: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul-out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Section 2.3 of the North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval (County of Monterey 1982).

4.6 Habitat Conservation Plans

The APE is not located within an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

5 Impact Analysis and Mitigation Measures

This section discusses the potential impacts to biological resources that may occur from implementation of the proposed project and suggests appropriate avoidance, minimization, and mitigation measures that would reduce those impacts to less-than-significant levels. The criteria used to evaluate potential project-related impacts to biological resources are summarized in Section 2.3, *Guidelines for Determining CEQA Significance*.

5.1 Special Status Species

The proposed project would have a significant effect on biological resources if it would:

a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

Special Status Plants

No federally listed, or other special status, plant species were determined to have a moderate or greater potential to occur within the APE. Furthermore, the only species determined to have a low potential to occur can be ruled out based on the lack of suitable habitat within the project's disturbance areas. Therefore, no impacts to special status plants would occur. The project would not adversely affect federally listed plants.

Special Status Wildlife

Western Pond Turtle

Western pond turtle, a CDFW Species of Special Concern, has a moderate potential to occur in the APE, primarily in Tembladero Slough; however, it nests in upland areas (bury their eggs). Potential direct impacts to western pond turtle include harassment or injury of individuals and potential destruction of nests located in upland habitat if they are present within the APE during construction. Additionally, direct impacts could occur within aquatic habitat in Tembladero Slough through uncontrolled spills or leaks. Direct effects to water quality would be avoided as a condition of the County building or grading permit, through use of spill prevention and erosion control BMPs and compliance with the National Pollution Discharge Elimination System (NPDES) permit as required by Monterey County Municipal Code (Section 16.14.140.C). Direct impacts to individuals during construction would be potentially significant. Therefore, implementation of Mitigation Measure BIO-1 is recommended to reduce project impacts to a less-than-significant level.

California Red-legged Frog

California red-legged frog, a federally threatened species and CDFW Species of Special Concern, has a low potential to occur in the APE, primarily in Tembladero Slough; however, it traverses upland areas up to one mile away from and between aquatic features. Potential direct impacts to California red-legged frog include harassment or injury of individuals if they are present within the APE during construction. Additionally, direct impacts could occur within aquatic habitat in Tembladero Slough through uncontrolled spills or leaks. Direct effects to water quality would be avoided as a condition

of the County building or grading permit, through use of spill prevention and erosion control BMPs and compliance with the NPDES permit as required by Monterey County Municipal Code (Section 16.14.140.C). Direct impacts to individuals during construction would be potentially significant. Therefore, implementation of Mitigation Measure BIO-2 is recommended to reduce project impacts to a less-than-significant level. With implementation of these measures, the project is not likely to adversely affect California red-legged frog to the federal Endangered Species Act.

Nesting Birds

In addition to the special status animal species discussed above, several bird species protected by the MBTA and the CFGC may also nest in trees and shrubs within or near the APE. Direct impacts to nesting birds may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress of adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds from construction would be potentially significant, and implementation of Mitigation Measure BIO-3 is recommended to reduce impacts to a less-than-significant level.

Recommended Mitigation Measures

BIO-1 Western Pond Turtle Avoidance and Minimization

- A qualified biologist(s) shall conduct a pre-construction survey within 48-hours prior to the onset of work activities, as well as surveys and/or monitoring during initial disturbance of potential western pond turtle habitat. If this species is found and the individuals are likely to be injured or killed by work activities, the approved biologist shall have the authority to stop work and sufficient time to move them from the project site before work activities begin or restart. The biologist(s) must relocate any western pond turtle the shortest distance possible to a location that contains suitable habitat that is not likely to be affected by activities associated with the proposed project.
- If a western pond turtle egg clutch is discovered during pre-construction surveys, the location shall be surrounded with high visibility fencing under the guidance of a qualified biologist. The nest shall be avoided by construction until a qualified biologist determines that the clutch has hatched. If, during construction, a western pond turtle nest is discovered, construction shall cease immediately upon the discovery and the qualified biologist notified. The same procedure described above shall then be applied.
- To the extent feasible construction activities shall be scheduled outside of the typical nesting season for western pond turtle (April-August [Stebbins 2003]).

BIO-2 California Red-legged Frog Avoidance and Minimization

- A qualified biologist(s) shall conduct a pre-construction survey within 48-hours prior to the onset of work activities, as well as surveys and/or monitoring during initial disturbance of potential California red-legged frog habitat or as otherwise directed by the USFWS. The USFWS should be notified if a California red-legged frog, in any of its life stages, is observed within the APE.
- Construction crew should check beneath the staging equipment each morning prior to commencement of daily construction activities. Should California red-legged frog occur within the staging areas, construction activities should be halted until the California red-legged frog

vacates the area on its own or until a biologist with USFWS approval relocates the California red-legged frog.

- Prior to ground disturbance, a temporary wildlife exclusion barrier should be installed along the limits of disturbance. A qualified biologist should inspect the area prior to barrier installation. The barrier should be designed to prevent California red-legged frog from entering the project area and should remain in place until all development activities have been completed. This barrier should be inspected daily by a qualified biologist or the qualified biologist's designee and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs on the outer side of the barrier.
- A qualified biologist should be present during all grading and initial ground disturbing activities. Should California red-legged frog be observed within the study area, the USFWS should be notified, and construction should be halted until either the California red-legged frog exits the site on its own or until a biologist with USFWS approval relocates the California red-legged frog.
- No work should occur during a rain event (over 0.25 inch). If a rain event occurs, a qualified biologist should inspect the site again prior to resuming work.

BIO-3 Nesting Bird Avoidance and Minimization Measures

The following avoidance and minimization measures should be implemented during project construction activities:

- Initial site disturbance should occur outside the general avian nesting season (February 1 through September 15), if feasible.
- If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist should conduct a pre-construction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey should include the entire area of disturbance area plus a 50-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work should be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer should be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required and/or smaller buffers may be established depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) should be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.
- If construction activities in a given work area cease for more than 14 days, additional surveys should be conducted for the work area. If active nests are located, the aforementioned buffer zone measures should be implemented.

5.2 Sensitive Plant Communities

The proposed project would have a significant effect on biological resources if it would:

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

Only small areas of the APE adjacent to Tembladero Slough contain tules, which are on the California Sensitive Natural Communities List (CNDDB 2021). However, no project elements are proposed in this area and tules only occur at the base of the slope below agricultural access roads outside any practical work area. Therefore, no direct effects to tule habitat or other natural communities would occur during trenching or drilling. However, there is potential for indirect impacts to sensitive habitat to occur, such as introduction of invasive species or incidental trampling of habitat as construction workers move around the area. Therefore, impacts to sensitive plant communities could be potentially significant, and implementation of Mitigation Measure BIO-4 outlined below is recommended to reduce impacts to a less-than-significant level.

It should be noted that the project is located within the Coastal Zone (see Section 4.2, *Sensitive Plant Communities and Critical Habitat*). The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA, including those contained in the Monterey County LCP and the Monterey County Code (see Section 5.5, *Local Policies and Ordinances*).

Recommended Mitigation Measures

BIO-4 Implement Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

The following measures should be implemented for project construction activities:

- To the extent feasible, all project activities, including access routes, staging areas, stockpile areas, and equipment maintenance, should be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas should be mapped by a qualified biologist and clearly shown on construction plans. Bright orange protective fencing (e.g., orange snow fencing) should be installed at the outermost edge of sensitive habitats and should not be disturbed except as required for project activities.
- Imported soil should be obtained from a source that is known to be free of invasive plant species.
- Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities.
- Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources and/or previous construction sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the APE. All equipment used on the premises should be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as feasible from any water body adjacent to the project site in a level staging area. Position parked equipment also over drip pans or absorbent material.
- Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities.
- To the greatest extent feasible, stabilize all exposed or disturbed areas in the APE. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood,

straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby aquatic features.

5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

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

A small area of the Tembladero Slough occurs in the APE; however, no project elements are proposed for this area and no impacts would occur as a result of construction. As stated in Section 4.4, *Jurisdictional Waters and Wetlands*, one roadway drainage is present in the APE and is within the construction area. This drainage is manmade, largely devoid of vegetation, and contains little habitat value; however, there is sufficient hydrology to support aquatic invertebrates and mosquito fish, and is likely under the jurisdictions of the USACE, RWQCB, CDFW, and County. Implementation of the project will require trenching to install the new pipeline and restoration of the site to previous conditions, along with a temporary bypass to temporarily divert flows within the drainage ditch around the section where open-cut trench sewer line installation would occur. Therefore, the project would not result in permanent impacts or substantial adverse effects to the drainage but would require USACE, RWQCB, CDFW, and County permitting. As a result, impacts would be potentially significant, and implementation of Mitigation Measure BIO-4 and BIO-5 is recommended to reduce impacts to a less-than-significant level.

BIO-5 Drainage Restoration

- Temporary impacts to the drainage shall be mitigated by fully restoring the drainage to pre-project conditions, or as required in permits obtained from regulatory agencies.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

No significant wildlife movement corridors or habitat linkages are present in the APE. In addition, due to the relatively small size of each project component, their dispersal throughout the APE, and their location primarily below ground, the project would not interfere substantially with the movement of wildlife species. No impact would occur.

5.5 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

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

The Monterey County General Plan (2010) includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats would be affected by new development. Section 2.3 of the County of Monterey's North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits all development within certain environmentally sensitive habitats, including ESHA, as well as the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval. The North County Area Plan requires a permit for removal of oak or madrone trees. No oak or madrone trees would be removed as a result of the proposed project. As discussed under Section 5.1, *Special Status Species*, and Section 5.2, *Sensitive Plant Communities*, impacts to special status species and sensitive plant communities (including ESHA) would be less than significant with incorporation of the recommended mitigation measures. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources. However, the project may require a Coastal Development Permit, which would be obtained as needed. Impacts would be less than significant with mitigation incorporated.

5.6 Adopted or Approved Plans

The proposed project would have a significant effect on biological resources if it would:

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

The APE is not subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

5.7 Critical Habitat, Coastal Zone, Wild and Scenic Rivers, and Essential Fish Habitat

As noted in Section 4.2, *Sensitive Plant Communities and Critical Habitat*, the Timbalero Slough within the APE is federally designated critical habitat for steelhead, and is located within the Coastal Zone. No impacts to Timbalero Slough are expected, but the project would require temporary impacts to a jurisdictional drainage. The CCC has delegated local permitting authority through its approval of the Monterey County LCP, specifically the North County Land Use Plan, which includes the Castroville Community Plan (2007). Unless the project is determined to be exempt by the County of Monterey, the District would be required to obtain a coastal development permit for the project. Therefore, through required compliance with County of Monterey coastal regulations, the District would comply with the Coastal Zone Management Act.

As described in Section 5.3, *Jurisdictional Waters and Wetlands*, the APE includes two potentially federally protected waters as defined in Title 33 Code of Federal Regulations Section 328.3; only one, Tembladero Slough, is a federally protected wetland as defined in Executive Order (EO) 11990 and no impacts would occur. Thus, the District would comply with Executive Order 11990 (Protection of Wetlands).

There are no designated Wild and Scenic Rivers within the APE, and no designated rivers would be adversely affected by the proposed project. As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

The proposed project would not be located in or impact any United States federal waters regulated under the Magnuson-Stevens Fishery Conservation and Management Act. In addition, as described in Section 5.4, *Wildlife Movement*, the project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the APE. Therefore, the District would comply with the Magnuson-Stevens Fishery Conservation and Management Act of 1976.

6 Limitations, Assumptions, and Use Reliance

This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Weather conditions may impact species observations as well. Drought conditions may prevent many plant species from reproducing during a given year and wildlife species may not occupy a normally suitable habitat due to a lack of water. Reconnaissance biological surveys for certain taxa also may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, such as saline clover which has a bloom period of April through June and may not have been fully in its bloom period, and therefore, reconnaissance biological survey results cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Area of Potential Effects (APE), which are detailed in the following subsections, include:

- United States Army Corps of Engineers (USACE; wetlands and other waters of the United States);
- Central Coast Regional Water Quality Control Board (Central Coast RWQCB; waters of the State);
- United States Fish and Wildlife Service (USFWS; federally listed species and migratory birds);
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern; nesting birds);

A number of federal, state, and local statutes, ordinances, and policies, which are detailed in the following subsections, provide a regulatory structure that guides the protection of biological resources. These include:

- California Coastal Act
- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act
- Rivers and Harbors Act of 1899
- California Ocean Plan
- County of Monterey Local Coastal Program

Agencies

United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the USACE has authority to regulate activities that could discharge fill of material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States,

the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

Central Coast Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the Central Coast RWQCB have jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act. "Waters of the State" are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General WDRs for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). The Central Coast RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC Section 153 et. seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife

The CDFW derives its authority from the California Fish and Game Code (CFGC). The CESA (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under the CESA is restricted to direct mortality of a listed species; however, the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, the CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces CFGC Sections 3511, 4700, 5050, and 5515, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. CFGC Section 3503.5 protects all birds-of-prey and their eggs and nests

against take, possession, or destruction of nests or eggs. CFGC Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Species of Special Concern (SSC) is a category used by the CDFW for those species considered to be indicators of regional habitat changes or considered to be potential future protected species. SSC do not have any special legal status except that which may be afforded by the CFGC as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et. seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, the CDFW promulgated regulations (14 California Code of Regulations Section 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. CFGC Section 1600 et seq. (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

Regulations

Coastal Zone Management Act

The Coastal Zone Management Act, passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, is designed to balance competing land and water issues in coastal zones. It also aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Within California, the Coastal Zone Management Act is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the CCC.

California Coastal Act

In October 1972, the United States Congress passed Title 16 USC Sections 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation's natural, environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development (16 USC Section 1452b). As a result of that federal enactment, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional coastal commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for "adoption and implementation."

The California Coastal Act of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Furthermore, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of Local Coastal Programs (LCPs) by the California Coastal Commission. The County of Monterey is the local permitting authority in the APE through implementation of its LCP.

California Environmental Quality Act

CEQA requires State and local agencies to identify the significant environmental impacts of certain actions and to avoid or mitigate those impacts, if feasible. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity that must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency and that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Federal Endangered Species Act

The purpose of the FESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the USFWS and the NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibility of NMFS mainly consists of marine wildlife, such as whales and anadromous fish such as salmon.

Under the FESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the FESA, the United States Congress defined "species" to include subspecies, varieties, and, for vertebrates, distinct population segments.

California Endangered Species Act

The CESA (CFGC Sections 2050 to 2116) sets forth procedures by which individuals, organizations, or the CDFW can submit petitions to the Fish and Game Commission requesting that a species, subspecies, or variety of plant or animal be added to, deleted from, or changed in status on the State lists of rare, threatened or endangered species. The factors that contribute to determining the need to list a species include the present or threatened modification or destruction of habitat, competition, predation, disease, overexploitation by collectors, or other natural occurrences or human-related activities. Procedures governing the submission and review of petitions for listing, uplisting, downlisting, and delisting of endangered and threatened species of plants and animals are described in Title 14 California Code of Regulations Section 670.1.

Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA, enacted in 1948, was called the Federal Water Pollution Control Act. However, this act was significantly reorganized and expanded in 1972, at which time "Clean Water Act" became the act's common name.

Under the CWA, the United States Environmental Protection Agency (USEPA) has implemented pollution control programs, such as setting wastewater standards for industry. The USEPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The USEPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges from point sources, which are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal sewer system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

California Fish and Game Code

Enacted in 1957, many of the CFGC provisions are derived from the former 1947 Fish and Game Code as well as older statutes under the former Penal and Political Codes originally enacted in 1872. The new statutes covering more modern topics, such as endangered species, were added at a later time. The CFGC is a fluid code amending and adjusting older California game laws, for example, to comply with newer protected species lists and regulations.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et. seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on hydrogeologic barriers) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Migratory Bird Treaty Act

The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid federal permit. Migratory bird species protected by the MBTA are listed in 50 Code of Federal Regulations Section 10.13. The USFWS has statutory authority and responsibility for enforcing the MBTA under 16 USC Sections 703 to 712. The MBTA implements Conventions

between the United States and four countries (Canada, Mexico, Japan and Russia) for the protection of migratory birds.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Sections 668 to 668c), enacted in 1940 and amended several times since, prohibits anyone from "taking" bald or golden eagles, including their parts, nests, or eggs, without a permit issued by the Secretary of the Interior. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Rivers and Harbors Act of 1899

Section 9 of the Rivers and Harbors Appropriation Act of 1899 (33 USC Section 403), commonly known as the Rivers and Harbors Act of 1899, prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the United States without Congressional approval. Administration of Section 9 has been delegated to the Coast Guard. Structures authorized by State legislatures may be built if the affected navigable waters are completely within one State, provided that the plan is approved by the Chief of Engineers and the Secretary of Army (33 USC Section 401).

Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. Service concerns include contaminated sediments associated with dredge or fill projects in navigable waters.

Executive Order 11990 – Protection of Wetlands

Under Executive Order 11990 (May 24, 1977), federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the United States Exclusive Economic Zone. It establishes exclusive United States management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat, as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

County of Monetary Local Coastal Program

Under the County of Monterey's LCP, the project site is also subject to the policies of the North County Land Use Plan (1982). Section 2.3 of the North County Land Use Plan prohibits all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures in the following environmental sensitive habitats: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul-out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Section 2.3 of the North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval (County of Monterey 1982).

Section 2.3.3, B *Riparian, Wetland, and Aquatic Habitats* Includes specific policies to protect aquatic resources, including policy 2.3.3,B.2:

> 2. All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for flood control purposes, water supply projects, improvement of fish and wildlife habitat, or laying of pipelines when no alternative route is feasible, and continued and future use of utility lines and appurtenant facilities. These activities shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution. When such activities require removal of riparian plant species, re-vegetation with native plants shall be required.

Castroville Community Plan

The Castroville Community Plan includes goals and policies to protect natural resources, including Tembladero Slough:

> Policy 5.1 New private and public development shall work with local and regional organizations to enhance the sloughs in the vicinity of Castroville as part of the ongoing regional slough enhancement efforts to improve habitat, provide open space and create attractive amenities for the entire community.

Monterey County Municipal Code

The Monterey Municipal Code Chapter 16.14 - Urban Stormwater Quality Management and Discharge Control, requires compliance with the Clean Water Act and Porter-Cologne Act, and requires consistency with the State stormwater general permit. Additionally, Section 16.14.140.C - BMP requirements, requires "construction activity for which a building or grading permit has been issued shall implement BMPs to control the discharge of pollutants to the maximum extent practicable, comply with the State construction general permit, and eliminate non-stormwater discharges that are not in compliance with an applicable National Pollution Discharge Elimination System (NPDES) permit".

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Appendix B

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Area of Potential Effects (APE)

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Agrostis lacuna-vernalis vernal pool bent grass	None/None G1/S1 1B.1	Annual herb. Vernal pools. In mima mound areas or on the margins of vernal pools. Elevations: 375-475ft. (115-145m.) Blooms Apr-May.	Not Expected	Vernal Pools and mima mounds are not present.
Allium hickmanii Hickman's onion	None/None G2/S2 1B.2	Perennial bulbiferous herb. Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Sandy loam, damp ground and vernal swales; mostly in grassland though can be associated with chaparral or woodland. Elevations: 15-655ft. (5-200m.) Blooms Mar-May.	Not Expected	Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grasslands with sandy soils are not present.
Arctostaphylos andersonii Anderson's manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Broadleafed upland forest, chaparral, north coast coniferous forest. Edges, openings. Elevations: 195-2495ft. (60-760m.) Blooms Nov-May.	Not Expected	Broadleafed upland forest, chaparral, and north coast coniferous forests are not present and no Manzanitas were observed in the APE.
Arctostaphylos hookeri ssp. *hookeri* Hooker's manzanita	None/None G3T2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland, closed-cone coniferous forest, coastal scrub. Sandy. Elevations: 195-1760ft. (60-536m.) Blooms Jan-Jun.	Not Expected	Chaparral, cismontane woodland, closed-cone coniferous forest, and coastal scrub are not present and no Manzanitas were observed in the APE.
Arctostaphylos montereyensis Toro manzanita	None/None G2?/S2? 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland, coastal scrub. Sandy. Elevations: 100-2395ft. (30-730m.) Blooms Feb-Mar.	Not Expected	Chaparral, cismontane woodland, closed-cone coniferous forest, and coastal scrub are not present and no Manzanitas were observed in the APE.
Arctostaphylos pajaroensis Pajaro manzanita	None/None G1/S1 1B.1	Perennial evergreen shrub. Chaparral. Sandy soils. Elevations: 100-2495ft. (30-760m.) Blooms Dec-Mar.	Not Expected	Chaparral with sandy soils are not present and no Manzanitas were observed in the APE
Arctostaphylos pumila sandmat manzanita	None/None G1/S1 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub. Openings, sandy. Elevations: 10-675ft. (3-205m.) Blooms Feb-May.	Not Expected	Chaparral, cismontane woodland, closed-cone coniferous forest, and coastal scrub are not present and no Manzanitas were observed in the APE
Astragalus tener var. *tener* alkali milk-vetch	None/None G2T1/S1 1B.2	Annual herb. Playas, valley and foothill grassland, vernal pools. Alkaline. Elevations: 5-195ft. (1-60m.) Blooms Mar-Jun.	Not Expected	Playas, valley and foothill grassland, and vernal pools are not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Castilleja ambigua var. *insalutata* pink Johnny-nip	None/None G4T2/S2 1B.1	Annual herb (hemiparasitic). Coastal prairie, coastal scrub. Wet or moist coastal strand or scrub habitats. Elevations: 0-330ft. (0-100m.) Blooms May-Aug.	Not Expected	Coastal prairie, coastal scrub, and moist coastal strand or scrub habitats are not present.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	None/None G3T1T2/S1S2 1B.1	Annual herb. Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevations: 0-755ft. (0-230m.) Blooms May-Oct(Nov).	Not Expected	Valley and foothill grasslands with alkaline soils are not present.
Chorizanthe minutiflora Fort Ord spineflower	None/None G1/S1 1B.2	Annual herb. Chaparral, coastal scrub. Openings, sandy. Elevations: 180-490ft. (55-150m.) Blooms Apr-Jul.	Not Expected	Chaparral and coastal scrub with sandy soils are not present.
Chorizanthe pungens var. *pungens* Monterey spineflower	FT/None G2T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy. Elevations: 10-1475ft. (3-450m.) Blooms Apr-Jun(Jul-Aug).	Not Expected	Chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland with sandy soils are not present.
Chorizanthe robusta var. *robusta* robust spineflower	FE/None G2T1/S1 1B.1	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 10-985ft. (3-300m.) Blooms Apr-Sep.	Not Expected	Chaparral, cismontane woodland, coastal dunes, and coastal scrub with gravelly or sandy soils are not present.
Cordylanthus rigidus ssp. *littoralis* seaside bird's-beak	None/SCE G5T2/S2 1B.1	Annual herb (hemiparasitic). Chaparral, cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub. Disturbed areas (often), sandy. Elevations: 0-1690ft. (0-515m.) Blooms Apr-Oct.	Not Expected	Chaparral, cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub
Ericameria fasciculata Eastwood's goldenbush	None/None G2/S2 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. In sandy openings. Elevations: 100-900ft. (30-275m.) Blooms Jul-Oct.	Not Expected	Chaparral, closed-cone coniferous forest, coastal dunes, and coastal scrub are not present, and this species was not observed in the APE.
Erysimum ammophilum sand-loving wallflower	None/None G2/S2 1B.2	Perennial herb. Chaparral, coastal dunes, coastal scrub. Sandy openings. Elevations: 0-195ft. (0-60m.) Blooms Feb-Jun(Jul-Aug).	Not Expected	Chaparral, coastal dunes, and coastal scrub with sandy soils are not present.
Erysimum menziesii Menzies' wallflower	FE/SCE G1/S1 1B.1	Perennial herb. Coastal dunes. Localized on dunes and coastal strand. Elevations: 0-115ft. (0-35m.) Blooms Mar-Sep.	Not Expected	Chaparral, coastal dunes, and coastal scrub with sandy soils are not present.
Fritillaria liliacea fragrant fritillary	None/None G2/S2 1B.2	Perennial bulbiferous herb. Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Often on	Not Expected	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland with

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		serpentine; various soils reported though usually on clay, in grassland. Elevations: 10-1345ft. (3-410m.) Blooms Feb-Apr.		serpentine soils are not present.
Gilia tenuiflora ssp. *arenaria* Monterey gilia	FE/SCT G3G4T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub. Sandy openings in bare, wind-sheltered areas. Often near dune summit or in the hind dunes; two records from Pleistocene inland dunes. Elevations: 0-150ft. (0-45m.) Blooms Apr-Jun.	Not Expected	Chaparral, cismontane woodland, and coastal dunes, coastal scrub with sandy soils are not present.
Holocarpha macradenia Santa Cruz tarplant	FT/SCE G1/S1 1B.1	Annual herb. Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with nonnatives. Elevations: 35-720ft. (10-220m.) Blooms Jun-Oct.	Not Expected	Coastal prairie, coastal scrub, and valley and foothill grasslands with sandy soil are not present.
Horkelia cuneata var. *sericea* Kellogg's horkelia	None/None G4T1?/S1? 1B.1	Perennial herb. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. Elevations: 35-655ft. (10-200m.) Blooms Apr-Sep.	Not Expected	Chaparral, closed-cone coniferous forest, coastal dunes, and coastal scrub with sandy soils are not present.
Horkelia marinensis Point Reyes horkelia	None/None G2/S2 1B.2	Perennial herb. Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. Elevations: 15-2475ft. (5-755m.) Blooms May-Sep.	Not Expected	Coastal dunes, coastal prairie, and coastal scrub with sandy soils are not present.
Lasthenia californica ssp. *macrantha* perennial goldfields	None/None G3T2/S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub. Elevations: 15-1705ft. (5-520m.) Blooms Jan-Nov.	Not Expected	Coastal bluff scrub, coastal dunes, and coastal scrub are not present.
Lasthenia conjugens Contra Costa goldfields	FE/None G1/S1 1B.1	Annual herb. Cismontane woodland, playas, valley and foothill grassland, vernal pools. Vernal pools, swales, low depressions, in open grassy areas. Elevations: 0-1540ft. (0-470m.) Blooms Mar-Jun.	Not Expected	Cismontane woodland, playas, valley and foothill grassland, and vernal pools are not present.
Legenere limosa legenere	None/None G2/S2 1B.1	Annual herb. Vernal pools. In beds of vernal pools. 1-. Elevations: 5-2885ft. (1-880m.) Blooms Apr-Jun.	Not Expected	Vernal pools are not present.
Microseris paludosa marsh microseris	None/None G2/S2 1B.2	Perennial herb. Cismontane woodland, closed-cone coniferous forest, coastal scrub, valley and foothill grassland. Elevations: 15-1165ft. (5-355m.) Blooms Apr-Jun(Jul).	Not Expected	Cismontane woodland, closed-cone coniferous forest, coastal scrub, and valley and foothill grasslands are not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Monardella sinuata ssp. *nigrescens* northern curly-leaved monardella	None/None G3T2/S2 1B.2	Annual herb. Chaparral, coastal dunes, coastal scrub, lower montane coniferous forest. Sandy soils. Elevations: 0-985ft. (0-300m.) Blooms (Apr)May-Jul(Aug-Sep).	Not Expected	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest with sandy soils are not present.
Monolopia gracilens woodland woollythreads	None/None G3/S3 1B.2	Annual herb. Broadleafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns, but may have only weak affinity to serpentine. Elevations: 330-3935ft. (100-1200m.) Blooms (Feb)Mar-Jul.	Not Expected	Broadleafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, and valley and foothill grasslands with sandy or rocky soils are not present.
Pedicularis dudleyi Dudley's lousewort	None/SCR G2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. Elevations: 195-2955ft. (60-900m.) Blooms Apr-Jun.	Not Expected	Chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland, and maritime chaparral are not present.
Pentachaeta bellidiflora white-rayed pentachaeta	FE/SCE G1/S1 1B.1	Annual herb. Cismontane woodland, valley and foothill grassland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. Elevations: 115-2035ft. (35-620m.) Blooms Mar-May.	Not Expected	Cismontane woodland, and valley and foothill grasslands with serpentine soils are not present.
Piperia yadonii Yadon's rein orchid	FE/None G1/S1 1B.1	Perennial herb. Chaparral, closed-cone coniferous forest, coastal bluff scrub. On sandstone and sandy soil, but poorly drained and often dry. Elevations: 35-1675ft. (10-510m.) Blooms (Feb)May-Aug.	Not Expected	Chaparral, closed-cone coniferous forest, and coastal bluff scrub with sandy soils are not present.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	None/None G3T1Q/S1 1B.2	Annual herb. Chaparral, coastal prairie, coastal scrub. Mesic sites. Elevations: 10-525ft. (3-160m.) Blooms Mar-Jun.	Not Expected	Chaparral, coastal prairie, and coastal scrub are not present.
Plagiobothrys diffusus San Francisco popcornflower	None/SCE G1Q/S1 1B.1	Annual herb. Coastal prairie, valley and foothill grassland. Historically from grassy slopes with marine influence. Elevations: 195-1180ft. (60-360m.) Blooms Mar-Jun.	Not Expected	Coastal prairie, and valley and foothill grasslands are not present.
Rosa pinetorum pine rose	None/None G2/S2 1B.2	Perennial shrub. Cismontane woodland, closed-cone coniferous forest. Elevations: 5-3100ft. (2-945m.) Blooms May-Jul.	Not Expected	Cismontane woodland, and closed-cone coniferous forest are not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Trifolium buckwestiorum Santa Cruz clover	None/None G2/S2 1B.1	Annual herb. Broadleafed upland forest, cismontane woodland, coastal prairie. Moist grassland. Gravelly margins. Elevations: 345-2000ft. (105-610m.) Blooms Apr-Oct.	Not Expected	Broadleafed upland forest, cismontane woodland, and coastal prairie are not present.
Trifolium hydrophilum saline clover	None/None G2/S2 1B.2	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. Elevations: 0-985ft. (0-300m.) Blooms Apr-Jun.	Low potential	There is a small patch of tule (*Schoenoplectus acutus*) along the edges of the Tembladero Slough that may provide suitable habitat.

Regional Vicinity refers to within a 7-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR (CNPS California Rare Plant Rank)

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1=Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Area of Potential Effects (APE)

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Invertebrates				
Bombus crotchii Crotch bumble bee	None/None G2/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Not Expected	Native grasslands with small mammal burrows are not present, and the historical use of agricultural pesticides likely preclude hive initiation.
Bombus occidentalis western bumble bee	None/None G2G3/S1	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. .	Not Expected	Native grasslands with small mammal burrows are not present, and the historical use of agricultural pesticides likely preclude hive initiation.
Cicindela ohlone Ohlone tiger beetle	FE/None G1/S1	Remnant native grasslands with California oatgrass and purple needlegrass in Santa Cruz County. Substrate is poorly-drained clay or sandy	Not Expected	Native grasslands with California oatgrass and purple needlegrass are not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		clay soil over bedrock of Santa Cruz mudstone.		
Euphilotes enoptes smithi Smith's blue butterfly	FE/None G5T1T2/S1	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties. Hostplant: *Eriogonum latifolium* and *Eriogonum parvifolium* are utilized as both larval and adult foodplants.	Not Expected	Coastal dunes and coastal sage scrub are not present and buckwheat host plants were not observed.
Trimerotropis infantilis Zayante band-winged grasshopper	FE/None G1/S1	Isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem). Mostly on sand parkland habitat but also in areas with well-developed ground cover and in sparse chaparral with grass.	Not Expected	Zayante Sand Hills ecosystem is not present.
Fish				
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Low Potential	The Tembladero Slough is brackish and hydrologically connected to known populations in Moro Cojo Slough, however in the APE, the slough is highly degraded due to agricultural runoff and maintenance activities.
Lavinia exilicauda harengus Monterey hitch	None/None G4T2T4/S3 SSC	Most often found in slow warm water, including lakes and quiet stretches of rivers	Low Potential	Hitch have been documented (transiently) in the Tembladero Slough watershed (Hagar 2015), however the slough within the APE is highly degraded due to agricultural runoff and maintenance activities.
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	FT/None G5T2T3Q/S2S3	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays. .	Not Expected	The APE is outside the known range of this species.
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central	FT/None G5T2Q/S2	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River. .	Low Potential	This species has been documented (transiently) in the Tembladero Slough watershed (Monterey County 2021), however

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
California coast DPS				the slough within the APE is highly degraded due to agricultural runoff and maintenance activities.
Spirinchus thaleichthys longfin smelt	FC/ST G5/S1	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not Expected	Estuarine wetland and native slough vegetation are not present, and the APE is outside this species known range.
Thaleichthys pacificus eulachon	FT/None G5/S2	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	Not Expected	Native coastal vegetation is not present, and the APE is outside this species known range.
Amphibians				
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	FT/ST G2G3T3/S3 WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not Expected	Native grassland, savanna, or open woodland habitats with vernal pools and small mammal burrows are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Ambystoma macrodactylum croceum Santa Cruz long-toed salamander	FE/SE G5T1T2/S1S2 FP	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow (<12 inches) water, using clumps of vegetation or debris for cover. Adults use mammal burrows.	Not Expected	Wet meadows with shallow pools are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Aneides niger Santa Cruz black salamander	None/None G3/S3 SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	Not Expected	Mixed deciduous and coniferous woodlands and coastal grasslands are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Dicamptodon ensatus California giant salamander	None/None G3/S2S3 SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams,	Not Expected	Wet coastal forests are not present, and the APE is surrounded by developed and heavily managed agricultural areas.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.		
Rana boylii foothill yellow-legged frog	None/SE G3/S3 SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Not Expected	The Tembladero Slough is highly degraded, has no rocky substrate, and supports little wetland vegetation. Additionally, American bullfrog were observed in the APE at the edge of the slough.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low Potential	The Tembladero Slough is surrounded by heavily managed agricultural areas, is highly degraded, and supports little wetland vegetation. American bullfrogs were observed in the APE at the edge of the slough.
Spea hammondii western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	Valley-foothill hardwood woodlands with vernal pools are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Taricha torosa Coast Range newt	None/None G4/S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams.	Not Expected	Native coastal habitats and freshwater drainages are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Reptiles				
Anniella pulchra Northern California legless lizard	None/None G3/S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Not Expected	Open vegetation communities with sandy or loose loamy soils, such as dunes or coastal scrub are not present.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Moderate Potential	Western pond turtle may use the Tembladero Slough and have been observed in the watershed (Monterey County 2021).

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Phrynosoma blainvillii coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Not Expected	Sandy washes in open native habitats are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Not Expected	Woodland edges and riparian habitats are not present, and the APE is surrounded by developed and heavily managed agricultural areas.
Agelaius tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Not Expected	The tule patches along the edge of the Tembladero Slough are small and appear to be occasionally cleared. These patches do not provide suitable habitat for nest colonies.
Asio flammeus short-eared owl	None/None G5/S3 SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Not Expected	Swamp lands, lowland meadows, and alfalfa fields are not present.
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	No California ground squirrel burrows were observed in the APE or in the immediate vicinity, and the agricultural industry usually employs measures to control the rodent populations.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Not Expected	Open natural and native habitats supporting rabbits and ground squirrels are not present.
Charadrius nivosus western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	Sandy beaches, salt ponds, and alkali lakes are not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
Coturnicops noveboracensis yellow rail	None/None G4/S1S2 SSC	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	Not Expected	Freshwater marshlands are not present.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not Expected	There are no suitable nest trees in the APE, and the site is surrounded by active agriculture and residential and commercial development.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not Expected	Suitable short-grass prairie habitat is not present.
Falco peregrinus anatum American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Not Expected	Suitable nest sites on cliffs, banks, dunes, or tall buildings are not present.
Rallus obsoletus California Ridgway's rail	FE/SE G3T1/S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Not Expected	The tule patches along the edge of the Tembladero Slough are too small and isolated to function as marshlands, and pickleweed was not observed in the APE.
Riparia riparia bank swallow	None/ST G5/S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not Expected	Riparian and natural lowland habitats with steep banks or cliffs are not present.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high	Low Potential	There is no suitable roosting habitat for maternal colonies, however this species may roost under the State Route 1 bridge over the Tembladero Slough and forage in the APE and vicinity.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/ Observations
		temperatures. Very sensitive to disturbance of roosting sites.		
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls & ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Low Potential	There is no suitable roosting habitat for maternal colonies, however this species may roost under the State Route 1 bridge over the Tembladero Slough and forage in the APE and vicinity.
Neotoma macrotis luciana Monterey dusky-footed woodrat	None/None G5T3/S3 SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Nests constructed of grass, leaves, sticks, feathers, etc. Population may be limited by availability of nest materials.	Not Expected	Natural forest habitats are not present.
Sorex ornatus salarius Monterey shrew	None/None G5T1T2/S1S2 SSC	Riparian, wetland and upland areas in the vicinity of the Salinas River delta. Prefers moist microhabitats. feeds on insects and other invertebrates found under logs, rocks and litter.	Not Expected	Suitable natural riparian habitats are not present.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	Open grassland and scrub habitats are not present, and the site is surrounded by active agriculture and residential and commercial development.

Regional Vicinity refers to within a 12-quad search radius of site.

FE = Federally Endangered Species FT = Federally Threatened FS=Federally Sensitive FC = Federal Candidate

SE = State Endangered ST = State Threatened SC = State Candidate SS=State Sensitive

SSC = CDFW Species of Special Concern SFP = State Fully Protected

Sensitive Natural Communities in the Regional Vicinity of the Area of Potential Effects (APE)

Plant Community	Potential for Impact	Rationale
Central Dune Scrub	None	No project components are within Coastal Dune Scrub community.
Central Maritime Chaparral	None	No project components are within central maritime Chaparral communities.
Coastal and Valley Freshwater Marsh	None	No Coastal and Valley Freshwater Marsh found within the APE
Coastal Brackish Marsh	None	No Coastal Brackish Marsh found within the APE.
Northern Coastal Salt Marsh	None	No project components located within Northern Coastal Salt Marsh communities.

Source: CDFW 2022

Appendix C

IPaC Query Results

Appendix D

Site Photographs

Photograph 1. The roadside drainage east of Watsonville Road, facing north. September 2, 2022.

Photograph 2. The roadside drainage east of Watsonville Road and existing M1W pump station, facing south. September 2, 2022.

Photograph 3. Ruderal vegetation adjacent to the Tembladero Slough south of the M1W pump station, with the outfall to the drainage in the foreground, facing southwest. September 2, 2022.

Photograph 4. The Tembladero Slough south of the M1W pump station, facing southeast. September 2, 2022.

Photograph 5. An open section of the drainage south of the M1W pump station, facing west. September 2, 2022.

Photograph 6. Ruderal vegetation on the slope below State Route 1, facing north. September 2, 2022.

Photograph 7. Developed areas and landscaped vegetation at the intersection of Washington Street and Merritt Street, facing southeast. September 2, 2022.

Photograph 8. The swale mapped as Riverine in NWI, facing south. September 2, 2022.

Photograph 9. The work area south of Merritt Street, facing north. September 2, 2022.

Photograph 10. The work area south of Merritt Street, facing north. September 2, 2022.

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Appendix E

Floral and Faunal Compendium

Plant Species Observed Within the Area of Potential Effects on April 8, 2022

Scientific Name	Common Name	Status (Cal-IPC)	Native or Introduced
Plants			
Trees			
Eucalyptus globulus	Blue gum	Limited	Introduced
Shrubs			
Baccharis pilularis	coyote brush	–	Native
Artemisia californica	California sagebrush	–	Native
Eriophyllum staechadifolium	Lizard tail	–	Native
Fremontodendron californicum	Flannel bush	–	Native
Herbs			
Amaranthus deflexus	large fruited amaranth	–	Introduced
Atriplex prostrata	fat-hen	–	Introduced
Sinapis arvensis	charlock mustard	Limited	Introduced
Conium maculatum	poison hemlock	–	Introduced
Helminthotheca echioides	bristly ox-tongue	Limited	Native
Hirschfeldia incana	mustard	Moderate	Introduced
Lepidium latifolium	perennial pepperweed	High	Introduced
Marrubium vulgare	White horehound	Limited	Introduced
Malva neglecta	dwarf mallow	–	Introduced
Plantago coronopus	cut leaf plantain	–	Introduced
Plantago lanceolata	English plantain	Limited	Introduced
Raphanus raphanistrum	wild radish	Limited	Introduced
Rumex crispus	curly dock	Limited	Introduced
Sinapis arvensis	charlock mustard	Limited	Introduced
Grasses			
Avena spp.	wild oats	Moderate	Introduced
Bromus diandrus	ripgut brome	Moderate	Introduced
Phalaris aquatica	harding grass	Moderate	Introduced
Polypogon monspeliensis	rabbitsfoot grass	Limited	Introduced

– = Not applicable because these species are native; Cal-IPC = California Invasive Plant Council

Sources: Calflora 2022; Cal-IPC 2022

Animal Species Observed Within the Area of Potential Effects on April 8, 2022

Scientific Name	Common Name	Status	Native, Introduced, or Domesticated
Invertebrates			
Arthropod	crayfish	Common	Introduced
Mollusk	aquatic snail	Common	Unknown
Fish			
Gambusia affinis	mosquito fish	Invasive	Introduced
Amphibians			
Lithobates catesbeianus	American bullfrog	Invasive	Introduced
Birds			
Columba livia	rock pigeon	Invasive	Introduced
Passer domesticus	house sparrow	Invasive	Introduced
Petrochelidon pyrrhonota	cliff swallow	Common	Native
Sayornis nigricans	black phoebe	Common	Native

Appendix C

Historic Property Identification Report (CONFIDENTIAL)

** This document contains sensitive and confidential information concerning archaeological sites. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10 and from the Freedom of Information Act (Exemption 3) under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).*

Appendix D

Construction and Operational Energy Fuel Consumption Calculations

Washington Street Sewer Bypass

9/15/2022

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	1	8	78	0.48	Site Preparation	581
Concrete/Industrial Saws	1	8	81	0.73	Site Preparation	917
Cranes	1	8	231	0.29	Site Preparation	935
Excavators	1	8	158	0.38	Site Preparation	838
Generator Sets	1	8	84	0.74	Site Preparation	964
Rubber Tired Loaders	1	8	203	0.36	Site Preparation	1,020
Signal Boards	2	8	6	0.82	Site Preparation	153
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation	557
Air Compressors	1	8	78	0.48	Open trench	1,549
Concrete/Industrial Saws	1	8	81	0.73	Open trench	2,446
Excavators	1	8	158	0.38	Open trench	2,234
Generator Sets	1	8	84	0.74	Open trench	2,572
Plate Compactors	1	8	8	0.43	Open trench	142
Rubber Tired Loaders	1	8	203	0.36	Open trench	2,720
Signal Boards	2	8	6	0.82	Open trench	407
Tractors/Loaders/Backhoes	1	8	97	0.37	Open trench	1,485
Air Compressors	1	8	78	0.48	trenchless	387
Bore/Drill Rigs	1	8	221	0.5	trenchless	1,028
Cranes	1	8	231	0.29	trenchless	623
Excavators	1	8	158	0.38	trenchless	559
Generator Sets	1	12	235	0.74	trenchless	2,427
Plate Compactors	1	8	8	0.43	trenchless	36
Rubber Tired Loaders	1	8	203	0.36	trenchless	680
Signal Boards	2	8	6	0.82	trenchless	102
Tractors/Loaders/Backhoes	1	8	97	0.37	trenchless	371
Welders	3	8	46	0.45	trenchless	642
Air Compressors	1	8	78	0.48	Paving and restoration	387
Concrete/Industrial Saws	1	8	81	0.73	Paving and restoration	612
Off-Highway Trucks	1	8	402	0.38	Paving and restoration	1,421
Pavers	1	8	130	0.42	Paving and restoration	508
Paving Equipment	1	8	132	0.36	Paving and restoration	442
Plate Compactors	1	8	8	0.43	Paving and restoration	36
Rollers	1	8	80	0.38	Paving and restoration	314
Signal Boards	2	8	6	0.82	Paving and restoration	102
Surfacing Equipment	1	8	263	0.3	Paving and restoration	734
Tractors/Loaders/Backhoes	1	8	97	0.37	Paving and restoration	371
					Total Fuel Used	**31,300**
						(Gallons)

Construction Phase	Days of Operation
Site Preparation	33
Open trench	88
trenchless	22
Paving and restoration	22
Total Days	165

WORKER TRIPS				
Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.1	20	40.0	1095.44
Open trench	24.1	20	40.0	2921.16
trenchless	24.1	30	40.0	1095.44
Paving and restoration	24.1	24	40.0	876.35
			Total	**5,988.38**

HAULING AND WATER TRUCK TRIPS				
Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Site Preparation	7.5	0	20.0	0.00
Open trench	7.5	0	20.0	0.00
trenchless	7.5	2	60.0	16.00
Paving and restoration	7.5	0	20.0	0.00
			Total	**16.00**
VENDOR AND WATER TRUCK TRIPS				
Site Preparation	7.5	2	40.0	352.00
Open trench	7.5	2	40.0	938.67
trenchless	7.5	3	40.0	352.00
Paving and restoration	7.5	2	40.0	234.67
			Total	**1,877.33**

Total Gasoline Consumption (gallons)	**5,988**
Total Diesel Consumption (gallons)	**33,194**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix E

Soils Engineering Report

SOILS ENGINEERING REPORT
WASHINGTON SEWER TRUNK LINE BYPASS
HIGHWAY 1 CROSSING
CASTROVILLE AREA
MONTEREY COUNTY, CALIFORNIA

PROJECT SL09818-1 (rev. 1)

Prepared for

MNS Engineers, Inc.
Attn: Nick Panofsky
811 El Capitan Way, No. 130
San Luis Obispo, California 93401

Prepared by

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

December 15, 2020

SOILS ENGINEERING REPORT

December 15, 2020
SL09818-1 (rev. 1)

CLIENT
MNS Engineers, Inc.
Attn: Nick Panofsky
811 El Capitan Way
No. 130
San Luis Obispo, CA
93401

PROJECT NAME
Washington Sewer
Trunk Line Bypass,
Highway 1 Crossing,
Castroville Area,
Monterey County,
California

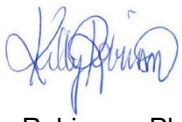
Dear Mr. Panofsky:

This Soils Engineering Report has been prepared for the proposed Washington Sewer Trunk Line Bypass, Highway 1 Crossing, located in the Castroville area of Monterey County, California. This report was prepared in general accordance with our proposal dated May 14, 2019, as authorized by MNS Subconsultant Agreement No. 2020-21.

Geotechnically, the site is suitable for the proposed trenchless construction beneath Highway 1 provided the recommendations in this report for site preparation, earthwork, and temporary shoring considerations are incorporated into the design.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions, please contact the undersigned at (805) 543-8539.

Sincerely,
GeoSolutions, Inc.



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HIGHWAY 1 CROSSING
CASTROVILLE AREA
MONTEREY COUNTY, CALIFORNIA

PROJECT SL09818-1

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed Highway 1 crossing associated with the Washington Sewer Trunk Line Bypass project to be located in the Castroville area of Monterey County, California. See Figure 1: Vicinity Map (USGS, 2020) for the general location of the project area, hereafter referred to as the Site.

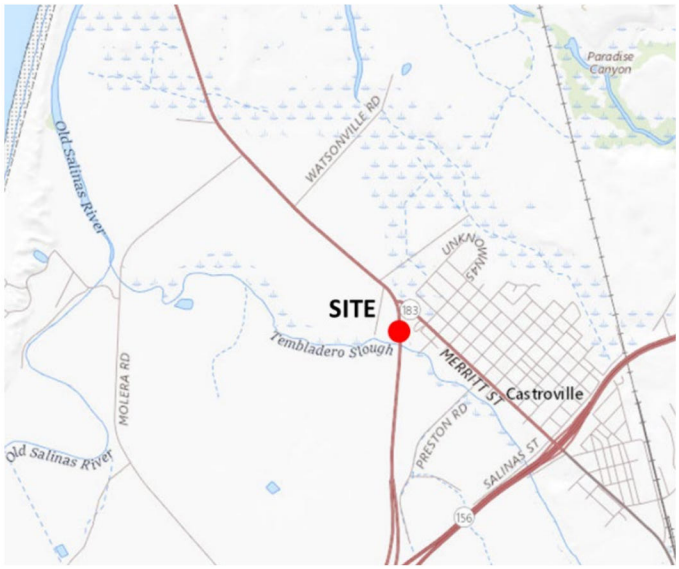

Figure 1: Vicinity Map

1.1 Site Description

The Washington Sewer Trunk Line Bypass will generally extend east-west, between Watsonville Road and Washington Street. The pipeline will cross beneath Highway 1 at about the midpoint of the proposed alignment. Site coordinates at the Highway 1 crossing are estimated to be approximately 36.7686 degrees north latitude and 121.7651 degrees west longitude.

Site topography along the proposed alignment include the relatively flat farm field area east of the pump station, a rise in elevation of about 20 feet in the area of Highway 1 and east shoulder (assumed to be fill placed for road construction), descending to the east toward Washington Street. The Tembladero Slough runs generally east-west on the south side of the project site. See Figure 2: Site Plan.

Ground surface elevations west of Highway 1 are estimated to be about +8 feet (MSL) in the agricultural field area and about +29 feet (MSL) along Highway 1 and eastern shoulder area. Surface drainage generally follows the topography, to the east and west and to the Tembladero Slough. The Tembladero Slough flows to the Old Salinas River, eventually reaching the Moss Landing Harbor located about 2.5 miles northwest of the Site. The Pacific Ocean is located about 2 miles west of the project area.

1.2 Project Description

The proposed 24-inch bypass improvements will replace the existing sewer located along Washington Street, between Merritt Street and Tembladera Street, and continue to the southwest, beneath Highway 1, to an existing pump station located at the south end of Watsonville Road. The proposed alignment is estimated to be about 1400 feet long. It is anticipated the majority of the alignment will be constructed using conventional cut-and-cover trenching techniques and trenchless construction techniques will be used to advance the sewer line beneath Highway 1. See Figure 2: Site Plan.

2.0 WORK PERFORMED

2.1 Purpose and Scope

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

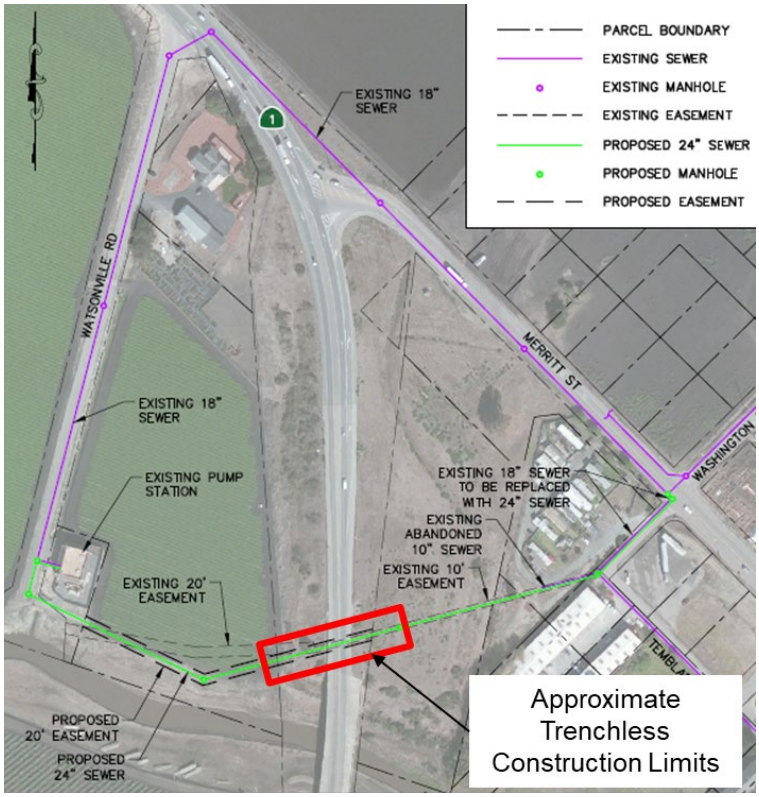

Figure 2: Site Plan

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

   - Caltrans (1960). Report of Foundation Investigation at the Crossing of the Tembladero Slough and at the Equipment Pass South of Tembladero Slough, Road V-Mon-56-J, Station 75+ to Station 100+, Division of Highways, Materials and Research Department, dated November 16.

   - Caltrans (1969). Report of Foundation Investigation at the Proposed Tembladero Slough Crossing, Road V-Mon-56-J, Division of Highways, Materials and Research Department, dated December 15.

   - Caltrans (1970). Foundation investigation letter (untitled), Tembladero Slough, Bridge No. 44-219 R/L, September 4.

   - Caltrans (1973). Log of Test Borings, Tembladero Slough, Bridge No. 44-219 R/L, Post-Mile 92.0, dated December 17.

2. A field study consisting of site reconnaissance and field investigation consisting of two exploratory borings to help formulate a description of the sub-surface conditions at the Site.

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

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

5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for the proposed trenchless construction.

2.2 Field Investigation

The field investigation was conducted on November 6, 2020, using our track-mounted CME 55 drill rig equipped with an eight-inch hollow stem auger. Two exploratory borings were advanced to depths of 40 feet (B-1) and 20 feet (B-2), below ground surface (bgs). See Figure 3: Field Exploration Plan for the approximate boring locations.

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

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

Figure 3: Field Exploration Plan

2.3 Laboratory Testing

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. Laboratory data reports and general testing procedures are provided in **Appendix B.** Laboratory testing for this project included the following:

- Soil Classification (ASTM D24877)
- In-Situ Moisture Content and Dry Density (ASTM D2937)
- Soil Particle Size Analysis (ASTM D422)
- Liquid Limit, Plastic Limit, and Plasticity Index (ASTM D4318)
- Shear Strength - Direct Shear (ASTM D3080)

3.0 SUBSURFACE CONDITIONS

3.1 Site Geology

Wagner et al. (2002) map the surficial geologic units in the project vicinity as alluvial Basin deposits (Qb) of the Holocene era. Marine terrace deposits (Qmt) are mapped along the northern Site boundary. See Figure 4: Regional Geologic Map (Wagner et al. 2002).

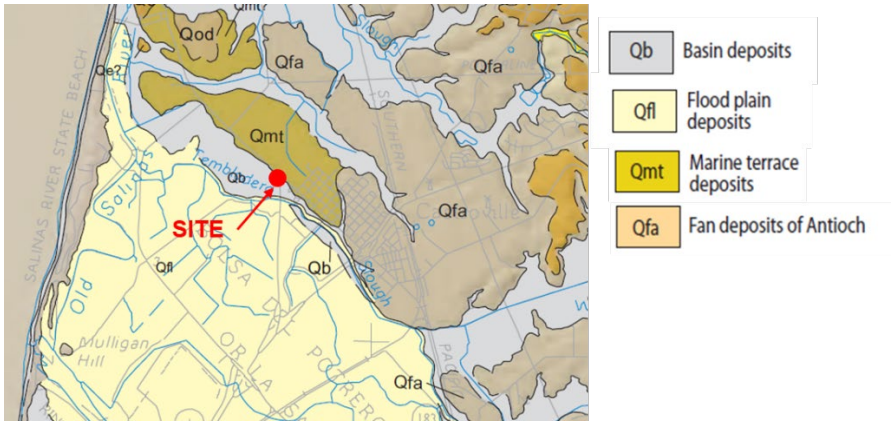

Figure 4: Regional Geologic Map

3.2 Soil Conditions

In general, the subsurface materials encountered during the field investigation were interpreted as fill, placed during construction of the Highway 1 bridge crossing at the Tembladero Slough, and alluvial Basin deposits (Qb). A description of the soil conditions encountered is provided below. Refer to Figure 3 for approximate boring locations and **Appendix A** for the boring logs.

3.2.1 Fill

Fill soils were interpreted in boring B-1, located on the east side of Hwy 1, from the ground surface to a depth of about 24 feet below ground surface (bgs). The fill soils generally consisted of lean CLAY (CL) encountered in a stiff to very stiff and slightly moist to moist condition, extending to about 22 feet bgs. A layer of poorly-graded SAND (SP) was encountered from about 22 to 24 feet bgs and was interpreted as the base of the fill material in B-1. A lens of perched water was encountered in the sand layer at about 24 feet bgs.

On the west side of Hwy 1 (B-2), fill material was interpreted at the ground surface to approximately 3 feet bgs. The fill in this area generally consisted of fat CLAY (CH) in a slightly moist to moist condition, with some gravel and sand. A piece of rubble / rock was encountered at about 2 feet bgs.

3.2.2 Basin Deposits (Qb)

Basin deposits were encountered underlying the fill material at about 24 feet bgs in B-1 and at about 3 feet bgs in B-2 and extended to the maximum depth explored. In B-1, the Basin deposits (Qb) generally consisted of very dark gray to black fat CLAY (CH) encountered in a stiff and moist condition, becoming firm and wet at about 29 feet bgs. In B-2, the Basin deposits consisted of black to very dark grayish brown fat CLAY (CH) encountered in a wet and stiff condition, becoming very soft with depth.

Basin deposits (Qb) were interpreted from the Caltrans LOTB (1979) in the Site vicinity and generally consisted of very soft silty clay and clay with some interbedded lenses of fine sand. The soft and loose materials extended to depths of about 81 feet bgs, corresponding to approximately elevation -70 feet (MSL). Dense sand and gravel were reported in the Caltrans LOTB underlying the Basin deposits, extending to boring termination at approximately elevation -80 to -83 feet (MSL).

3.2.3 Engineering Properties

A summary of relevant engineering properties determined from the laboratory testing on soil samples obtained in the field investigation is provided in Table 1: Engineering Properties. Refer to **Appendix B** for detailed laboratory test reports.

Table 1: Engineering Properties

Location	Sample ID	Sample Description	Geologic Unit	Fines Content (%)	Liquid Limit (LL)	Plasticity Index (PI)	Friction Angle, Φ (deg)	Cohesion, c (psf)
B-1	A@0-3'	Light Olive Brown Lean CLAY (CL)	Fill	77	44	31	-	-
B-1	B@5-8'	Olive Brown Lean CLAY (CL)	Fill	76	-	-	-	-
B-1	B-1@4'	Olive Brown Lean CLAY (CL)	Fill	-	-	-	29.1	980
B-1	B-1@29'	Very Dark Gray Fat CLAY (CH)	Qb	99	68	46	-	-
B-2	C@0-3'	Black Fat CLAY (CH)	Fill	88	66	44	-	-
B-2	B-2@4'	Very Dark Grayish Brown Fat CLAY (CH)	Qb	96	82	59	11.3	258

3.3 Groundwater

Groundwater was encountered in boring B-1 (east side of Hwy 1) at about 29 feet bgs, corresponding to elevation of about +0 feet (MSL), and in boring B-2 (west side of Hwy 1) at about 3.5 feet bgs, corresponding to elevation of about +4.5 feet (MSL). A lens of perched water was encountered in boring B-1 at about 24 feet bgs.

Caltrans LOTB (1979) indicates groundwater at elevations of about +2 feet to -2 feet (MSL) in the site vicinity. It should be expected that groundwater elevations vary seasonally and with irrigation practice.

4.0 GENERAL SOIL-FOUNDATION DISCUSSION

In general, the soil conditions at the site consist of fill material consisting of stiff to very stiff clay and alluvial Basin deposits (Qb) of very soft to firm clay with occasional sand lenses. The fill soils extended to depths of about 24 feet bgs (elev. +5 feet MSL) in boring B-1 on the east side of Hwy 1 and about 3 feet bgs (elev. +5 feet MSL) in boring B-2 on the west side of Hwy 1. The Basin deposits were encountered to the maximum depth explored of 40 feet bgs (elev. -11 feet MSL) in B-1 and 20 feet bgs (elev. -12 feet MSL) in B-2. Caltrans data (1979) indicate very soft to soft and loose soil deposits, interpreted as Basin deposits (Qb), extending to elevations of about -70 feet (MSL).

Groundwater was encountered at depths of 29 feet bgs (B-1) and 3.5 feet bgs (B-2) at the time of the field investigation, corresponding to elevations of about +0 to +4.5 feet (MSL). Groundwater should be anticipated during construction, particularly during the excavations for the trenchless construction pit located on the west side of Hwy 1. The difficulty of working at or below groundwater is a primary concern. Any contractor working at the site needs to be prepared to work in this environment.

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

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our geotechnical evaluation of the subsurface conditions encountered, the Site is suitable for the proposed trenchless construction beneath Hwy 1, provided the recommendations presented in this report are incorporated into the project plans and specifications. Key findings from our study include:

- It is anticipated the trenchless construction for the pipeline will likely encounter fill materials associated with the bridge embankment and surficial deposits of very soft to firm clay with layers of interbedded loose sand.

- The potential for loss of drilling fluid within the soft / loose deposits should be considered.
- Groundwater was encountered at depths of 3.5 feet bgs (elevation +4.5 feet MSL) on the west side of Hwy 1 and at 29 feet bgs (elevation +0 feet MSL) on the east side of Hwy 1 and should be anticipated during construction.
- Groundwater will likely be encountered during the excavation for the trenchless construction pit located on the west side of Hwy 1 and will require dewatering.

5.1 Excavations for Entry and Exit Pits

1. Excavations for the proposed entry and exit pits are anticipated to extend approximately 10 to 15 feet bgs. It is anticipated that conventional excavation equipment will be suitable for the construction of the pits. Excavations should be performed in accordance with California Occupational Safety and Health Administration (Cal/OSHA) regulations.

2. Excavations on the east side of Hwy 1 will likely encounter fill material of stiff to very stiff lean clay (CL). Based on our project understanding and the conditions encountered, the fill materials encountered on the east side of Hwy 1 can be considered Cal/OSHA **Type B** soils.

3. Excavations on the west side of Hwy 1 will likely encounter fill and alluvial material of very soft to stiff fat clay (CH). Based on our project understanding and the conditions encountered, the fill and alluvial materials encountered on the west side of Hwy 1 can be considered Cal/OSHA **Type C** soils.

4. Groundwater should be anticipated in the excavations for the trenchless construction pit located on the west side of Hwy 1 and will require dewatering.

5. If saturated or pumping subgrade conditions are encountered at the base of the excavation, additional excavation and / or rock stabilization may be required to provide a stable working platform for construction. For rock stabilization, 3- to 6-inch crushed stone should be worked into the saturated soil followed by smaller diameter rock (3/4- to 1½-inch crushed rock). A non-woven fabric should be placed over the crushed rock, followed by 24 to 36 inches of Class II aggregate base.

6. Refer to **Appendix C** for additional information on site excavations and backfill recommendations.

5.2 Equivalent Fluid Pressures

1. Where required, lateral pressures from non-sloping adjacent soils as presented in Table 2: Equivalent Fluid Pressures may be used for design of temporary shoring. For applications with slopes, additional analyses may be necessary.

Table 2: Equivalent Fluid Pressures

Lateral Pressure and Condition	Equivalent Fluid Pressure, pcf
Static, Active Case ($\gamma' K_A$)	70
Static, At-Rest Case ($\gamma' K_O$)	85
Static, Passive Case ($\gamma' K_P$)	160

2. Proposed shoring walls having a retained surface that slopes upward from the top of the wall should be designed for an additional equivalent fluid pressure of 1 pcf for the active case and 1.5 pcf for the at-rest case, for every degree of slope inclination. For inclinations exceeding 20 degrees, GeoSolutions, Inc. may be contracted by the Client to provide such recommendations.

3. GeoSolutions, Inc. can provide additional recommendations for the design of structures utilizing equivalent fluid pressures, including recommendations regarding allowable bearing pressures, if desired.

4. In addition to the recommended earth pressures, the upper 10 feet of shoring adjacent to streets or vehicle traffic should be designed to resist a uniform lateral pressure of 100 pounds per square foot. If traffic is kept at least 10 feet away, the surcharge may be neglected.

5. Dewatering will likely be required during construction. For hydrostatic loading conditions, an additional loading of 45-pcf equivalent fluid weight should be added to the active and at-rest lateral earth pressures.

6.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by City of Grover Beach, the 2016 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

- Consultation during plan development.
- Plan review of grading documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.
- Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.
- Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.
- Preparation of special inspection reports as required during construction.

In addition to the construction inspections listed above, section 1705.6 of the 2016 CBC (CBSC, 2016) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 3: Required Verification and Inspections of Soils:

Table 3: Required Verification and Inspections of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Perform classification and testing of controlled fill materials.	-	X
2. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
3. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

7.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

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

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

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

REFERENCES

REFERENCES

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APPENDIX A

Field Investigation

Soil Classification Chart

Boring Logs

FIELD INVESTIGATION

The field investigation was conducted November 6, 2020, using a track-mounted CME 55 drill rig. The surface and sub-surface conditions were studied by advancing two exploratory borings to depths of 20 feet (B-2) and 40 feet (B-1) below ground surface (bgs). See Figure 3: Field Exploration Plan, also included in this appendix, for the approximate boring locations. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

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

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

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

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

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

SOIL CLASSIFICATION CHART

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

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

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

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

CONSISTENCY

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

RELATIVE DENSITY

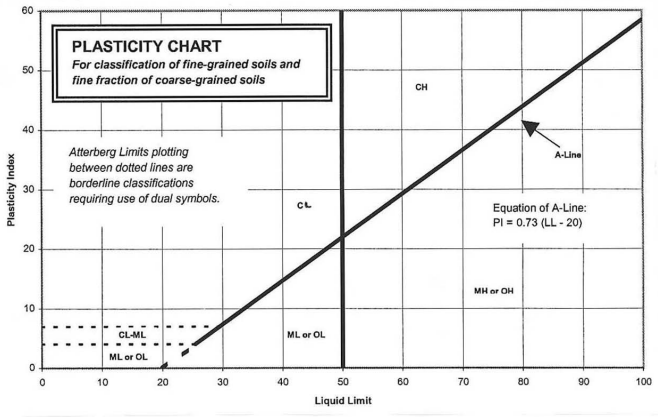
SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/ FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50

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

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

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

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



Drilling Notes:

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

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

WASHINGTON SEWER TRUNK LINE BYPASS
HIGHWAY 1 CROSSING
CASTROVILLE AREA
MONTEREY COUNTY, CALIFORNIA

Figure 3: Field Exploration Plan

GEO SOLUTIONS
220 High Street, San Luis Obispo, CA 93401
Phone: 805-543-8539
1021 Tama Lane, Ste 105, Santa Maria, CA 93455
Phone: 805-614-6333
201 S. Milpas St, Ste 103, Santa Barbara, CA 93103
Phone: 805-966-2200

BORING LOG

BORING NO. B-1
JOB NO. SL09818-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Jack & Bore, Washington Sewer**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Exploration Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**November 6, 2020**	SAMPLING METHOD:	**SPT and CA**
LOGGED BY:	**K. Robinson**	APPROX. ELEVATION:	**+29 Feet**

Depth of Groundwater: **29 Feet** Boring Terminated: **40 Feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	N (BLOWS / FT)	(N1) 60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CL	Lean Clay: light olive brown, slightly moist, very stiff - Fill												
2				A@ 0-3'				14	77	31					
4			-dark yellow brown, moist, PP 3.0-4.0 TSF	CA @4'		19	25	21						980	29.1
7				B@ 5-8'				19	76						
9			-mottled dark brown, with some sand, becomes stiff @ 9', PP 1.5-2.5 TSF	SPT @9'		10	20								
14			-yellowish brown with dark brown lenses and olive green mottling, with some fine sand, PP 1.5-2.5 TSF	SPT @ 14'		8	13								
19			-yellowish brown to olive green, with some charcol and rust inclusions and dark brown mottling, PP 1.0-2.0 TSF	SPT @ 19'		10	12								

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Phone: 805-966-2200

BORING LOG

BORING NO. B-1
JOB NO. SL09818-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Jack & Bore, Washington Sewer**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Exploration Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**November 6, 2020**	SAMPLING METHOD:	**SPT and CA**
LOGGED BY:	**K. Robinson**	APPROX. ELEVATION:	**+29 Feet**

Depth of Groundwater: **29 Feet** Boring Terminated: **40 Feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	N (BLOWS / FT)	(N1) 60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
22		SP	Poorly Graded SAND: -slighlty pale to dark gray, medium sand, wet -perched water, lense @ 2-3' - Fill												
24		CH	Fat CLAY: black to dark blue gray, moist, (Native), stiff, PP 1.75 TSF - Basin Deposits (Qb)	SPT @ 24'		10	11								
29			-black to olive green, with rust mottling, becomes firm & wet @ 29', PP 2.0 TSF	SPT @ 29'		8	7	40	99	46					
34			-to black, with some fine sand, PP 0.5-0.75 TSF	SPT @ 34'		7	6								
39			-PP 1.0-1.5 TSF	SPT @ 39'		8	6								

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Phone: 805-614-6333
201 S. Milpas St, Ste 103, Santa Barbara, CA 93103
Phone: 805-966-2200

BORING LOG

BORING NO. B-2
JOB NO. SL09818-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Jack & Bore, Washington Sewer**	DRILL RIG:	**CME 55**
DRILLING LOCATION:	**See Figure 3: Field Exploration Plan**	HOLE DIAMETER:	**8 Inches**
DATE DRILLED:	**November 6, 2020**	SAMPLING METHOD:	**SPT and CA**
LOGGED BY:	**K. Robinson**	APPROX. ELEVATION:	**+8 Feet (MSL)**

Depth of Groundwater: **3.5 Feet** Boring Terminated: **20 Feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	N (BLOWS / FT)	(N1) 60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CH	Fat CLAY: black, with some gravel and sand - Fill												
2			-rock/rubble @ 2'	C@ 0-3'				39	88	44					
3		CH	Fat CLAY: black to very dark grayish brown, wet, with rust inclusions, stiff, PP 0.25-0.5 TSF - Basin Deposits (Qb)	CA @4'		7	9	41	96	59				258	11.3
7				B@ 5-8'											
9			-with sand @9', fine sand, PP 1.0 TSF	SPT @9'		7	14								
14			-becomes very soft @ 14', interbedded with clayey sand & sandy clay lenses, PP 0.2-0.5 TSF	SPT @ 14'		0	-								
19			- no recovery @19'	19'		0	-								
20															

APPENDIX B

Laboratory Testing

Soil Test Reports

LABORATORY TESTING

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

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

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

Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass (ASTM D2216) are used to obtain values of in-place water content and in-place density. Undisturbed samples, brought from the field to the laboratory, are weighed, the volume is calculated, and they are placed in the oven to dry. Once the samples have been dried, they are weighed again to determine the water content, and the in-place density is then calculated. The moisture density tests allow the water content and in-place densities to be obtained at required depths.

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

Particle Size Analysis of Soils (ASTM D422) is used to determine the particle-size distribution of fine and coarse aggregates. In the test method the sample is separated through a series of sieves of progressively smaller openings for determination of particle size distribution. The total percentage passing each sieve is reported and used to determine the distribution of fine and coarse aggregates in the sample.

GeoSolutions, Inc. | **LABORATORY SUMMARY REPORT SHEET** | **(805) 543 - 8539**

Project: Washington Sewer Trunk Line Bypass — Lab No. 11936

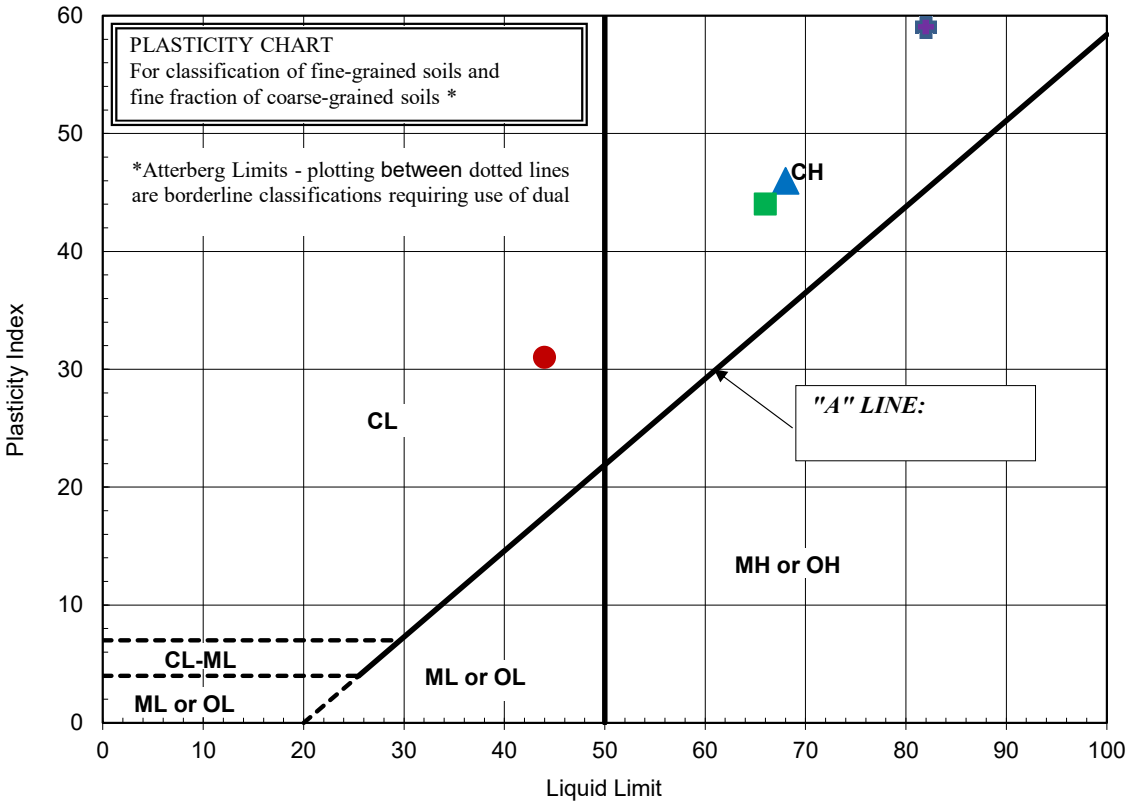
Client: MNS Engineers, Inc. — Date: 12/1/20

Job No.: SL09818-1 — Checked By: AE

Sample ID			Material Description	Dry Density (pcf)	Moisture Content (%)	% Fines	Atterberg Limits		Compaction Test		Direct Shear		Compressive Strength		Expansion Index	R-Value
BH	Depth (ft)	Sample No.					LL	PI	γ_{d_max} (pcf)	ω_{c_opt} (%)	C (psf)	ø (deg)	q_u (pcf)	S_u (pcf)		
B-1	0-3	A	Light Olive Brown Lean CLAY (CL)		14.2	77.0	44	31								
B-1	5-8	B	Olive Brown Lean CLAY (CL)		19.2	76.4										
B-1	4		Olive Brown Lean CLAY (CL)		20.9						980	29.1				
B-1	29		Very Dark Gray Fat CLAY (CH)		40.2	99.2	68	46								
B-2	0-3	C	Black Fat CLAY (CH)		39.1	88.2	66	44								
B-2	4		Very Dark Grayish Brown Fat CLAY (CH)		41.2	95.5	82	59			258	11.3				

GeoSolutions, Inc.	PLASTICITY INDEX TEST SUMMARY REPORT (ASTM D4318)	(805) 543-8539

Project: Washington Sewer Trunk Line Bypass
Location: Castroville, CA — Date: 11/19/2020
Project #: SL09818-1 — Checked by: AE



LEGEND symbol	location	depth	CLASSIFICATION	TEST RESULTS Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
●	B-1	0-3'	Light Olive Brown Lean CLAY	44	13	31
▲	B-1	29'	Very Dark Gray Fat CLAY	68	22	46
■	B-2	0-3'	Black Fat CLAY	66	22	44
✚	B-2	4'	Very Dark Grayish Brown Fat CLAY	82	23	59

Remarks:

Testing was performed in accordance with ASTM D4318

NP - material tested is nonplastic (liquid or plastic limit tests could not be performed)

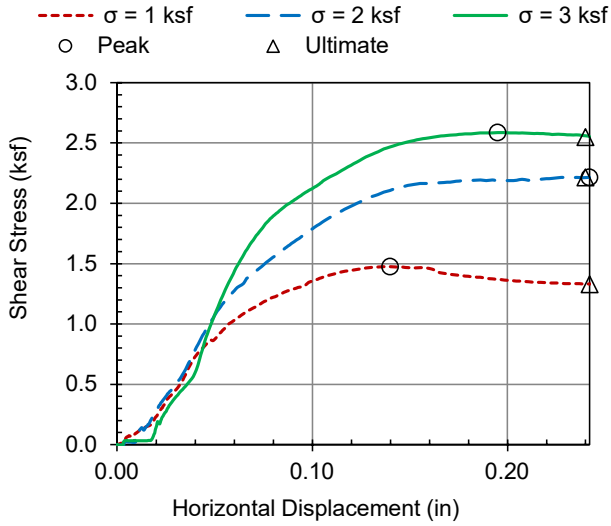
Report By: Aaron Eichman

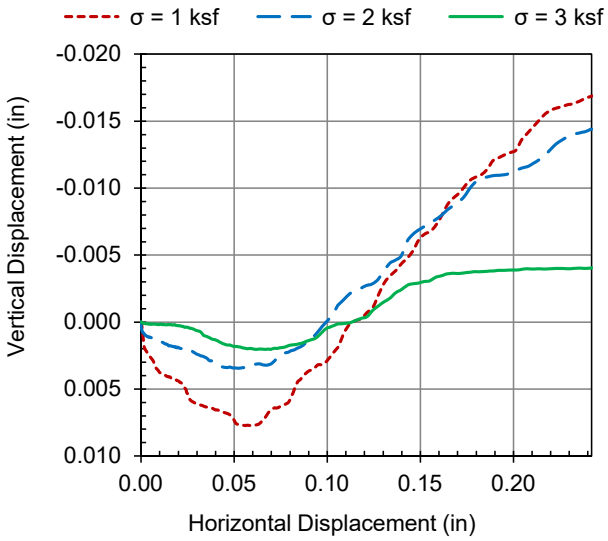
GeoSolutions, Inc.	DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)	(805) 543-8539

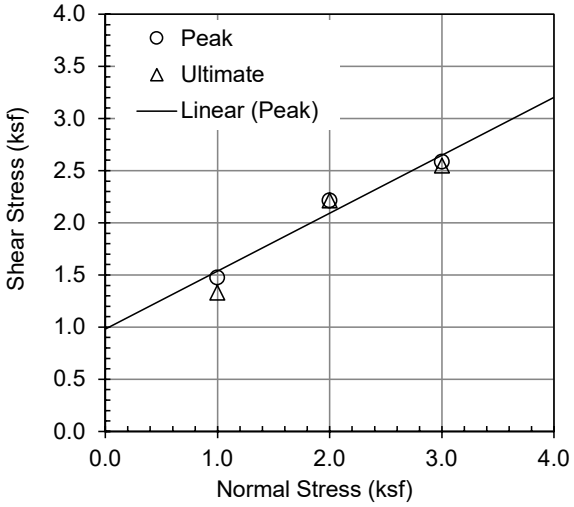
Project:	Washington Sewer Trunk Line Bypass			Project No.:	SL09818-1
Client:				Date Tested:	11/19/2020
Sample No.:	B-1 @ 4'	Depth:	4.0 Feet	Lab No.:	11936
Location:	B-1			Checked By:	KR

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Olive Brown Sandy CLAY	nm	nm	nm	nm	2.7	in-situ (rings)

* Gs = assumed; nm = not measured







Initial Conditions	Specimen No. 1	2	3
Dry Density	108.5	110.7	106.5
Water Content (%)	18.4	18.4	18.4
Diameter (in)	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3
Normal Stress (ksf)	1.00	2.00	3.00
Peak Shear Stress (ksf)	1.474	2.214	2.586
Horiz. Displacenent at Peak Shear (in)	0.140	0.242	0.195
Ultimate Shear Stress (ksf)	1.329	2.214	2.549
Horiz. Displ. at Ult. Shear (in)	0.242	0.240	0.240
Rate of Deformation (in/min)	0.024	0.024	0.024

	Peak	Ultimate
Angle of Internal Friction, $ø_{peak}$ (degrees):	**29.1**	**31.4**
Cohesion, C_{peak} (psf)	**980**	**811**

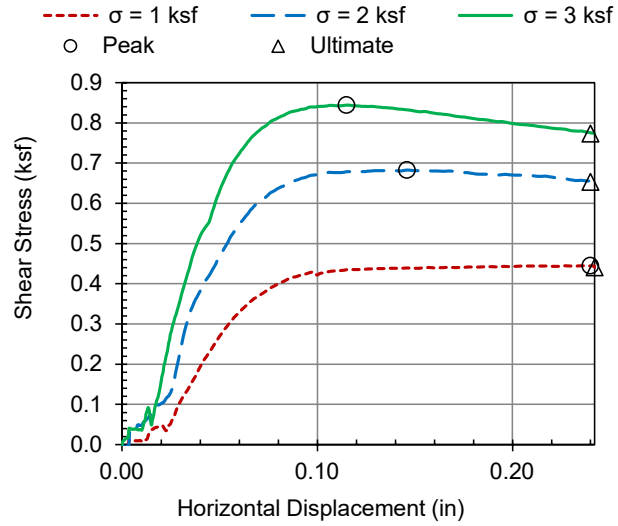
Remarks:

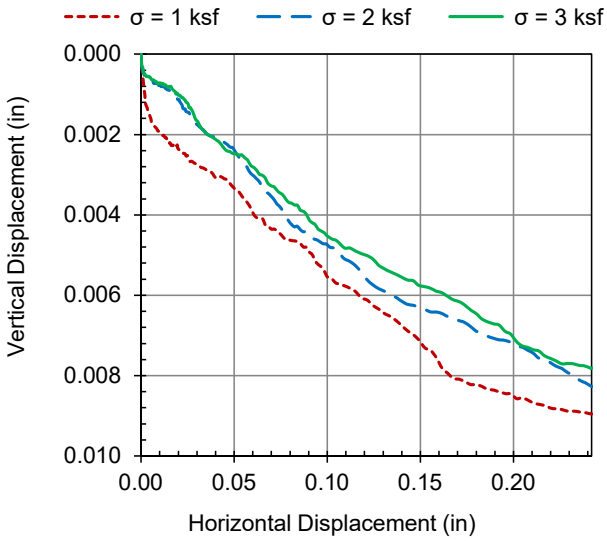
GeoSolutions, Inc. | **DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)** | **(805) 543-8539**

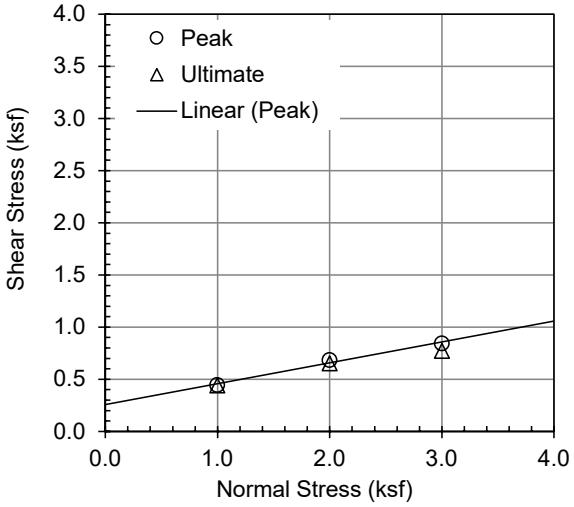
Project:	Washington Sewer Trunk Line Bypass			Project No.:	SL09818-1
Client:				Date Tested:	11/20/2020
Sample No.:	B-2 @ 4'	Depth:	4.0 Feet	Lab No.:	11936
Location:	B-2			Checked By:	KR

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Very Dark Grayish Brown CLAY	nm	nm	nm	nm	2.7	in-situ (rings)

* Gs = assumed; nm = not measured







Initial Conditions	Specimen No. 1	2	3
Dry Density	78.9	78.0	75.9
Water Content (%)	41.2	41.2	41.2
Diameter (in)	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3
Normal Stress (ksf)	1.00	2.00	3.00
Peak Shear Stress (ksf)	0.444	0.682	0.844
Horiz. Displacenent at Peak Shear (in)	0.240	0.146	0.115
Ultimate Shear Stress (ksf)	0.441	0.653	0.773
Horiz. Displ. at Ult. Shear (in)	0.242	0.240	0.240
Rate of Deformation (in/min)	0.024	0.024	0.024

	Peak	Ultimate
Angle of Internal Friction, $ø_{peak}$ (degrees):	**11.3**	**9.4**
Cohesion, C_{peak} (psf)	**258**	**290**

Remarks:

APPENDIX C

Preliminary Grading Specifications

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.

2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.

3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.

4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.

2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72-hours notice.

2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.

3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required

depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.

2. The contractor should be responsible for the stability of all temporary excavations.

3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.

2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2016 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.

3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.

2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported

fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12$_{e1}$.

2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.

2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.

3. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.

4. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.

5. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.

6. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing

drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.

2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for "Excavations, Trenches, Earthwork." Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12$_{e1}$.

3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12$_{e1}$. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.

2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2016 CBC.

Appendix F

Paleontological Resources Assessment

Washington Street Sewer Bypass Project

Paleontological Resources Assessment

prepared for

Castroville Community Services District
11497 Geil Street
Castroville, California 93660
Contact: Eric Tynan, General Manager

prepared by

Rincon Consultants, Inc.
2511 Garden Road, Suite C-250
Monterey, California 93940

December 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Washington Street Sewer Bypass Project

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December 2022

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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained to conduct a Paleontological Resources Assessment (PRA) for the Washington Street Sewer Bypass Project in Castroville, Monterey County, California. The Castroville Community Services District (District) intends to pursue federal funding opportunities for the proposed action, including funding from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). In California, administration of the SRF program has been delegated by the United States Environmental Protection Agency to the SWRCB. In turn, the SWRCB requires that all projects being considered under the SRF program must comply with certain federal environmental protection laws (also referred to as federal cross-cutters or California Environmental Quality Act [CEQA]-Plus). This PRA includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010) to determine whether the proposed action would result in significant impacts to paleontological resources under the CEQA or adverse effects to paleontological resources under federal environmental protection laws.

Results of Investigation

Per mapping by Wagner et al. (2002), two geologic units are found at the surface within the project site: Quaternary basin deposits and Quaternary marine terrace deposits. A geotechnical report included two test borings, which encountered artificial fill at the surface down to depths of 3 and 24 feet, respectively (GeoSolutions, Inc. 2020). Artificial fill has no paleontological sensitivity because it was deposited by humans. Quaternary basin deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources (Dupre and Tinsley 1980), and therefore, have low paleontological sensitivity. Quaternary marine terrace deposits have produced scientifically significant paleontological resources throughout California, including in Monterey County (Bradley and Addicott 1968; Jefferson 2010; Paleobiology Database 2022; Powell et al. 2004; University of California Museum of Paleontology 2022; Wright 1972). Therefore, per mapping by Wagner et al. (2002), Quaternary marine terraces are mapped within the project site, and these have high paleontological sensitivity.

Impacts and Recommendations

The proposed project involves two methods for pipeline installation. Excavations for trenchless pipeline installation would only occur in artificial fill and Quaternary basin deposits, which have no and low paleontological sensitivity, respectively. Therefore, excavations for trenchless pipeline installation are not expected to result in significant impacts/adverse effects to paleontological resources under CEQA and federal environmental protection laws. Excavations for open-cut trench pipeline installation would occur in Quaternary basin deposits and Quaternary marine terrace deposits, which have low and high paleontological sensitivity, respectively. Excavations in undisturbed sediments with high paleontological sensitivity have the potential to significantly impact/adversely affect paleontological resources. Therefore, excavations for open-cut trench

pipeline installation in areas mapped as Quaternary marine terrace deposits have the potential to significantly impact/adversely affect paleontological resources.

Mitigation Measure PAL-1 is recommended to reduce potential impacts/effects to paleontological resources to a level of less-than-significant/no adverse effect. This mitigation measure involves the retention of a Qualified Professional Paleontologist to direct presentation of a Worker Environmental Awareness Program training for construction personnel and establishing protocols to follow in the event that unanticipated paleontological resources are discovered.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop Paleontological Resources Assessment (PRA) for the Washington Street Sewer Bypass Project (project or proposed action) in Castroville, Monterey County, California. This assessment includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction-related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities associated with the proposed project would mainly consist of trenching and excavation. This PRA provides a list of the formations mapped at the surface within the project site and formations that underlie those mapped at the surface that may be impacted by project construction activities.

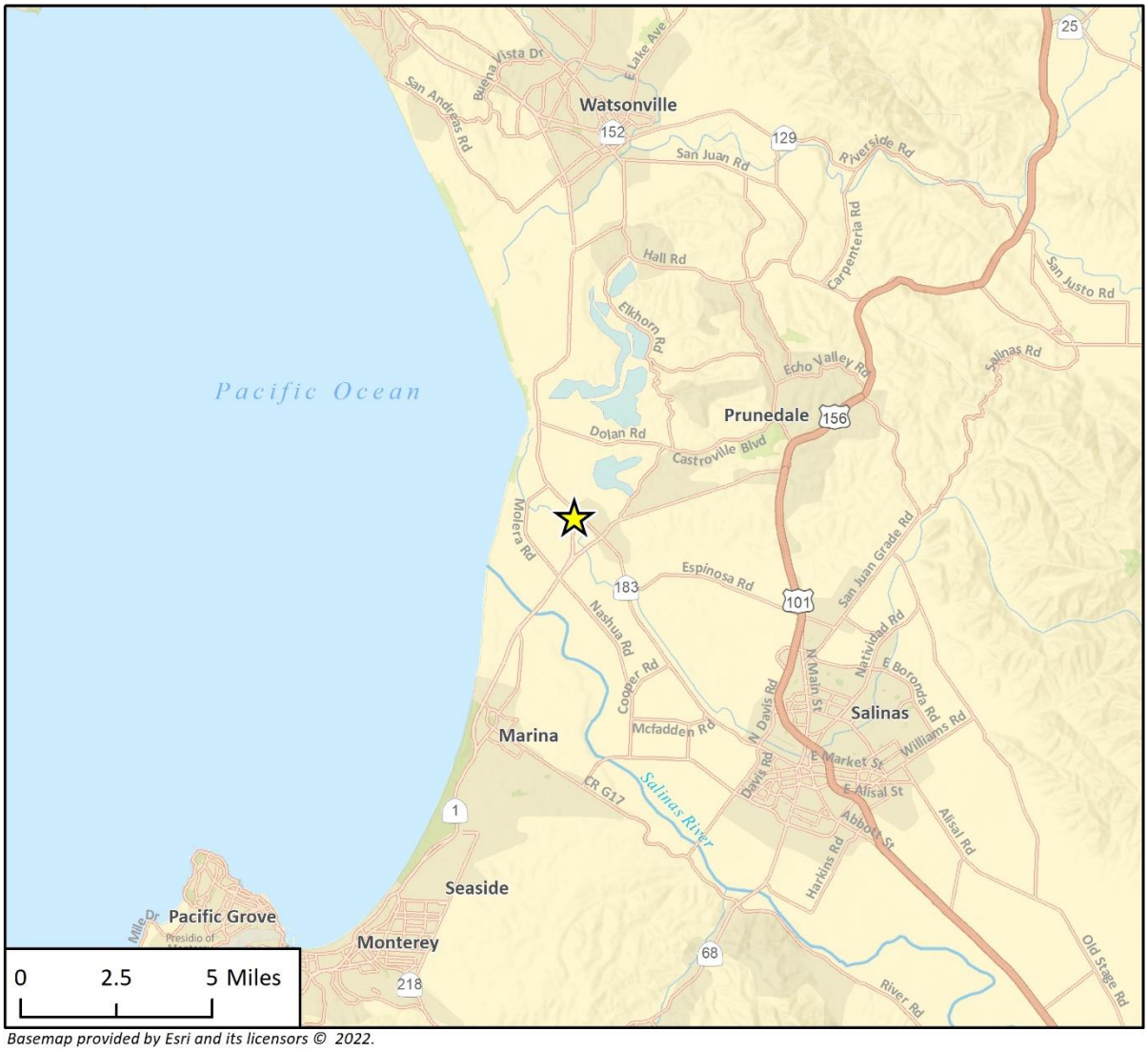
The Castroville Community Services District (District) intends to pursue federal funding opportunities for the proposed action, including funding from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). In California, administration of the SRF program has been delegated by the United States Environmental Protection Agency to the SWRCB. In turn, the SWRCB requires that all projects being considered under the SRF program must comply with certain federal environmental protection laws. This PRA has been prepared to provide technical information and impact analysis and to review the proposed project in sufficient detail to determine to what extent the proposed action may result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws (also referred to as federal cross-cutters or CEQA-Plus). This PRA also provides a description of the formations, including types of fossils known to occur within the formations (if any) and the paleontological sensitivity for each formation.

1.1 Project Location

The project site is located in Castroville, a census-designated place in Monterey County, on Assessor's Parcel Numbers (APNs) 133-143-016, 030-141-022 and -023, and the California Department of Transportation (Caltrans) right-of-way (ROW) that lies between them along State Route (SR) 1. Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space. Portions of the project site are within the Coastal Zone, as established by the California Coastal Commission.

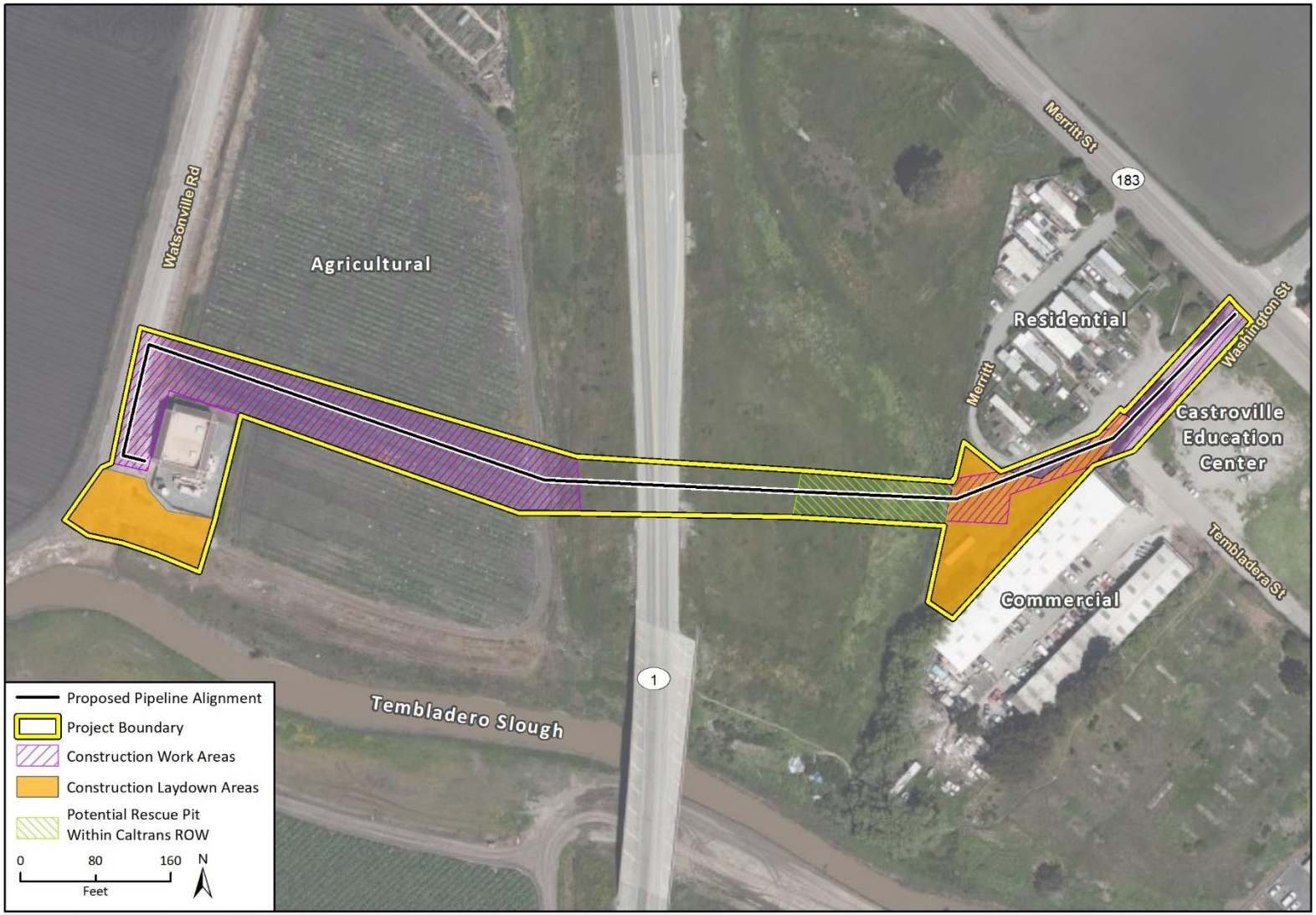
The project site includes an existing Monterey One Water (M1W) pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1. The project site is relatively flat and varies in elevation from seven feet above mean sea level at each end of the pipeline to 29 feet at SR 1. The project site is approximately 1.8 miles east of the Pacific Ocean and approximately 250 feet north of Tembladero Slough. Figure 1~~Figure 1~~ shows the project site's regional context, and Figure 2~~Figure 2~~ shows the project site at a local scale.

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Figure 2 Project Location and Components



1.2 Location and Description of Proposed Project

The project site is located in Castroville, a census-designated place in Monterey County, on Assessor's Parcel Numbers (APNs) 133-143-016, 030-141-022 and -023, and the California Department of Transportation (Caltrans) right-of-way (ROW) that lies between them along State Route (SR) 1. Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space. The project site includes an existing Monterey One Water (M1W) pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street/SR 183, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1.

The proposed project would install a 24-inch trunk sewer main, approximately 1,400 feet in length, from the intersection of Washington Street and Merritt Street/SR 183 to the corner of Washington Street and Tembladera Street in the unincorporated community of Castroville, then across undeveloped areas and underneath SR 1 to the M1W pump station located at the south end of Watsonville Road. The proposed 24-inch sewer line would bypass the existing 18-inch sewer line within Watsonville Road to the existing 18-inch sewer main upstream of the M1W pump station. The purpose of the project is to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station, and to improve the accessibility of the sewer line in this location. Pipeline construction would consist of conventional open-cut trench methods and a trenchless crossing to install a segment beneath SR 1.

1.3 Construction

Project construction would occur over approximately seven months from May 2024 to November 2024. The proposed action would be developed in five phases, outlined in Table 1.

Table 1 Proposed Construction Schedule

Construction Phase	Duration	Approximate Start and End Dates
Site Preparation for Trenchless Pipeline Installation	2 weeks	May 2024
Pipeline Installation (trenchless)	1 month	June 2024 – July 2024
Site Preparation for Trenched Pipeline Installation	1 month	June 2024
Pipeline Installation (trenched)	4 months	July 2024 – October 2024
Paving and Ground Restoration	1 month	October 2024 – November 2024

Construction work would occur Monday through Friday, from 8:00 a.m. to 6:00 p.m. During the trench and trenchless pipeline installation phases, approximately 3,000 cubic yards of soil would be excavated, of which approximately 2,700 cubic yards would be used as fill. Approximately 300 cubic yards of soil would be imported from off-site sources, and approximately 300 cubic yards of soil would be exported off-site. Haul trucks would utilize SR 1, Merritt Street/SR 183, Washington Street, Tembladera Street, and Watsonville Road to transport demolition debris and soil material to the Monterey Peninsula Landfill, located near the City of Marina approximately 4 miles south of the project site, or another location as determined by the construction contractor.

Trenchless installation would involve the use of a drilling rig to create an underground pathway beneath the Caltrans ROW along SR 1. The drilling rig would install a 36-inch steel casing through the underground pathway without disturbing the ground surface within the SR 1 Caltrans ROW. The 24-inch sewer line itself would be installed during the open-cut trench installation phase. An entry pit would be installed on the west side of SR 1, where trenchless drilling would begin. The entry pit would be approximately 40 feet long, 15 feet across, and 10 feet deep. An exit pit would be installed on the east side of SR 1, where the trenchless drilling equipment would exit the soil. The exit pit would be approximately 12 feet long, 12 feet wide, and 15 feet deep.

1.4 Operation and Maintenance

Once construction of the proposed project is complete, the operation and maintenance needs of the sewer main would be reduced compared to the existing sewer line. Because of the new and improved facilities, the new sewer line would require fewer maintenance trips than the existing under-capacity sewer. The project would not introduce new electricity demands or staffing needs.

2 Regulations

2.1 Federal Regulations

As a CEQA-Plus project, this project must comply with several federal regulations in addition to the requirements of CEQA. The only such regulation that addresses paleontological resources is the National Historic Preservation Act, which is detailed below:

National Environmental Policy Act (42 United States Code, Section 4321 et seq.; 40 Code of Federal Regulations, Section 1502.25)

The National Environmental Policy Act, as amended, directs federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage (Section 101[b][4])." The current interpretation of this language includes scientifically important paleontological resources among those resources potentially requiring preservation.

National Historic Preservation Act of 1966 (6 United States Code 470)

The National Historic Preservation Act (NHPA) applies to paleontological resources that are found in culturally-related contexts; these related materials qualify as cultural resources. Consequently, recovery and treatment protocols included in the project-specific Cultural Resources Management Plan should be followed for discoveries of paleontological resources in culturally-related contexts.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011 Subtitle D). The PRPA directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land, and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. The PRPA prohibits the removal of paleontological resources from federal land without a permit, establishes penalties for violations, and establishes a program to increase public awareness about such resources. While specific to activity occurring on federal lands, some federal agencies may require adherence to the directives outlined in the PRPA for projects on non-federal lands if federal funding is involved, or the project includes federal oversight.

2.2 State Regulations

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states a project would "normally" have a significant effect on the environment if project effects exceed an identified threshold of significance (CEQA Guidelines Section 15064.7[a]). Appendix G of the CEQA Guidelines (the Environmental Checklist Form) provides suggested thresholds of significance for evaluating a project's environmental impacts, including impacts to paleontological resources. In Section VII(f), the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" To determine the uniqueness of a given

paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define "a unique paleontological resource or site." However, the SVP (2010) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for mitigating impacts to paleontological resources, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

California Public Resources Code Section 5097.5 states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.3 Regional and Local Regulations

2010 Monterey County General Plan

The Conservation and Open Space Element of the 2010 Monterey County General Plan (County of Monterey 2010) addresses paleontological resources and includes the following goal and policies applicable to the proposed project:

> **Goal OS-7** Encourage the conservation and identification of the County's paleontological resources.
>
> > **OS-7.1** Important representative and unique paleontological sites and features shall be identified and protected. Developers shall be required to complete Phase I (reconnaissance level) paleontological reviews in any formation known to yield important elements of the fossil record. If significant fossil deposits are found during grading activities, data recovery

shall be required to obtain a sample of materials from such deposits prior to their systematic destruction.

OS-7.3 Development proposed within high and moderate sensitivity zones and known fossil-bearing formations shall require a paleontological field inspection prior to approval. Routine and Ongoing Agricultural Activities are exempted from this policy in so far as allowed by state or federal law.

OS-7.4 Development proposed in low sensitivity zones are not required to have a paleontological survey unless there is specific additional information that suggests paleontological resources are present.

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This PRA satisfies Public Resources Code Section 5097.5 requirements, follows guidelines and significance criteria specified by the SVP (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Because fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. These activities may constitute significant impacts under CEQA or adverse effects under federal environmental protection laws and may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

In its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the SVP outlines guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically, stratigraphically, taxonomically, or regionally (SVP 2010). The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their

geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

4 Methods

Rincon reviewed published geologic maps to identify the geologic units underlying the project site (Dupre and Tinsley 1980; Wagner et al. 2002). Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP; 2022) and Paleobiology Database (PBDB; 2022) and consulted primary literature to identify known fossil localities in Monterey County and surrounding regions from similar geologic units to those identified within the project site. The project site contains no bedrock exposures; therefore, a field survey was not warranted.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the records search and literature review and based on the potential effects to nonrenewable paleontological resources from project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The project site is located in the Coast Ranges geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey 2002). The Coast Ranges extend along the majority of California's coast from the California-Oregon border to Point Arguello in Santa Barbara County in the south and consist of northwest-trending mountain ranges and valleys. The Coast Ranges are composed of Mesozoic and Cenozoic sedimentary, igneous, and metamorphic strata. The eastern side is characterized by strike-ridges and valleys in the Upper Mesozoic strata. The Coast Ranges province runs parallel to and overlaps the San Andreas Fault in some areas (California Geological Survey 2002).

Locally, the project site is within the *Moss Landing* United States Geological Survey 7.5-minute quadrangle. The project site lies at the northern end of the Salinas Valley, just north of Tembladero Slough and approximately 1.8 miles east of Monterey Bay (Figure 2~~Figure 2~~).

5.2 Geology of the Project Site

The surface geology of the region around the project site was mapped at a scale of 1:100,000 by Wagner et al. (2002), who identified two geologic units underlying the project site as shown in Figure 3~~Figure 3~~ and Figure 4~~Figure 4~~. These geologic units consist of Quaternary basin deposits and Quaternary marine terraces. A geotechnical report conducted for this project also encountered artificial fill during test borings within the project site (GeoSolutions, Inc. [GeoSolutions] 2020). GeoSolutions (2020) represents a more precise assessment of the geology of the project site than the regional geology map of Wagner et al. (2002). Wagner et al. (2002) and GeoSolutions (2020) will both be used to interpret the geology of the project site.

Artificial Fill

Both test borings conducted for the geotechnical report encountered artificial fill at the surface (GeoSolutions 2020). Within boring B-1, the artificial fill layer reached 24 feet below ground surface (bgs), and within boring B-2, the artificial fill layer reached 3 feet bgs. Artificial fill in the project site consists of slightly moist to moist clay with some gravel and sand (GeoSolutions 2020). Within boring B-1, there was also a 2-foot-thick layer of poorly graded sand underlying the clay. The two test borings drilled by GeoSolutions (2020) both encountered artificial fill, but the thicknesses of the artificial fill layers were very different. Therefore, the average depth of artificial fill (or its presence at all) throughout the project site cannot be estimated. Artificial fill represents sediments deposited by humans, which, therefore, has **no paleontological sensitivity.**

Quaternary Basin Deposits

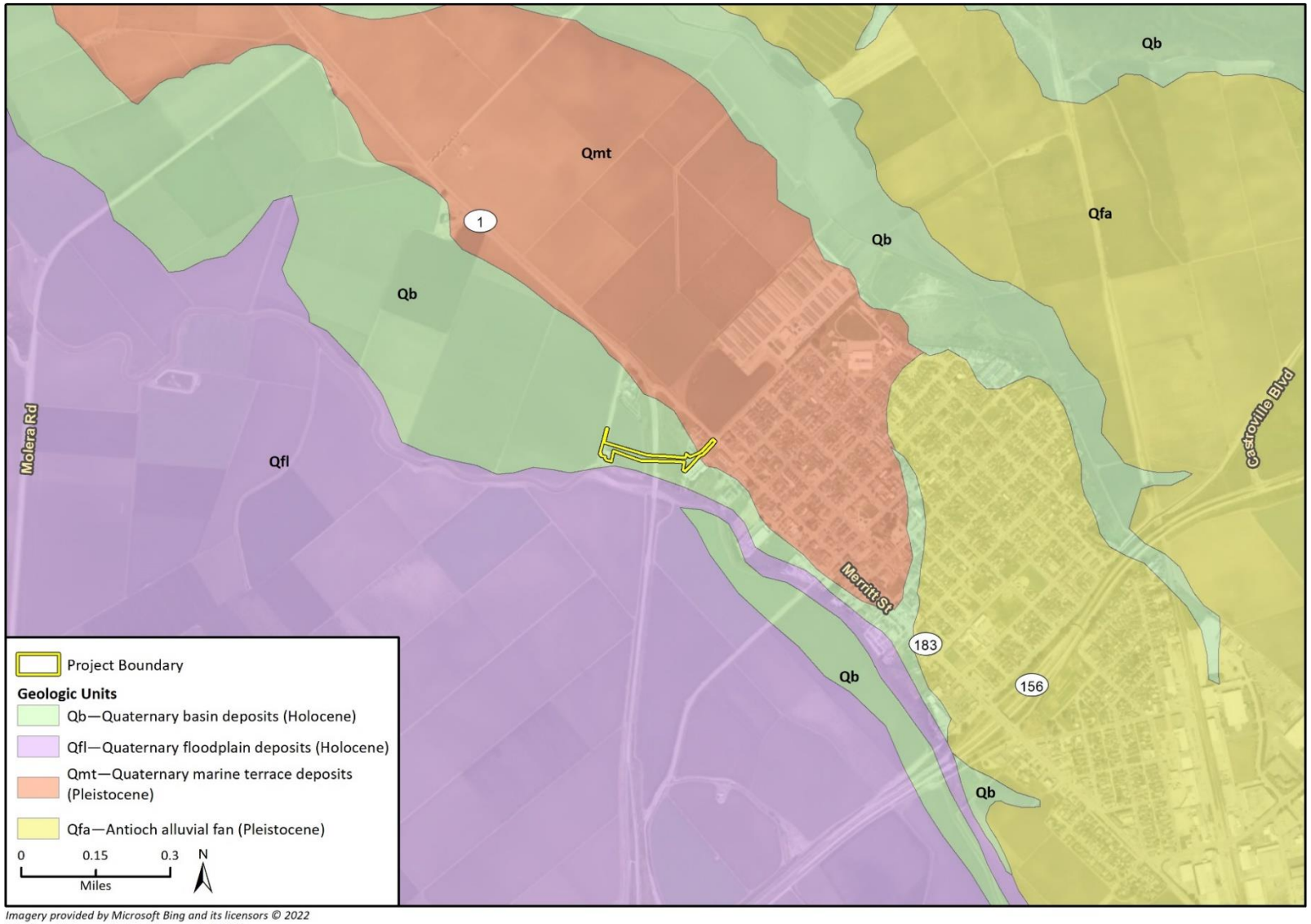
Quaternary basin deposits are mapped by Wagner et al. (2002) throughout most of the project site (Figure 3~~Figure 3~~; Figure 4~~Figure 4~~). GeoSolutions (2020) encountered Quaternary basin deposits in both of their test borings from beneath the artificial fill layer down to their maximum depth of exploration (i.e., 24 to 40 feet bgs for B-1 and 3 to 20 feet bgs for B-2). Quaternary basin deposits consist of dark gray to black, clay and silty clay filled with organic material and occasionally thin beds

of silt or silty sand (Dupre and Tinsley 1980; GeoSolutions 2020). Quaternary basin deposits are Holocene in age and represent deposition in estuarine, lagoon, tidal flat, lake, or flood basin environments. Given their age, Quaternary basin deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, Quaternary basin deposits have **low paleontological sensitivity.**

Quaternary Marine Terrace Deposits

Quaternary marine terrace deposits are mapped in the eastern edge of the project site (Figure 3~~Figure 3~~; Figure 4~~Figure 4~~). GeoSolutions (2020) did not encounter Quaternary marine terrace deposits, but their test borings were several hundred feet from where Wagner et al. (2002) mapped Quaternary terrace deposits. Quaternary marine terrace deposits consist of semiconsolidated, moderately to poorly sorted sand with thin, laterally discontinuous gravel beds (Dupre and Tinsley 1980). Quaternary marine terrace deposits represent Pleistocene-aged, near-shore marine environments. Marine terrace deposits similar to Quaternary marine terrace deposits have produced vertebrate and invertebrate fossils throughout California, including near Monterey Bay (Bradley and Addicott 1968; Jefferson 2010; PBDB 2022; Powell et al. 2004; UCMP 2022; Wright 1972). Therefore, Quaternary marine terrace deposits have **high paleontological sensitivity.**

Figure 3 Regional Geologic Map



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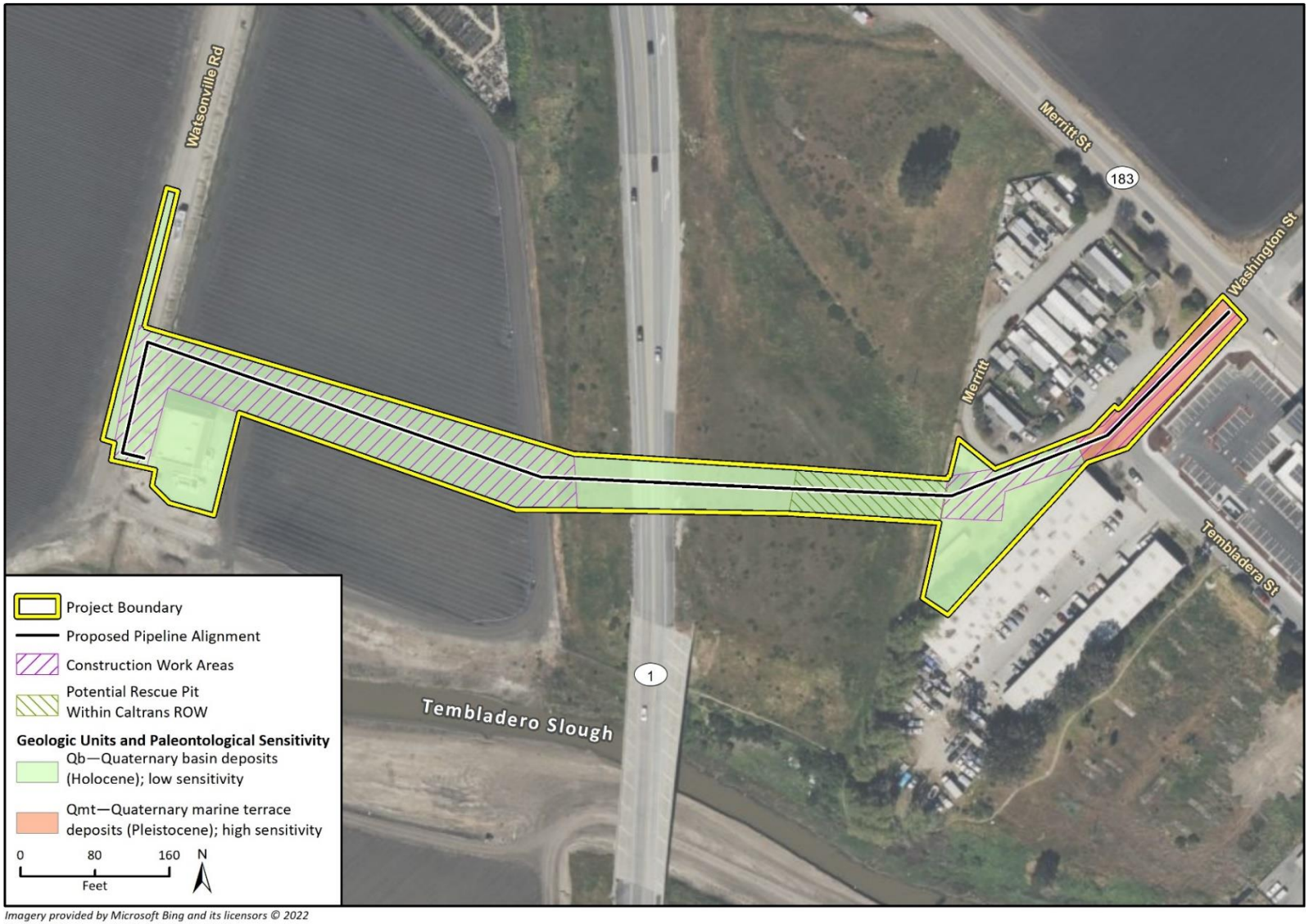
Additioanl data provided by Wagner et al. 2002.

Figure 4 Geologic Map and Paleontological Sensitivity of the Project Site



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Additioanl data provided by Wagner et al. 2002.

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

The project site is underlain by two distinct geologic units per mapping by Wagner et al. (2002), Quaternary basin deposits and Quaternary marine terrace deposits (Figure 3~~Figure 3~~; Figure 4~~Figure 4~~). Quaternary basin deposits have low paleontological sensitivity, and Quaternary marine terrace deposits have high paleontological sensitivity. A geotechnical report conducted for the project also encountered artificial fill within the project site (GeoSolutions 2020), which has no paleontological sensitivity.

6.2 Impacts

Ground-disturbing activities (i.e., grading, excavation, boring, trenching) in sediments with low or no paleontological sensitivity are unlikely to result in significant impacts to paleontological resources under CEQA or adverse effects to paleontological resources under federal environmental protection laws. Previously undisturbed portions of the project site that are underlain by Quaternary marine terrace deposits may result in significant impacts or adverse effects to paleontological resources. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

Excavations for trenchless pipeline installation (i.e., entry pit, exit pit, and rescue pit [if needed]) are anticipated to reach up to 30 feet bgs. These excavations would only affect artificial fill and Quaternary basin deposits, sediments with no and low paleontological sensitivity, respectively (Figure 4~~Figure 4~~). Therefore, excavations for the trenchless pipe installation are anticipated to have a less than significant impact/no adverse effects on paleontological resources.

Excavations for the open-cut trench installation (i.e., trenching) are anticipated to reach up to 15 feet bgs. Most of the proposed open-cut trench is underlain by low-sensitivity Quaternary basin deposits (Figure 4~~Figure 4~~). However, high-sensitivity Quaternary marine terrace deposits underlie the easternmost part of the proposed trench alignment (Figure 4~~Figure 4~~). Therefore, excavations for the open-cut trench installation in areas mapped as Quaternary marine terrace deposits may result in significant impacts/adverse effects to paleontological resources.

Mitigation Measure PAL-1 is recommended to ensure less than significant impacts/no adverse effects to paleontological resources.

6.3 Recommendations

The following mitigation measure would address potentially significant impacts/adverse effects if paleontological resources are encountered during project ground-disturbing activities. This measure would apply to ground disturbing activities for open-cut trench installation underlain by Quaternary marine terrace deposits. Implementation of Mitigation Measure PAL-1 would effectively mitigate

the project's potentially significant impacts/adverse effects to these resources through the recovery, identification, and curation of previously unrecovered fossils.

PAL-1 Paleontological Resources Monitoring and Mitigation

The following measures should be implemented during open-cut trench installation in areas mapped as Quaternary marine terrace deposits:

Paleontological Worker Environmental Awareness Program. Prior to the start of construction, a Qualified Professional Paleontologist (as defined by SVP [2010]) or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.

Unanticipated Discovery of Paleontological Resources. In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. The project applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, the applicant shall retain a Qualified Professional Paleontologist to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP (2010) standards.

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8 List of Preparers

Resumes for all preparers are included in Appendix A.

Rincon Consultants, Inc.

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Appendix A

Staff Resumes

Appendix G

Vibration Analysis

Groundborne Noise and Vibration Modeling

Washington Street Sewer Bypass

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Large bulldozer	25	0.0890	87	0.022
Loaded trucks	25	0.0760	83	0.014

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.200 PPV**	**72.0 VdB**	**0.0080 RMS**
Vibratory Roller	26	250	133
Hoe Ram	12	120	64
Large bulldozer	12	120	64
Caisson drilling	12	120	64
Loaded trucks	10	79	42
Jack hammer	5	52	28
Small bulldozer	1	6	3

Source
California Department of Transportation (Caltrans). 2013. Transportation and Construction Last Updated: 4/11/2019

Appendix H

Federal Clean Air Act Conformity Analysis

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November 18, 2022
Project No: 19-07855

Nick Panofsky, PE, Lead Engineer
MNS Engineers, Inc.
811 El Capitan Way, Suite 103
San Luis Obispo, California 93401
Via email: npanofsky@mnsengineers.com

Subject: Federal Clean Air Act General Conformity Applicability Analysis for the Washington Street Sewer Bypass Project, Castroville, California

Dear Mr. Panofsky:

This letter has been prepared for the State Water Resources Control Board (SWRCB) on behalf of the Castroville Community Services District (District) and serves as the General Conformity Applicability Analysis for the Washington Street Sewer Bypass Project (herein referred to as "proposed action" or "project"). The District intends to pursue federal funding opportunities for the proposed action, including funding from the Clean Water State Revolving Fund (CWSRF). In California, administration of the CWSRF program has been delegated by the United States Environmental Protection Agency (USEPA) to the SWRCB. In turn, the SWRCB requires that all projects being considered under the CWSRF program comply with certain federal environmental protection laws, including the federal Clean Air Act (FCAA). The FCAA requires that any federal agency taking an action, including funding an action, make a determination that its action would not conflict with a State Implementation Plan (SIP). As part of the implementation of the FCAA, the USEPA has developed rules for transportation projects and non-transportation projects. The rule applicable to the proposed action is referred to as the "General Conformity Rule." Therefore, the purpose of this letter is to evaluate the proposed action's conformity to the applicable SIP and consistency with the FCAA General Conformity Rule.

Location and Description of Proposed Action

The project site is located in Castroville, a census-designated place in Monterey County, on Assessor's Parcel Numbers (APNs) 133-143-016, 030-141-022 and -023, and the California Department of Transportation (Caltrans) right-of-way (ROW) that lies between them along State Route (SR) 1. Land uses surrounding the project site consist of agricultural land, Caltrans ROW, residential and commercial development, the Castroville Education Center campus of Hartnell College, and undeveloped open space. The project site includes an existing Monterey One Water (M1W) pump station along Watsonville Road near Castroville, portions of Washington Street and Merritt Street/SR 183, and agricultural and undeveloped lands along the pipeline alignment on either side of SR 1.

The proposed project would install a 24-inch trunk sewer main, approximately 1,400 feet in length, from the intersection of Washington Street and Merritt Street/SR 183 to the corner of Washington Street and Tembladera Street in the unincorporated community of Castroville, then across undeveloped areas and underneath SR 1 to the M1W pump station located at the south end of Watsonville Road. The proposed 24-inch sewer line would bypass the existing 18-inch sewer line within Watsonville Road to the manhole

immediately upstream of the M1W pump station. The purpose of the project is to provide additional conveyance capacity from the District wastewater collection system to the M1W pump station, and to improve the accessibility of the sewer line in this location. Pipeline construction would consist of conventional open-cut trench methods and a trenchless crossing to install a segment beneath SR 1.

Construction

Project construction would occur over approximately seven months from May 2024 to November 2024. The proposed action would be developed in five phases, outlined in Table 1.

Table 1 Proposed Construction Schedule

Construction Phase	Duration	Approximate Start and End Dates
Site Preparation for Trenchless Pipeline Installation	2 weeks	May 2024
Pipeline Installation (trenchless)	1 month	June 2024 – July 2024
Site Preparation for Trenched Pipeline Installation	1 month	June 2024
Pipeline Installation (trenched)	4 months	July 2024 – October 2024
Paving and Ground Restoration	1 month	October 2024 – November 2024

Construction work would occur Monday through Friday, from 8:00 a.m. to 6:00 p.m. During the trench and trenchless pipeline installation phases, approximately 3,000 cubic yards of soil would be excavated, of which approximately 2,700 cubic yards would be used as fill. Approximately 300 cubic yards of soil would be imported from off-site sources, and approximately 300 cubic yards of soil would be exported off-site. Haul trucks would utilize SR 1, Merritt Street/SR 183, Washington Street, Tembladera Street, and Watsonville Road to transport demolition debris and soil material to the Monterey Peninsula Landfill, located near the City of Marina approximately four miles south of the project site, or another location as determined by the construction contractor.

Trenchless installation would involve the use of a drilling rig to create an underground pathway beneath the Caltrans ROW along SR 1. The drilling rig would install a 36-inch steel casing through the underground pathway without disturbing the ground surface within the SR 1 Caltrans ROW. The 24-inch sewer line itself would be installed during the open-cut trench installation phase. An entry pit would be installed on the west side of SR 1, where trenchless drilling would begin. The entry pit would be approximately 40 feet long, 15 feet across, and 10 feet deep. An exit pit would be installed on the east side of SR 1, where the trenchless drilling equipment would exit the soil. The exit pit would be approximately 12 feet long, 12 feet wide, and 15 feet deep. During trenchless installation, a 235-horsepower diesel generator would be used to power construction equipment. It is estimated the diesel generator would be used for two days for up to 12 hours per day, and an additional eight days for up to eight hours per day.

Operation and Maintenance

Once construction of the proposed project is complete, the operation and maintenance needs of the sewer main would be reduced compared to the existing sewer line. The new sewer line would require fewer maintenance trips than the existing under-capacity sewer. The project would not introduce new electricity demands or staffing needs.

Existing Conditions

The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey, San Benito, and Santa Cruz counties. The Monterey Bay Air Resources District is responsible for local control and monitoring of criteria pollutants throughout the NCCAB. The NCCAB is designated attainment or unclassified for all National Ambient Air Quality Standards (NAAQS).[1]

Regulatory Framework

Section 176(c) of the FCAA, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits federal agencies from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. As codified in Title 40 Code of Federal Regulations (CFR) Part 51 Subpart W and 40 CFR Part 93 Subpart B: General Conformity, the FCAA requires federal agencies to ensure that actions taken by those agencies conform to the applicable SIP. The FCAA applies only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to NAAQS. These regulations require an applicability analysis to determine whether the federal action must be supported by a conformity determination. Under the General Conformity Rule, the FCAA applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

a. An area that is in nonattainment (i.e., has recorded violations of the NAAQS) for each criteria pollutant (such as ozone, carbon monoxide, and particulate matter) for which the area is designated nonattainment
b. An area designated as nonattainment that was later re-designated by the Administrator of the USEPA as an attainment area and that is therefore required to develop a maintenance plan under 42 U.S.C. Section 7505a with respect to the specific pollutant(s) for which the area was previously designated nonattainment

The applicability analysis involves calculation of the total emissions of criteria or precursor pollutants during the years of construction and operation of the federal action. If annual emissions exceed the *de minimis* rates outlined in the General Conformity Rule specified in 40 CFR Part 93.153(b), then the federal agency must prepare a formal General Conformity Determination for public comment. If the proposed action's annual emissions are below the applicable *de minimis* rates, the proposed action conforms to the SIP and is not subject to a formal general conformity determination.[2] As discussed under *Existing Conditions*, the NCCAB is designated attainment or unclassified for all NAAQS; therefore, no *de minimis* rates are applicable to the proposed action.

[1] United States Environmental Protection Agency. 2022. "Nonattainment Areas for Criteria Pollutants (Green Book). Last modified: April 29, 2022. https://www.epa.gov/green-book (accessed September 2022).
[2] State Water Resources Control Board. 2017. Appendix I: State Environmental Review Process – State Water Resources Control Board Clean Water State Revolving Fund Program. April 2017. https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/policy0513/appendix_i_envguide.pdf (accessed September 2022).

Methodology

Air pollutant emissions generated by project construction were estimated using the Roadway Construction Emission (RCEM), version 9.0.0. RCEM uses project-specific information, including the project's land uses, construction equipment parameters, and location, to model a project's construction emissions. The project would not include any operational sources of air pollution; therefore, only construction emissions were modeled. The analysis reflects construction and operation of the proposed action as described under *Location and Description of Proposed Action*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. Construction of the proposed action was analyzed based on the construction schedule and construction equipment list provided by the project applicant. It is assumed all construction equipment would be diesel-powered.

General Conformity Applicability Assessment

The proposed action may be funded by a loan from the CWSRF, a USEPA loan program administered at the state level by the SWRCB. Therefore, the emissions generated during construction and operation of the proposed action are subject to FCAA requirements under the General Conformity Rule.

Table 2 lists the total annual emissions that would be generated from construction and operation activities associated with the proposed action. As detailed earlier, no *de minimis* rates are applicable to the proposed action. As such, because the proposed action would not exceed applicable *de minimis* rates, general conformity requirements do not apply, and the proposed action is exempt from a General Conformity Determination.

Table 2 Total Annual Emissions of Proposed Action (tons/year)

Source	VOC[1]	NO_2[2]	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum Annual Construction Emissions[3]	0.2	1.4	1.8	< 0.1	0.2	0.1
De Minimis Rates[4]	N/A	N/A	N/A	N/A	N/A	N/A
De Minimis Rates Exceeded?	N/A	N/A	N/A	N/A	N/A	N/A

VOC: volatile organic compounds; NO_X: nitrogen oxides; NO_2: nitrogen dioxide; CO: carbon monoxide; SO_2: sulfur dioxide; PM_{10}: particulate matter 10 microns or less in size; $PM_{2.5}$: particulate matter 2.5 microns or less in size; N/A: not applicable

[1] VOC is equivalent to reactive organic gases (ROG) as calculated by RCEM.

[2] NO_2 was conservatively assumed to be equivalent to NO_X.

[3] Maximum annual construction emissions would occur during 2024.

[4] Since the NCCAB is in attainment or unclassified for all NAAQS, there are no applicable *de minimis* rates for the proposed action.

Notes: All numbers have been rounded to the nearest tenth. All emissions modeling was completed using RCEM. See Attachment 1 for modeling results.

Regardless of basin attainment status, the SWRCB requires that estimates of criteria pollutant emissions associated with the proposed action and supporting calculations be submitted with Attachment E1 of the CWSRF Environmental Package. The results of this assessment will be summarized in Attachment E1

of the CWSRF Environmental Package, and this memorandum will be included as supporting documentation.

Sincerely,
Rincon Consultants, Inc.

Lucas Carneiro
Environmental Planner

Megan Jones
Principal

Attachment

Attachment 1 Air Pollutant Emissions Modeling

Attachment 1

Air Pollutant Emissions Modeling