Cayucos Sustainable Water Project (CSWP)
Subsequent Mitigated Negative Declaration for the Estero Marine Terminal Ocean Outfall Project Component

Subsequent Initial Study of Environmental Impact

I. ENVIRONMENTAL DETERMINATION FORM

1. Project Title:

Cayucos Sustainable Water Project Ocean Outfall

2. Lead Agency Name and Address:

Cayucos Sanitary District
200 Ash Avenue / PO Box 333
Cayucos CA 93430

3. Contact Person and Phone Number:

David Foote, c/o *firma*, (805) 781-9800

4. Project Location:

Chevron Estero Marine Terminal 4000 Highway 1, Morro Bay, California 93442

5. Project Sponsor's Name and Address:

Cayucos Sanitary District
200 Ash Avenue / PO Box 333
Cayucos CA 93430

6. General Plan Designation:

The proposed pipeline tie-in site is designated Agriculture. The effluent pipeline conveyances are within public right-of-way (State Route 1) and Waters of the U.S. and State.

7. Zoning:

Agriculture (County) and Open Area I/PD (City of Morro Bay west of State Route 1 and the mean high tide line)

8. Project Description & Regulatory and Environmental setting

LOCATION AND BACKGROUND

The Project consists of the reuse of an existing ocean conveyance pipe for treated effluent disposal from the proposed and permitted Cayucos Sustainable Water Project's (CSWP) Water Resource Recovery Facility (WRRF) by the Cayucos Sanitary District (CSD). The pipeline is leased from the California State Lands Commission (CSLC) by Chevron Pipeline Company (Chevron). This pipe is referred to historically, and herein, as LL2 (Load Line 2).

The CSD has land use entitlements from the County of San Luis Obispo for construction of a new Water Resource Recovery Facility located on Toro Creek Road, related conveyance pipelines, and production of tertiary treated water for agricultural irrigation. This land use entitlement did not include the use of the Chevron outfall pipe but rather the existing Morro Bay-Cayucos Wastewater Treatment Plant outfall.[1] The CSD will apply to the County of San Luis Obispo (on-shore) and the California Coastal Commission (marine) for Coastal Development Permits for this proposed outfall project.

The Proposed Project site is located within the Estero Marine Terminal (EMT) and ocean near Cayucos (refer to Figure 1 Location and Jurisdictional Boundaries and Figure 2 Existing Offshore Facilities and Proposed Diffuser). The EMT was constructed in the late 1920's and was commissioned in 1929. It remained in operation until the spring of 1999 when the EMT was placed in caretaker status under the existing lease status and decommissioning activities.

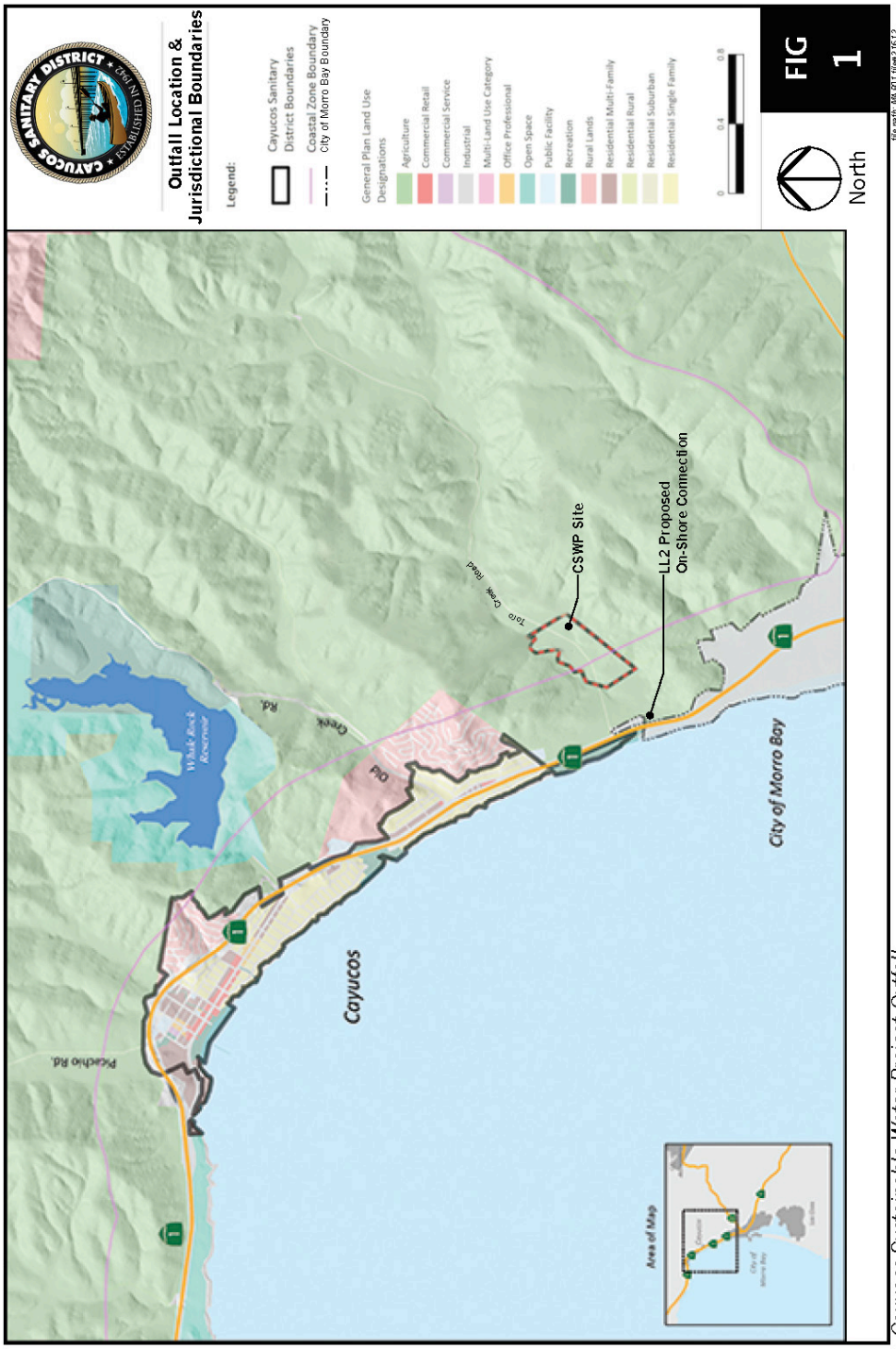
The offshore components of the EMT comprise a Tanker Berth as well as two pipelines constructed for oil conveyance, Load Line 1 (LL1) and Load Line 2 (LL2), along with an outfall pipe for treated tanker ballast water (Figure 2- Existing Offshore Facilities and Proposed Diffuser). LL2 consists of a nominal 20-inch to 22-inch diameter pipeline that extends 3,952 feet from shore and terminates at a depth of 51 feet (Padre 2016).

The EMT pipeline tie-in site is located within an unincorporated portion of coastal San Luis Obispo County (County), near the northern boundary of the City of Morro Bay (City), California. The terminal property under lease from the CSLC includes parcels of tidelands and submerged lands, lying immediately south and offshore of the mouth of Toro Creek, in the seabed of the Pacific Ocean at Estero Bay. Land west of State Route 1 is within the incorporated limits of the City of Morro Bay.

[1] An additional Coastal Development Permit will be required from the City of Morro Bay related to the CSD's future participation in the decommissioning of the existing Wastewater Treatment Facility in Morro Bay. This permit is not associated with this proposed ocean outfall project.

Cayucos Sustainable Water Project (CSWP)

Subsequent Mitigated Negative Declaration for the Estero Marine Terminal Ocean Outfall Project Component



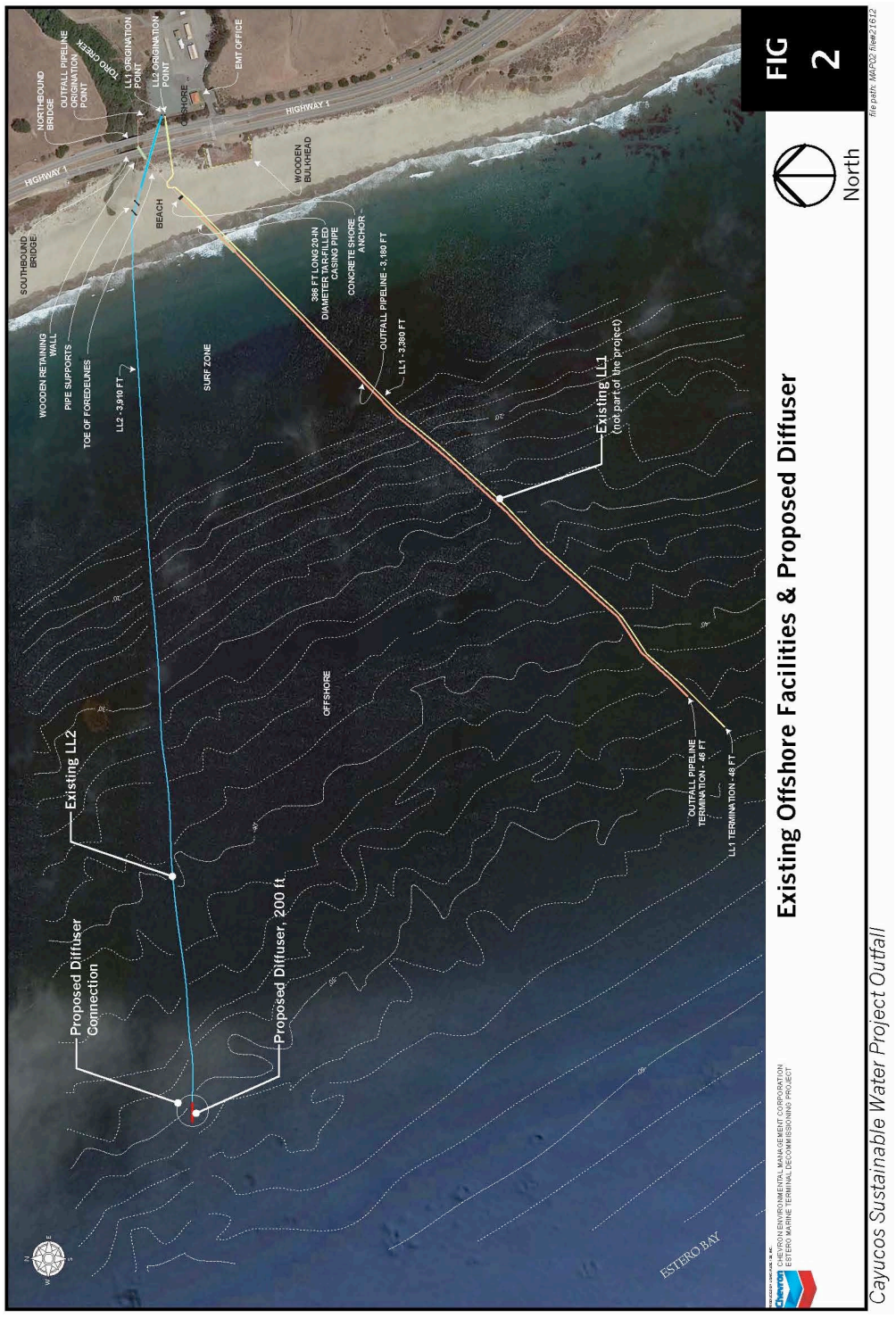


FIG 2
Existing Offshore Facilities & Proposed Diffuser
North
Cayucos Sustainable Water Project Outfall
CHEVRON ENVIRONMENTAL MANAGEMENT CORPORATION
ESTERO MARINE TERMINAL DECOMMISSIONING PROJECT
HIGHWAY 1
NORTHBOUND BRIDGE
SOUTHBOUND BRIDGE
OUTFALL PIPELINE ORIGINATION POINT
TORO CREEK
LL1 ORIGINATION POINT
LL2 ORIGINATION POINT
OFFSHORE
EMT OFFICE
WOODEN BULKHEAD
BEACH
WOODEN RETAINING WALL
PIPE SUPPORTS
TOE OF FOREDUNES
LL2 -3,810 FT
SURF ZONE
396 FT LONG 30-IN DIAMETER TAR-FILLED CASING PIPE
CONCRETE SHORE ANCHOR
OUTFALL PIPELINE - 3,160 FT
LL1 -3,280 FT
Existing LL1
(not part of the project)
Existing LL2
Proposed Diffuser Connection
Proposed Diffuser, 200 ft
OFFSHORE
OUTFALL PIPELINE TERMINATION - 46 FT
LL1 TERMINATION - 48 FT
ESTERO BAY

The offshore lease land occurs within the area encompassed by the Morro Bay North and Cayucos, California, United States Geological Survey (USGS) 7.5-minute quadrangle maps, Township 29S, Range 10E, Mt. Diablo Baseline and Meridian. The upland address of the EMT is 4000 Highway 1, Morro Bay, California 93442.

RELATIONSHIP OF THE LL2 RE-USE PROJECT TO THE CAYUCOS SUSTAINBLE WATER PROJECT

The LL2 Re-use project will implement the ocean outfall for effluent discharge component of the Cayucos Sustainable Water Project's Water Resource Recovery Facility (WRRF).

PREVIOUS CEQA DOCUMENT

The CSD certified the Final EIR for the CSWP in April 2017, which is herein incorporated in full by reference in this subsequent CEQA document. The CSD adopted a Statement of Overriding Considerations for a Class I significant and unavoidable impact related to tsunami hazard for the pipeline along SR 1. The CSWP is inherently an environmentally superior project to the existing Morro Bay WTTP which is in a potential tidal inundation area. This EIR analyzed the use of the Chevron pipe as an outfall in EIR section V as an alternative to this component of the project to a degree of specificity appropriate for alternatives analysis under CEQA. The alternative was compared to the use of the existing ocean outfall for the jointly owned wastewater treatment facility in Morro Bay. The alternate outfall was identified as superior in part because it would abandon the miles of effluent pipelines running to Morro Bay some of which are in tidal hazard areas, including tsunami. This EIR also analyzed environmental issues related to the proposed project for geology, biology, cultural resources and other topics referenced herein in the following Initial Study checklist.

EXISTING STATE LANDS COMMISSION LEASE

Use of the State tidelands (oceanward from the mean high tide line) for the EMT tanker berth component and related ocean pipe conveyances was originally authorized under CSLC Lease Public Resources Code (PRC) 2478.1. The original lease boundaries encompassed the physical area necessary for the tanker berth operations including the anchor spreads, the former pier structure and other associated facilities.

Subsequently, the physical boundaries of PRC 2478.1 were substantially reduced. The majority of the EMT tanker berth facility reduction was completed during the Phase I, II, and III EMT decommissioning activities completed in 1999 through 2001. The facilities located outside the reduced lease area boundary were abandoned.

The residual business development lease area which encompassed the remaining three pipeline corridors was authorized under CSLC Lease PRC 8100.1, hereinafter referred to as the "State

Lease". The provisions of the State Lease allowed Chevron a five-year period to evaluate other potential uses for the remaining three EMT pipelines including a potential landfall for telecommunication cables.

In the event that potential alternate uses were not realized within the five-year period, Chevron was then required to apply for appropriate permits to abandon the remaining offshore facilities. Based on a February 15, 2005 verbal communication with CSLC staff on the existing State Lease for the EMT expired on May 31, 2005 and was put on "hold over" status until regulatory permits for decommissioning of the EMT facility are acquired.

As of June 2015, the State Lease was revised to replace the previous lease number PRC 8100.1, entered into between Chevron Pipeline Company and the California State Lands Commission, the original term of which ended May 31, 2005 and has continued on a month-to-month holdover tenancy basis. The term of the new State Lease is for five years; beginning June 1, 2015 and continuing through May 31, 2020, unless sooner terminated as provided under the lease. EMT tanker berth decommissioning and site restoration operations are being proposed by Chevron in compliance with the lease termination provisions of the existing State Lease. Re-use of LL2 for effluent disposal is being proposed by the CSD concurrently with the Chevron de-commissioning activities.

Chronology and Status of Estero Marine Terminal Facilities

Constructed in the late 1920's and commissioned in 1929, the EMT configuration and components have undergone substantial changes through 2011 when a series of three separate decommissioning phases were completed. The *Project Execution Plan (PEP), June 2015* prepared for Chevron by Padre Associates (2016) provides a detailed overview of the EMT tanker berth components, and a chronological history of their removal and/or modification since original installation, resulting from the decommissioning phases completed to date. This document is herein incorporated by reference in this CEQA document and is available for review at the CSD office located at 200 Ash Avenue, Cayucos and is posted on the CSD website (https://www.cayucossd.org).

Two pipelines were constructed for oil conveyance, Load line 1 (LL1) and Load line 2 (LL2), along with an outfall pipe for treated tanker ballast water (Figure 2- Existing Off Shore facilities and Proposed Diffuser. According to the Padre PEP, LL2 consists of nominal 20-inch diameter and nominal 22-inch diameter pipeline that extend 3,952 feet from shore and terminates at a depth of 51 feet.

According to analyses presented in the PEP, the pipeline condition is good and was constructed in 1983 with modern techniques and materials. The pipe cathodic protection components were removed in 2009. The 22-inch diameter (onshore) portion of this pipeline was constructed in

1964. LL2 was idled in 1999 and pigged and flushed. The pipeline and outfall end was subsequently diver inspected and documented in the PEP in 2013. The 22-inch diameter portion of the pipe has a wall thickness of 0.375-inches, is coated with two layers of Polyken 980 anti-corrosive wrap and has an internal cement liner of unknown thickness. The 20-inch diameter portion of the pipe (e.g., the beach, surf zone and offshore segments) consists of 0.500-inch wall steel pipe with a 1.500-inch external coating of Hevicote reinforced cement weight coating over a Pritec 1560 polyethylene anti-corrosive coating.

LL2 currently originates inside the EMT facility as a vertical riser projecting out of the ground near the western boundary of the facility. This pipeline originally terminated inside a reinforced concrete valve pit, but that valve pit and all piping were removed in the Phase II Source Removal Project in 2011, and the pipeline's horizontal termination was fitted with a vertical riser for above ground access near the western boundary of the facility.

At its origination point, the pipeline is comprised of nominal 22-inch diameter pipe and it exits the EMT facility in a northwesterly alignment and passes underneath both lanes of Highway 1 through an approximately 220 foot long 30-inch diameter by 0.250-inch wall steel pipe casing.

The 30-inch diameter casing terminates on the west side of Highway 1 underneath the foredunes and this termination point is the approximate limit of the "onshore segment" of LL2.

Less than approximately 15.2 m (50 ft) west of the termination of the 30-inch diameter casing, the LL2 piping is reduced from 22-inch diameter pipe to 20-inch diameter pipe and remains 20-inch diameter pipe for the remainder of its length. According to the Entack March 2013 depth of burial survey, this pipeline is buried approximately 0.6 to 1.8 m (two to six ft) depth through the foredunes and across the beach, including the area of the proposed pipe bend replacement.

This 20-inch diameter piping represents the new LL2 submarine pipeline constructed in 1983 and was constructed using modern pipeline construction techniques, materials and quality control. The 20-inch diameter piping (beach, surf zone and offshore segments) consist of 0.500-inch wall steel pipe with an 1.500-inch external coating of Hevicote reinforced cement weight coating over a Pritec 1560 polyethylene anti-corrosive coating. This pipeline and coatings are assumed to be in good condition.

LL2 exits the 30-inch diameter casing underneath the foredunes and continues buried underneath the foredunes and across the beach where it is supported by two buried pile-based pipe supports and continues in this northwesterly alignment crossing under Toro Creek (refer to PEP Figure 1-19 Loading Line # 2 Exposure in Toro Creek and Figure 1-20 Loading Line # 2 Pipe Support Photographs available as noted above). The first of these two supports is positioned approximately 35.1 m (115 ft) west of the 2-inch diameter vent pipe (on the 30-inch diameter steel casing) and the other approximately 48.8 m (160 ft) west of the same vent pipe

(a distance of 13.7 m [45 ft] apart) (refer to PEP Figure 1-21 Casing Vent Pipes on Beach available as noted above). Both supports are founded on pairs of 14-inch diameter by 0.750-inch wall steel piling capped with W14x120 wide flange beams. The pipeline rests on steel saddles attached to the top of the wide flange pile caps.

This section of LL2, from the westerly termination of the casing to the approximate shoreline at the site is called the "beach segment" and measures approximately 61.0 m (200 ft) in overall length. Near the shoreline, the pipeline bends approximately 22 degrees to the west and continues that westerly alignment to its termination offshore. The beach segment of LL2 is buried approximately 0.6 to 2.1 m (two to seven ft) (2.1 m [seven ft] at the casing termination) where it crosses underneath the foredunes and beach.

LL2 continues seaward in its westerly alignment underneath the surf zone for a distance of approximately 347.5 m (1,140 ft) to the -4.6 m (-15 ft) bathymetric contour located offshore of the surf zone. This is called the "surf zone" segment and is buried approximately 0.6 to 2.1 m (two to seven ft) deep within the surf zone segment. Offshore of the surf zone, at the -7.3 m (-24 ft) bathymetric contour line, the pipeline is buried 0.6 to 0.9 m (two to three ft) to the top of pipe but becomes exposed on the seafloor less than 30.5 m (100 ft) offshore of this bathymetric contour line and alternates between exposure on the seafloor and burial of no more than 0.6 m (two ft) seaward of this point.

The "offshore segment" of LL2 continues in its westerly alignment from the -4.6 m (-15 ft) bathymetric contour line to its offshore termination in 15.5 m (51 ft) of water, a distance of approximately 716.3 m (2,350 ft). The overall length of LL2, from onshore origination to offshore termination is approximately 1,191.8 m (3,910 ft).

The offshore termination consists of a welded steel concentric reducer that reduces the pipeline from 20-inch diameter to 16-inch diameter (refer to PEP Figure 1-22 – Loading Line #2 Offshore Termination Photographs and Figure 1-23 Loading Line #2 Offshore Termination Schematic available as indicated above). The pipeline end flange consists of a 16-inch diameter, 300# series flange and is currently capped with a blind flange installed during the Phase I decommissioning activities. A 6- inch diameter flushing port has been inserted and welded into the blind flange. The flushing port is capped with a 6-inch x 300# series flange and blind flange.

A concrete clump measuring approximately 0.9 m x 0.9 m x 0.9 m (three ft x three ft x three ft) was used to anchor a plastic spar buoy at the offshore termination of LL2. The purpose of this buoy system was to provide a visual marker of the pipeline termination to facilitate marine navigation around the pipeline. The spar buoy was taken out of service and only the concrete clump remains. This concrete will be removed by Chevron as part of decommissioning.

A wooden retaining wall, constructed of wood piling and wood planking, has been constructed near the bottom of the embankment at the southwest corner of the southbound Highway 1 bridge. This retaining wall was constructed to provide a measure of protection to the foredunes, south of the bridge, from the flow of Toro Creek.

The 12-inch diameter circulation pipeline that serviced the original 18-inch diameter LL2 pipeline was abandoned-in-place in 1976 and the pier segment of this circulation pipeline was decommissioned with the 1983 pier demolition. However, the onshore portion of this circulation pipeline remains between the wooden bulkhead that supported the pier and the EMT onshore facilities on the east side of Highway 1. This pipeline is buried at an unknown depth inside the fill of the wooden bulkhead and continues underneath the foredune habitat area. Then it turns eastward and passes underneath Highway 1 at an unknown depth through an 18-inch diameter steel pipe casing of unknown wall thickness.

The only proposed changes to any of these components of LL2 and environs as part of the CSWP outfall project are at the on-shore terminus point, replacement of the 30 degree pipe bend and the outfall end, as described following under Proposed Project Characteristics.

RELATIONSHIP OF THE RE-USE PROJECT TO OVERALL DECOMMISSIONING AT THE CHEVRON EMT SITE

The re-use work will be conducted as a separate and distinct operation from the EMT de-commissioning activities undertaken by Chevron. These activities are described in the Project Execution Plan prepared by Padre Associates for Chevron in 2015, included herein by reference and available for review at the CSD office.

PROPOSED PROJECT CHARACTERISTICS

Under the approved CSWP Project, the CSD would operate an effluent transmission pipeline within the Caltrans right of way along the EMT frontage. This pipeline was planned to convey treated effluent to the existing wastewater treatment facility in Morro Bay. These pipelines currently convey raw sewage and are located west of the Highway in a location subject to tidal hazards.

However, under the Proposed Outfall Project this pipeline would connect to the LL2 vertical riser located in the EMT on Chevron land instead as shown on Figure 3 Onshore Connection, directing the effluent to the ocean using LL2, and no effluent would flow to Morro Bay for discharge. This would be a beneficial environmental effect because this pipeline and the risks attendant to it would be abandoned.

The LL2 pipeline was pigged and flushed in 1999, presumably nearly all, if not all, the hydrocarbon residue within the pipe. Slip sleeve installation in the LL2 pipeline has potential to result in the release of residual hydrocarbons and/or the aqueous solution within the pipeline. As discussed above under Biological Resources, to reduce the potential for these impacts, the pipeline will be pigged and flushed prior to the commencement of slip sleeve pipe installation. This flushing will be conducted as a maintenance activity by Chevron prior to the lease transfer and CDP issuance and not as part of the slip sleeve installation activity. Additional volumes of water will be flushed through the pipeline if necessary to achieve a proposed residual Total Petroleum Hydrocarbon (TPH) content of less than 15 ppm, therefore no significant impact is identified for slip sleeve installation. Installation of the slip sleeve will provide a physical barrier between the existing LL2 pipeline walls and the CSWP effluent preventing future releases of legacy hydrocarbons once the CSD begins operating the outfall.

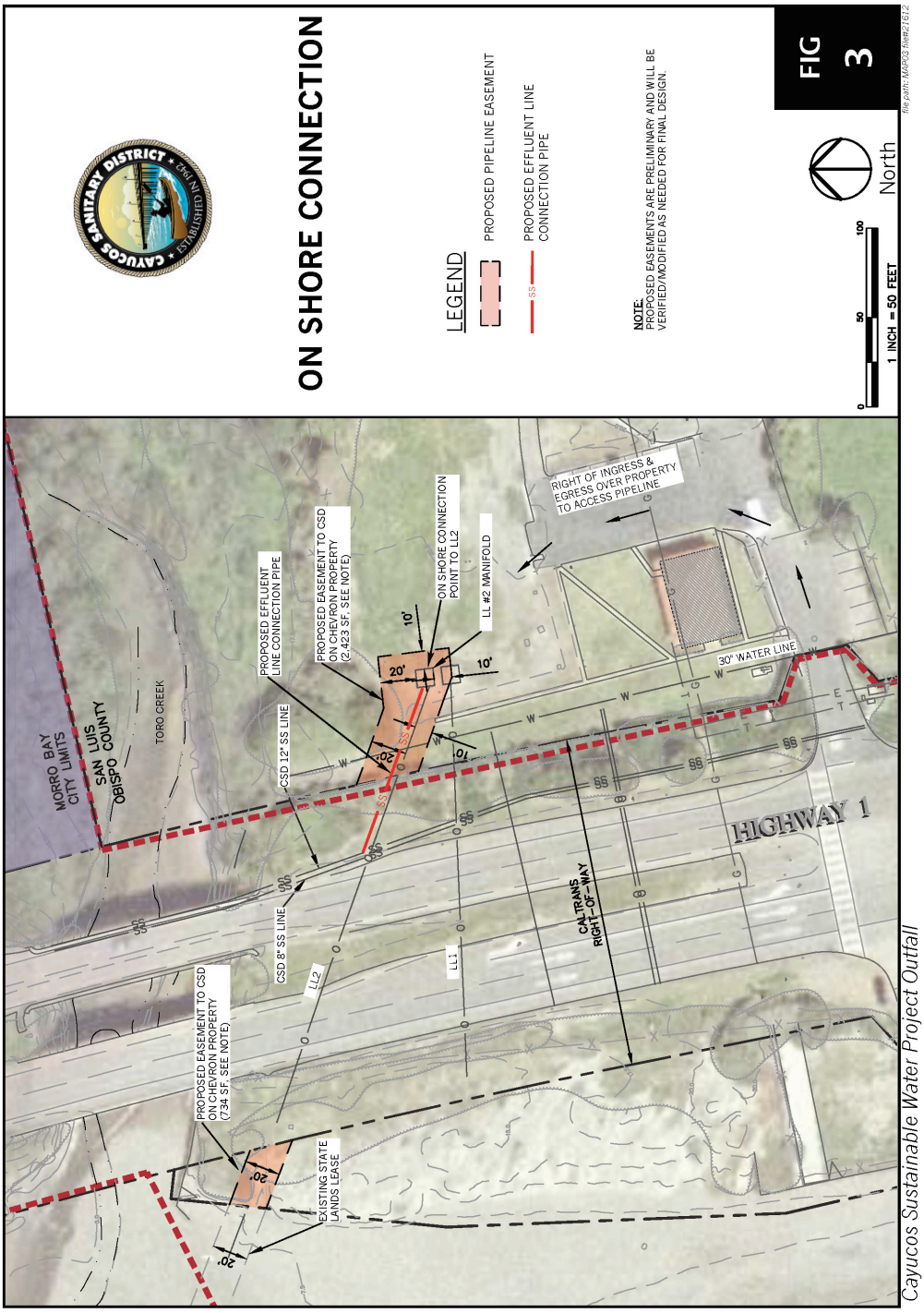
Access for construction equipment would need to cross central foredune habitat and ruderal areas within the City of Morro Bay jurisdiction and then travel along sandy beach to access the excavation site. The tie-in to LL2 would not affect Toro Creek, however, replacement of a bend in LL2 on the beach will be within the ordinary high water mark of the mouth of Toro Creek. Replacement of the bend would occur during the Fall, when the active channel of the creek is significantly reduced and the project area would not be wetted. As depicted on Figure 4, alternate routes are possible to access the work area. All are analyzed herein as worst case. Staging will occur east of Highway 1 and also on the old pier landing area west of the Caltrans fence. The pipe sweep will be fabricated off site. As described in further detail in the analysis section, an excavator will open the trench, the pipe will be removed and the new sweep welded in place and backfilled.

The existing LL2 will have high density polyethylene pipe (HDPE) pulled into it. The pipe will be DR17 HDPE 125 psi, 12.25" ID , 14" OD, .824" wall thickness; or DR11 HDPE 200 psi, 11.30" ID, 14" OD, 1.273" wall thickness; or something in between. The HDPE will be assembled in port and towed, while buoyed, to the project site and staged at the offshore terminus where it will enter LL2. The HDPE pipe will be pulled from the shoreline before installation of the diffuser.

During construction, one 200 ton barge with diesel generators will be on site as the primary work platform. Two tug boats and one crew boat will support the barge and the construction operations during the offshore construction phase.

The proposed offshore diffuser will be placed on cradles on the seabed without the need for driven piles. Presently, a reducer is installed at the terminus to facilitate Chevron operations. This reducer will be removed during the final pigging by Chevron. Near final assembly on the diffuser will be made in the harbor and at the surface while on site before final fitting and securing by divers to the HDPE offshore terminus.

The existing pipeline will have a diffuser installed at the ocean terminus to mitigate potential outflow impacts on the marine environment associated with the effluent constituent and properties. The Diffuser analysis indicates the basic design characteristics. The diffuser will be similar to a new outfall pipe constructed of DR17 HDPE 125 psi, 12.25" ID, 14" OD, .824" wall thickness; or DR11 HDPE 200 psi, 11.30" ID, 14" OD, 1.273" wall thickness; or something in between. Prior to transport to the offshore installation site, the diffuser will be tapped and tideflex style check valves (duck bill) will be installed along its length.



Cayucos Sustainable Water Project Outfall


Staging Area
Staging Area
Trench/Disturbed Area (90' x 40')
Potential Access Route #2
Potential Access Route #3
Trench/Disturbed Area (71' x 36')
Trench/Disturbed Area (71' x 36')
Potential Access Route #1
Cabrillo Hwy
Cabrillo Hwy
Cabrillo Hwy
Two Creek Rd
Legend
Outfall Pipeline
Potential Access Route #1
Potential Access Route #2
Potential Access Route #3
Staging Area
Trench/Disturbed Area (71' x 36')
Trench/Disturbed Area (90' x 40')
Service Layer Credits: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN,
0
162.5
325
Feet
North
Outfall 30° Bend Modification
WSC
Water Systems Consulting, Inc.
Cayucos Sanitary District
FIG 4
Cayucos Sustainable Water Project Outfall

The CSD proposes to acquire an easement from Chevron around this tie-in site consisting of approximately 300 to 600 square feet as shown in **Figure 3 On Shore Connection**. The length of trench and pipe to make this connection is approximately 100 feet. The construction excavation for the tie in is estimated at 3,600 s.f.The existing transmission line to Morro Bay would be capped.

Ocean Outfall Diffuser[2]

A hydrodynamic dilution and scour analysis is performed for a diffuser retrofit to *Load-Line 2* (LL2) at the Chevron Estero Marine Terminal, to serve as an ocean outfall for the proposed Cayucos Sustainable Water Project (CSWP). The Load Line-2 (LL2) pipeline consists of a nominal 22-inch diameter onshore section and a nominal 20-inch diameter offshore section. Underwater inspections and testing have indicated the pipe is in adequate condition to serve as a slip sleeve, although any investigation can still leave some question over the degree of degradation that the LL2 pipeline may have suffered due to marine corrosion. However, because the maximum anticipated wet weather daily discharges of the CSWP will not require a 20-inch pipeline for adequate conveyance of estimated effluent loads to the discharge location in 51 ft of local water depth, design will utilize a smaller diameter high-density polyethylene (HDPE) pipeline for CSWP conveyance that is inside the existing 20-inch steel LL2 pipeline (referred to as *pipe-in-pipe*). With this arrangement, the existing 20-inch steel LL2 pipeline will serve as armored outer sleeve for the new smaller diameter HDPE pipeline that will exit the 16-inch reduction fitting at the terminal end of LL2, where it will then junction with a linear diffuser section. This arrangement will also allow the depth of the new CSWP outfall to be comparable to or slightly deeper than the presently permitted MBCSD WWTP outfall.

A sensitivity analysis was performed for the head losses associated with a 3,952 ft. long HDPE pipe-in- pipe of various diameters inside the present Load-Line-2 steel pipe, terminating with a 200 ft. long diffuser. The diffuser is based on the well-established linear diffuser concept with 50 ports on alternate sides. The pumped discharge could produce 80psi with all ports closed and the pump deadheading. Normal operating pressure will depend on flow within the 20 to 30 psi range.

During the progressive build-out phases of the CSWP, the proposed diffuser at the LL2 site will be required to provide adequate dilution across a wide range of discharges that spans 18-fold, from maximum daily discharges of as much as 1.2 mgd to as little as 0.066 mgd in the event that community water purveyors determine recycled water is advantageous to be developed as a water source. To accommodate this wide range in potential discharge rates, the 50 discharge

[2] Hydrodynamic Analysis of a Diffuser Retrofit to the Estero Marine Terminal Pipeline for the Cayucos Sustainable Water Project (CSWP), Scott A. Jenkins, Ph.D. and Karl Meir, P.E. *Michael Baker International* July 24, 2018, included as IS attachment.

ports of the proposed CSWP diffuser will be fitted with Tideflex TF-125 series check valves. These check valves will maintain optimal discharge velocities and prevent ambient seawater from flooding the deeper end of the diffuser during extreme low-flow conditions, or during no-flow conditions when the system is shut down for maintenance.

The 12 inch diffuser pipe is extends 200 ft. beyond the terminus of the 20 inch LL2 steel pipe. The diffuser pipe can be placed on a gravel bed with trapezoidal cross section, per Figure 3 in Jenkins (2018). The diffuser could be constructed from epoxy lined and coated steel pipe, or stainless steel pipe, depending on final design discretion; in which case there is no buoyancy issue. Alternatively, the diffuser could be an extension of the HDPE pipe-in-pipe; in which case the diffuser could be secured to the gravel bedding using concrete ballast collars around the HDPE diffuser pipe at locations in between the diffuser ports. This buoyancy compensation approach with HDPE pipe has been successfully employed on other similar installations.

Hydrodynamic dilution modeling of the new diffuser design at the Load Line-2 site was performed using the EPA certified mixing model, CORMIX v11. This model determined that the proposed diffuser will achieve minimum initial dilution that ranges from 386 : 1 at the anticipated maximum daily discharge of 1.2 mgd, increasing to 2700 : 1 at full CSWP build-out when utilization of recycled water may reduce effluent discharges to a projected minimum of 0.066 mgd. This dilution performance is, (at worst), 3 times greater than the certified minimum initial dilution of the present Morro Bay outfall (cf. NPDES permit No. CA0047881). Unlike discharges from the Morro Bay outfall that occasionally broach the sea surface during worst-month conditions, the discharge plume from the Load Line-2 diffuser is always at least 6 ft. below the sea surface. The highest point that the discharge plume rises in the water column is referred to as the “trapping level”; and the BOD at the trapping level (6 ft below the sea surface) is never greater than 0.23 mg/L even if the Load Line-2 diffuser is required to discharge BOD at a maximum daily level of 90 mg/L. This is 6 times lower BOD concentrations at the trapping level than the present Morro Bay outfall achieves for instantaneous maximum discharges of BOD.

With consideration of average monthly BOD emissions of 30 mg/L, (which corresponds with the projected maximum daily emissions from the bio-reactor per Appendix-E of the 90% design report, WSC, 2018), then the Load Line-2 diffuser will dilute BOD at the trapping level to as little as 0.01 mg/L, which is 90 times less than what the present Morro Bay outfall achieves for average monthly discharges of BOD. Similar dilution performance is exhibited for TSS using the new CSWP diffuser at the LL2 site. The CORMIX model finds TSS concentrations at the trapping level are 3 times lower with the new CSWP diffuser at LL2 than what the present Morro Bay outfall achieves for instantaneous maximum discharges of TSS; and that average monthly TSS concentrations at the trapping level with the new CSWP diffuser will be 16 times less than what the present Morro Bay outfall achieves for average monthly discharges of TSS. In addition, the footprint of the zone of initial dilution (ZID) across the trapping layer was found to be very

small, consisting of a rectangle measuring 369 ft. in the on/off shore direction and 166 ft. in the along-shore direction; a total ZID area of only 1.4 acres. Therefore, the proposed new CSWP at the LL2 site will be a significant improvement over present ocean discharges from the Morro Bay Cayucos Sanitary District Waste Water Treatment Plant (MBCSD WWTP).

Sea currents were not considered in the diffuser scour analysis in order to address a very specific California State Lands Commission requirement. The scour analysis was specifically conducted to demonstrate that the CSWP diffuser could conform with diffuser impact minimization conditions set under the California Ocean Plan, Section III.M.2 (b); which requires that (see SWRCB, 2015):

> *Multiport diffusers shall be engineered to maximize dilution, minimize the size of the brine mixing zone, minimize suspension of benthic sediments, and mortality of all forms of marine life*

In order to demonstrate that the diffuser would minimize suspension of benthic sediments, it was necessary to isolate scour caused by the diffuser discharge from all other natural causes of benthic scour or re-suspension. This was done in the scour analysis by performing a computational fluid dynamics (CFD) simulation with zero ambient sea currents, whereby the only the diffuser discharge induced flow across the sedimentary seabed bed. By this approach, it was shown that the diffuser discharge induces velocities on the seabed that are everywhere less than the threshold scour velocity of the native seabed sediments. The fact that ambient sea currents over the LL2 pipeline are also less than the threshold scour velocity is evidenced by observations of buried pipeline sections discovered during condition surveys by Associated Pacific, (2007) and Longitude 123, (2014); i.e., there would be no buried pipeline sections if ambient currents were causing scour.

The computational fluid dynamics (CFD) modeling of ultimate maximum discharge from the proposed CSWP diffuser (1.2 mgd) determined that diffuser induced velocities on the seafloor are everywhere at least 5 times less than the threshold of motion speed of the seabed sediments found at the LL2 discharge site. Consequently, it was concluded that scour and re-suspension of benthic sediments by the CSWP diffuser will not occur.

PROXIMITY TO NAVIGATION CHANNELS

The NOAA Nautical Chart #18703 for the Estero Bay/Moro Bay quad shows no dredged channels or designated shipping lanes anywhere in the nearshore or offshore regions of Estero Bay. The only nautical hazard shown near the project site on NOAA Nautical Chart #18703 is a submarine cable that passes 0.71 statute miles south of the proposed LL2 diffuser location and makes landfall 0.64 statute miles south of Toro Creek.

CONSTRUCTION ACTIVITIES AND DURATION

Onshore pipe connection work is expected to take approximately 2 to 4 weeks and would occur in the Caltrans right-of-way and on Chevron property, most likely concurrently with the pipe bend work. Replacement of the existing 30 degree pipe bend located on the beach would occur in the late summer and is estimated to take 2 to 4 weeks. During the marine construction process, a barge crew boat and two tug boats would be utilized to move and place materials. Crews will be shuttled to the work site as necessary via a typical crew boat or the anchor assist vessel. It is anticipated that the offshore crew will convene in Morro Bay and will be shuttled to the barge each morning that offshore activities take place. At the end of the workday, the crew will be transported back to Morro Bay. As such, crew transport will be limited to one round trip each workday. All vessel operations will be conducted in accordance with a required Marine Safety and Anchor Plan and are not expected to result in impacts to existing vessel traffic or circulation patterns. A Notice to Mariners will also be filed with the USCG to inform local mariners of the construction activities. The offshore construction is expected to take four weeks. The marine work is anticipated to occur in the early fall to take advantage of the calmer seas during that season. Assumptions for equipment duration activities for air quality emission analysis are detailed on page 41.

Finally, the vessels proposed for use would originate from either the Morro Bay Harbor, San Francisco Bay area harbors, San Diego harbor, or the Port of Long Beach/Los Angeles area and would have been continuously based in either of these harbors since their last dry docking.

TERTIARY TREATED WATER DISCHARGE CHARACTERISITCS

Discharge Permit Status

The existing WWTF outfall in Morro Bay operates under a NPDES permit originally issued for a five year term in 2009 (CRWQCB Central Coast Region order # R3-2008-0065, NPDES No. CA0047881). This permit expired in 2014 and the RWQCB has placed the renewal application for the permit on administrative hold while the City of Morro Bay and CSD pursue plans for new facilities.

Daily discharge Volume

Table 1-Projected CSD Wastewater Flows and Loads

Parameter	Units	ADWF	AWWF	AA	MM	MW	MD	PH
Flow	mgd	0.370 1.1	0.385 1.15	0.335 1.0	0.500 1.5	0.700 2.1	1.20 3.5	4.20 13.5
	PF (to AA)							
TSS	ppd	1,000 210	820 117	910 326	1,455 349	1,910 327	2,365 236	--
	mg/L							
BOD	ppd	950 200	795 113	795 285	1,270 305	1,585 271	1,900 190	--
	mg/L							

Ammonia	ppd-N	160 52	95 30	110 39	190 46	310 53	340 34	--
	mg/L-N							
TKN	ppd-N	180 58	110 34	120 43	220 53	350 60	385 38	--
	mg/L-N							

As detailed in the Final EIR for the CSWP, during wet periods or when there is no demand for tertiary treated recycled water, the average annual daily flow (AADF) will be discharged to the outfall. This is anticipated to be approximately 0.385 million gallons per day as shown in Table 1[3].

The WRRF will create tertiary treated non-potable water suitable for agricultural irrigation. Once agreements are in place with farmers this recycled water would be diverted to this use rather than directed to the proposed outfall. The WRRF is anticipated to produce up to 80 acre-feet per year of tertiary treated water available for agriculture and, potentially in the future when anticipated regulations are adopted by the State, direct potable reuse.

Recycled Water Regulatory Background

Disinfected tertiary recycled water is filtered and disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

1. A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or
2. A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been

[3] Basis of Design for the Cayucos Water Resource Recovery Facility, WSC, April 2018

completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30.

(c) Tertiary treated water will meet:

- CFR Title 22 operational and on-site use requirements
- Central Coast Basin Plan irrigation water quality parameters
- Central Coast Regional Water Quality Control Board

Effluent to the Proposed Outfall

Daily discharge Volume: without the diversion and use of tertiary treated water to agricultural use, the average annual daily flow (AADF) will be discharged to the outfall. This is anticipated to be approximately 0.370 mgd average dry weather flow.

The Basis of Design report by WSC dated April 16, 2018 was used as the basis of design for the pipeline diffuser. The future reuse scenario average and peak effluent mass loadings were based on treatment through a reverse osmosis (RO) unit and quantified based on the following assumptions:

- Average effluent dissolved solid and metal mass loadings are represented by the projected average annual flow of 370,000 gallons per day (gpd).
- Peak effluent dissolved solid and metal mass loadings are most likely to occur during dry weather when dilution effects from infiltration and inflow are minimal, and are most likely to occur during projected Peak Season Dry Weather (July, August, September) Max Day flows of 635,000 gpd.
- The influent dissolved solid and metal concentrations that correspond to average and peak loadings are equal to the mean concentration obtained from a compilation of twenty-four (24) water quality sampling analyses of wastewater sampled from Cayucos Sanitary District's Lift Station 5, spanning from August 27, 2015 to June 28, 2017.
- The process liquid stream introduced to the reverse osmosis process would contain 100% of the raw influent dissolved solids and metals.
- RO recovery rate of 85%.

Effluent Mass loadings are summarized in the following tables 2-4:

Table 2 Anticipated average effluent mass loadings from RO process for future reuse scenario.

Constituent	Influent to RO	Permeate (clean water)	Concentrate (RO reject)	Influent to RO	Permeate (clean water)	Concentrate (RO reject)
	Concentration (mg/L or µg/L)			Loading (pounds per day)		
TDS[1], mg/L / ppd	1,008	20.16	6,605	2,816	47.9	2,768

Calcium, mg/L / ppd	45.4	0.02	302.8	126.9	0.04	126.9
Magnesium, mg/L / ppd	46.8	0.02	311.6	130.6	0.04	130.6
Potassium, mg/L / ppd	17.8	0.13	117.7	49.6	0.3	49.3
Sodium, mg/L / ppd	138.0	1.37	912.6	385.7	3.2	382.4
Chloride, mg/L / ppd	142.8	2.01	940.3	398.9	4.8	394.1
Boron, mg/L / ppd	0.3	0.16	1.2	0.9	0.4	0.51
Copper, µg/L / ppd	30.9	0.62	202.5	0.09	1.5E-03	0.08
Iron, µg/L / ppd	347.0	4.65	2287	0.97	0.01	0.96
Manganese, µg/L / ppd	29.7	0.9	193.0	0.08	2.1E-03	0.08
Zinc, µg/L / ppd	101.1	0.05	673.7	0.3	1.2E-04	0.3
Antimony, µg/L / ppd	0.6	0.1	3.4	1.7E-03	2.9E-04	1.4E-03
Arsenic, µg/L / ppd	0.7	0.07	4.4	2.0E-03	1.7E-04	1.8E-03
Beryllium, µg/L / ppd	0	0	0	0	0	0
Cadmium, µg/L / ppd	0.2	0	1.3	5.6E-04	4.7E-06	5.5E-04
Chromium, µg/L / ppd	6.6	0.7	40.5	1.9E-02	1.6E-03	1.7E-02
Lead, µg/L / ppd	1.7	0.2	10.4	4.8E-03	4.0E-04	4.3E-03
Mercury, µg/L / ppd	0	0.01	0.2	1.2E-04	2.1E-05	1.0E-04
Nickel, µg/L / ppd	5.3	0.5	32.3	1.5E-02	1.3E-03	1.4E-02
Selenium, µg/L / ppd	4.2	0.08	27.6	1.2E-02	2.0E-04	1.2E-02
Silver, µg/L / ppd	0.3	0.02	1.6	7.3E-04	4.4E-05	6.9E-04
Thallium, µg/L / ppd	0	0	0	0	0	0
Chromium III, µg/L / ppd	5.9	0.6	36.3	1.7E-02	1.4E-03	1.5E-02
Chromium VI, µg/L / ppd	0.7	0.07	4.3	2.0E-03	1.7E-04	1.8E-03

[1] TDS by summation

Table 3 Anticipated peak effluent mass loadings from RO process for future reuse scenario.

Constituent	Influent to RO	Permeate (clean water)	Concentrate (RO reject)	Influent to RO	Permeate (clean water)	Concentrate (RO reject)
	Concentration (mg/L or µg/L)			Peak Loading (pounds per day)		
TDS[1], mg/L / ppd	1,008	20.2	6,605	5,338	90.7	5,247
Calcium, mg/L / ppd	45.4	0.02	302.8	240.6	0.1	240.5
Magnesium, mg/L / ppd	46.8	0.02	311.6	247.6	0.1	247.6
Potassium, mg/L / ppd	17.8	0.1	117.7	94.1	0.6	93.5
Sodium, mg/L / ppd	138	1.4	912.6	731.1	6.2	724.9
Chloride, mg/L / ppd	142.8	2.0	940.3	756.1	9.1	747.0
Boron, mg/L / ppd	0.3	0.2	1.2	1.7	0.71	0.96
Copper, µg/L / ppd	30.9	0.6	202.5	0.2	0	0.16
Iron, µg/L / ppd	347	4.6	2287	1.8	0.02	1.82
Manganese, µg/L / ppd	29.7	0.9	193.0	0.2	4.0E-03	0.15
Zinc, µg/L / ppd	101.1	0.05	673.7	0.5	2.3E-04	0.54
Antimony, µg/L / ppd	0.6	0.1	3.4	3.2E-03	5.5E-04	2.7E-03
Arsenic, µg/L / ppd	0.7	0.07	4.4	3.8E-03	3.2E-04	3.5E-03
Beryllium, µg/L / ppd	0	0	0	0	0	0
Cadmium, µg/L / ppd	0.20	0	1.3	1.1E-03	8.9E-06	1.0E-03
Chromium, µg/L / ppd	6.6	0.7	40.5	3.5E-02	3.0E-03	3.2E-02
Lead, µg/L / ppd	1.7	0.2	10.4	9.0E-03	7.7E-04	8.2E-03
Mercury, µg/L / ppd	0.04	0.01	0.2	2.3E-04	4.0E-05	1.9E-04
Nickel, µg/L / ppd	5.3	0.5	32.3	2.8E-02	2.4E-03	2.6E-02
Selenium, µg/L / ppd	4.2	0.08	27.6	2.2E-02	3.8E-04	2.2E-02
Silver, µg/L / ppd	0.3	0.02	1.6	1.4E-03	8.3E-05	1.3E-03
Thallium, µg/L / ppd	0	0	0	0	0	0
Chromium III, µg/L / ppd	5.9	0.6	36.3	3.1E-02	2.7E-03	2.9E-02
Chromium VI, µg/L	0.7	0.07	4.3	3.7E-03	3.2E-04	3.4E-03

/ ppd						

[1] TDS by summation

Table 4 RO removal rates for constituents of interest.

Constituent	RO Removal Rate
TDS	98%
Calcium	>99%
Magnesium	>99%
Potassium	>99%
Sodium	>99%
Chloride	>98%
Boron	50%
Copper	98%
Iron	>98%
Manganese	97%
Zinc	>99%
Antimony	80%
Arsenic	90%
Beryllium	80%
Cadmium	99%
Chromium	90%
Lead	90%
Mercury	80%
Nickel	90%
Selenium	98%
Silver	93%
Thallium	0%
Chromium III	90%
Chromium VI	90%

PROJECT OBJECTIVES

The use of LL2 as an alternative outfall to the existing outfall at the Morro Bay-Cayucos Wastewater Treatment Plant in Morro Bay was selected by the CSD Board of Directors as

superior in meeting the Project Objectives and for environmental suitability as detailed in the CSWP Final EIR.

> "This alternative would be consistent with the objective to maximize value for the ratepayers' investment because of long-term energy cost savings. The alternative attains all other project objectives."

The Project Vision, Mission, Objectives, Performance Measures and Guiding Principles for the CSWP were adopted by the CSD Board of Directors in a Project Charter and were summarized for application in the CSWP EIR process as follows:

- Provide the community of Cayucos with efficient, reliable and adaptable wastewater treatment, while producing a high quality water supply to benefit the community.
- Enable the community to put the wastewater that is currently discharged to the ocean to beneficial use.
- Provide the community with sustainable water, ownership of facilities and local governance.
- Deliver a sustainable and cost effective water resource recovery system for the community of Cayucos within a streamlined schedule.
- Optimize capital investment and life cycle cost.
- Maximize value for the ratepayers' investment.
- Develop a water resource recovery system that will benefit future generations.
- Obtain grants and low-interest loans to reduce the financial burden on the community.
- Identify a facility location that benefits the community of Cayucos.
- Enhance the community's long-term water supply.

PROJECT FEATURES TO REDUCE ENVIRONMENTAL IMPACTS

Aspects of the Proposed Project intended to reduce or avoid environmental impacts include:

- The outfall eliminates the use of aging wastewater conveyance pipelines running to Morro Bay, some of which are in tidal hazard areas west of Highway 1.
- The Outfall Diffuser assembly design avoids scour and re-suspension of benthic sediments.
- A Final Oil Spill Response Plan modeled on the PEP Appendix F - Oil Spill Response Plan (attached in Appendix) will reduce impacts from unexpected oil discovery.
- PEP Appendix C - Contaminated Materials and Management Plan (attached in Appendix) will reduce or avoid impacts related to unexpected contaminated materials.

- A Final Marine Wildlife Contingency Plan modeled on the PEP Appendix E- Preliminary Marine Wildlife Contingency Plan (attached in Appendix) will minimize marine adverse impacts from marine animal contact or collision.

REGULATORY SETTING & PERMITS REQUIRED

Agency Jurisdictions

The individual components of the Proposed Project are located within the jurisdictional boundaries of six local and State agencies including the California State Lands Commission (CSLC), California Coastal Commission (CCC), California Department of Fish and Wildlife (CDFW), California Department of Transportation (Caltrans), and the County of San Luis Obispo, the City of Morro Bay, and two federal agencies, the US Army Corps of Engineers and the US Coast Guard.

The land use designations and jurisdictional boundaries at the Project site are depicted on Figure 1 Location and Jurisdictional Boundaries.

California State Lands Commission

The LL2 pipeline is on submerged and tidal lands owned by the State of California and leased to Chevron by the CSLC. Statewide, the Commission manages four million acres of tide and submerged lands and the beds of navigable rivers, streams, lakes, bays, estuaries, inlets, and straits. These lands are referred to as sovereign or public trust lands. The Commission protects the lands and resources entrusted to its care through balanced management, marine protection and pollution prevention, adaptation to climate change, and ensuring public access to these lands and waters for current and future generations. The CSLC is a Responsible Agency under CEQA for the approval of the proposed lease reassignment to the CSD and lease amendment for the pipeline use and outfall diffuser installation.

California Coastal Commission (CCC)

Seaward of the mean high tide line is within the original jurisdiction of the CCC and is therefore subject to the policies of the California Coastal Act of 1976 and issuance of a Coastal Development Permit (CDP) for the ocean segment within original jurisdiction. The CCC would be have appeal authority for the onshore portion of the Proposed Project as well. The CCC has regulatory jurisdiction over development in the coastal appeal zone (onshore components of the Project Area within the Coastal Zone boundary and appealable to the CCC). The California Coastal Act identifies resource protection policies and provisions for development in the coastal zone. It places the highest priority on the preservation and protection of natural resources, including environmentally sensitive habitat areas (wetlands and dunes) and prime agricultural lands.

California Department of Fish and Wildlife
The CDFW requires a Lake and Streambed Alteration Agreement (SAA) for changing the bed, bank, or channel of any river or stream, even on a temporary basis during construction. Replacement of the bend in LL2 is within the ordinary high water mark and channel of Toro Creek. Although replacement will occur during the Summer to Fall, where the active channel is expected to be significantly reduced and the work area is not expected to be wetted, an SAA will be required to conduct the excavation and replacement.

County of San Luis Obispo & City of Morro Bay
The Project tie-in site is located within the unincorporated area of the County of San Luis Obispo within the Estero Planning Area. The portion of the Project within the City of Morro Bay is the beach pipe bend replacement area, and within County of San Luis Obispo the pipe tie-in site and pipeline trench in the Caltrans right-of-way.

Caltrans
A portion of the Project site is located within Caltrans right-of-way. The portions of the Project within Caltrans jurisdiction include the pipeline from the effluent transmission line in the right-of-way. Caltrans is a responsible agency under CEQA for the encroachment permit.

Regional Water Quality Control Board (RWQCB)
The RWQCB issues Water Quality Certifications per Section 401 of the Clean Water Act. The RWQCB issues National Pollutant Discharge Elimination System (NPDES) permits for discharge activities into waters of the United States. The RWQCB is a responsible agency under CEQA for the NPDES permit.

U.S. Army Corps of Engineers (ACOE)
The ACOE issues a Section 10 permit for structures in or affecting navigable waters of the U.S. (diffuser installation) under Section 10 of the Rivers and Harbors Act.

United States Coast Guard (USCG)
The USCG has authority to review and approve the proposed pipeline diffuser installation under the Code of Federal Regulation 33 Navigation and Navigable Waters.

Other Regulatory Agencies
The following is a list of additional regulatory agencies that may have jurisdiction over the Proposed Project:

- U.S. Fish and Wildlife Service (USFWS) - Reviews and comments on federal actions (e.g. 404 permits applications) that affect wetlands and other waters containing threatened or endangered fish and wildlife species. Review is conducted in consultation with the ACOE pursuant to Section 7 of the Endangered Species Act;

- National Marine Fisheries Service (NMFS) - Reviews and comments on federal actions (e.g. 404 permit applications) that affect wetlands and other waters containing threatened or endangered fish species and sea turtles. Review is conducted in consultation with the ACOE pursuant to section 7 of the Endangered Species Act. NMFS also provides reviews and comments on acoustic impacts resulting from submerged construction that may impact marine mammals under the Marine Mammal Protection Act;
- San Luis Obispo County Air Pollution Control District (SLOAPCD) - Regulates construction activities and development that affect San Luis Obispo County designated air standards.

The Proposed Project will require the following permits and approvals:

• The State Lands Commission would approve a transfer of lease from Chevron to the CSD for the use of LL2 pursuant to their jurisdiction over public trust lands.

• The Regional Water Quality Control Board would issue a National Discharge Elimination System (NPDES) permit pursuant to the United States Clean Water Act, California Ocean Plan, and the Central Coast Regional Water Quality Control Board Basin Plan.

• The County of San Luis Obispo would issue a Coastal Development Permit for the onshore connection.

• California Coastal Commission would issue a Coastal Development Permit for the pipe bend replacement , the pipeline end diffuser and its associated construction including mitigation for all potential impacts.

• The California Department of Fish and Wildlife (CDFW) requires a Lake and Streambed Alteration Agreement (SAA) for changing the bed, bank, or channel of any river or stream, even on a temporary basis during construction.

• Caltrans would issue an encroachment permit for the pipeline within State right of way.

• US ACOE would issue a Section 10 permit for construction of the pipeline diffuser.

• US Coast Guard would issue a permit and Notice of Navigators for construction of the pipeline diffuser.

• NMFS may require an Essential Fish Habitat (EFH) Consultation for installation of the pipeline diffuser.

• NMFS may require an Incidental Harassment Authorization (IHA) for marine mammals under the Marine Mammal Protection Act for installation of the pipeline diffuser.

• NMFS may require section 7 consultation under the Endangered Species Act.

In addition to these agency jurisdictions and permits, the Project proponent is required by State law (Assembly Bill 52) to notify interested Native American Tribal groups of the Proposed Project for the purpose of consultation on cultural and tribal resources.

GENERAL ENVIRONMENTAL SETTING

Highway 1 is a controlled access highway at the Chevron property, which means access to the highway is limited to designated private or public access points. Chevron owns private access rights to Highway 1 at the entrance to the Shore Plant and at the bluff area across the highway. Caltrans has an approximately 51.8 m (170 ft) right-of-way for Highway 1. Caltrans has installed a fence on the west side of the highway for public safety.

As described in the PEP, the EMT is located in Estero Bay, approximately 4.5 kilometer (km) (2.8 miles [mi]) north of Morro Rock. Estero Bay is a natural, open embayment encompassing approximately 29.0 km (18 mi) of open coastline from Point Estero in the north to Point Buchon in the south. Midway between the headlands of Point Buchon and Point Estero lies the shallow, land locked, embayment of Morro Bay. Although called a bay, Estero Bay provides little protection to the coastline from waves. The surf is often heavy, especially during the winter months when storms from the Pacific bring strong winds and waves to the ocean. The summer months are characterized by more moderate surf conditions.

Toro Creek flows westerly to the north of the proposed LL2 tie-in site, **Figure 5-Toro Creek Riparian Area (ESHA).**[4] The Toro Creek riparian corridor is vegetated with riparian trees, shrubs, and herbaceous plant species. The alluvial plain adjacent to Toro Creek and inland of the EMT is currently farmed for grains and beans. The Toro Creek valley is formed by moderately to steeply sloping hills to the north and south. The hills surrounding the EMT and Toro Creek drainage are vegetated with grasses and scattered tree clusters, including live coast oak trees.

According to the PEP, and as shown on Figure 4, three habitat / vegetation communities exist in the areas where pipeline tie in and outfall diffuser installation would occur: Ruderal / Annual Grassland, Unvegetated sand and Subtidal. Ruderal is used to describe those areas that have been disturbed by past land- use practices and/or recent ground disturbance and are

[4] *Toro Creek Bridge Replacment Intial Study and Mitigated Negative Declaration,* Caltrans, 2018, inocrporated herein by referencence.

dominated by weedy species that thrive in such conditions. Disturbed habitat occurs at the around the pipeline tie-in site and in the Caltrans right of way. The primary difference between non-native grasslands and ruderal habitats are that the soil is often disturbed in ruderal habitats, which also lack the native wildflowers found in the grasslands. Characteristic uncultivated species recorded in disturbed habitats include non-native species.

RESPONSIBLE AGENCY CONSIDERATIONS

Climate Change and Sea-Level Rise

As detailed in the Morro Bay Power Plant Marine Terminal Decommissioning Project CEQA document (February 2018),

> "Sea-level rise is driven by the melting of polar ice caps and land ice, as well as thermal expansion of sea water. Accelerating rates of sea-level rise are attributed to increasing global temperatures due to climate change. Estimates of projected sea-level rise vary regionally and are a function of different greenhouse gas emissions scenarios, rates of ice melt, and local vertical land movement. Compared to year 2000 levels, the central California region could see up to 1 foot of sea-level rise by the year 2030, 2 feet by 2050, and possibly over 5 feet by 2100 (National Research Council 2012). The range in potential sea-level rise indicates the complexity and uncertainty of projecting these future changes, particularly in the second half of the century, which depend on the rate and extent of ice melt. The State of California is coordinating research efforts to understand more about the individual influences of certain contributing factors, such as ice melt, and will issue findings and new planning guidance related to sea-level rise by 2018 (National Research Council 2012)."

Governor Brown's Executive Order B-30-15 instructed all state agencies to take climate change into account in their planning and investment decisions and to give priority to actions that build climate preparedness. The discussion of climate change and sea-level rise above and in Initial Study section 6- Geology and Soils is intended to provide the local/regional overview and context that the California State Lands Commission and California Coastal Commission staff considered pursuant to this Executive Order; it additionally will facilitate the these responsible agency's consideration of the Project.

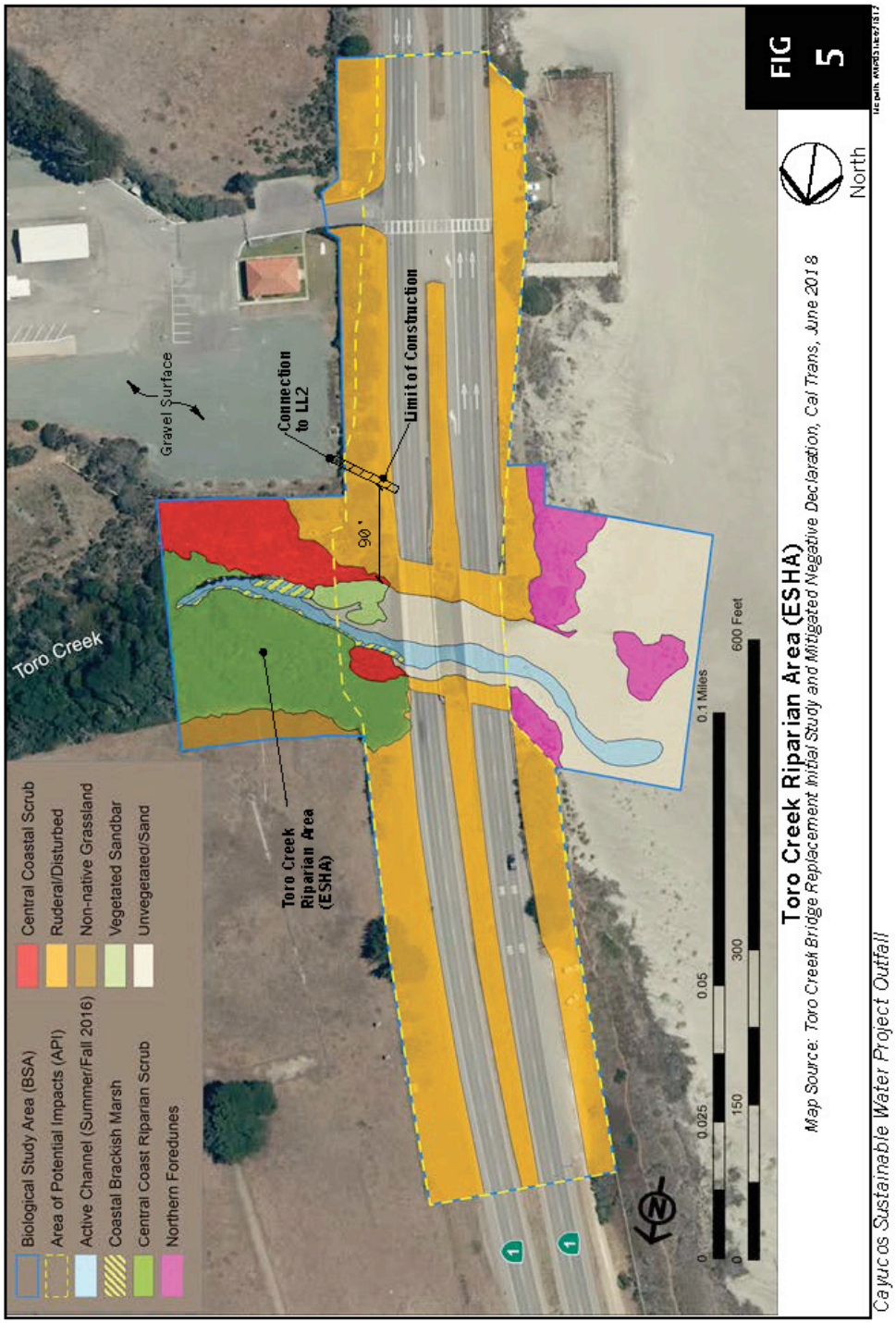


FIG 5
Toro Creek Riparian Area (ESHA)
Map Source: Toro Creek Bridge Replacement Initial Study and Mitigated Negative Declaration, Cal Trans, June 2018
North
Cayucos Sustainable Water Project Outfall
Toro Creek
Gravel Surface
Connection to LL2
Limit of Construction
90'
Toro Creek Riparian Area (ESHA)
Biological Study Area (BSA)
Area of Potential Impacts (API)
Active Channel (Summer/Fall 2016)
Coastal Brackish Marsh
Central Coast Riparian Scrub
Northern Foredunes
Central Coastal Scrub
Ruderal/Disturbed
Non-native Grassland
Vegetated Sandbar
Unvegetated/Sand
0
0.025
0.05
0.1 Miles
0
150
300
600 Feet

The riparian habitat near the Project site is limited to the southern bank of Toro Creek approximately 90 feet from the tie-in site and is defined as Environmentally Sensitive Habitat (ESHA) under the Local Coastal Plan, however no construction is proposed in the upland ESHA. Vegetation within this section of the creek is highly disturbed and dominated by native and exotic species, including stinging nettle (*Urtica dioica*), cocklebur (*Xanthium strumarium*), and horseweed (*Conyza* sp.). Riparian vegetation communities provide habitat for a variety of songbirds including common yellowthroat (*Geothlypis trichas*), plain titmouse (*Baeolophus inornatus*), and song sparrow (*Melospiza melodia*), as well as amphibians and reptiles such as the Pacific treefrog (*Pseudacris regilla*) and western fence lizard. This habitat also provides cover for larger animals using the associated water body. No development is proposed within this habitat.

Replacement of the bend in LL2 would occur in sandy beach habitat within the mouth of Toro Creek below the mean high tide line but above the mean high high water (MHHW) line, where a 36 foot wide by 142 foot long clean excavation would be needed to replace the bend. Access for construction equipment would need to cross central foredune habitat and ruderal areas within the City of Morro Bay jurisdiction and then travel along sandy beach to access the excavation site. The tie-in to LL2 would not affect Toro Creek, however, replacement of a bend in LL2 on the beach will be within the ordinary high water mark of the mouth of Toro Creek. Replacement of the bend would occur during the Fall, when the active channel of the creek is significantly reduced. Replacement of the bend in LL2 would be infeasible if the project area were wetted and therefore, must be conducted when the project area is not be wetted.

As detailed in the PEP, the subtidal (ocean) region of Estero Bay consists of unconsolidated, or soft, substrate and consolidated, or hard, substrate. Particles generally smaller than gravel comprise unconsolidated substrate, where species adapt to living within (i.e., infauna) and upon (i.e., epibiota) the sediments of the seafloor. There are no kelp forests or other hard substrate communities present within the offshore portion of the Project site. As with the intertidal zone, diversity and abundance of species generally decreases in areas that lack hard substrate. However, the sandy subtidal environments support communities of organisms that are adapted to, and in some cases unique to, this environment, and as such are important to marine ecosystems.

11. Environmental Factors Potentially Affected:

None of the environmental factors below would be potentially significant for this project, as indicated by the checklist on the following pages.

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

☐ There is no evidence before the Department that the project will have any potential adverse effects on fish and wildlife resources or the habitat upon which the wildlife depends. As such, the project qualifies for a de minimis waiver with regards to the filing of Fish and Game Fees.

☒ The project has potential to impact fish and wildlife resources and shall be subject to the payment of Fish and Game fees pursuant to Section 711.4 of the California Fish and Game Code.

12. Determination:

On the basis of this initial evaluation:

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

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

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

Cayucos Sustainable Water Project (CSWP)

Subsequent Mitigated Negative Declaration for the Estero Marine Terminal Ocean Outfall Project Component

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

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

Signature

Date: November 15, 2018

David Foote, Firma Consultants
Consultant for Cayucos Sanitary District

II. ENVIRONMENTAL CHECKLIST

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:					
a) Have a substantial adverse effect on a scenic vista?	**9,2**			**X**	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**9,2**		**X**		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	**9,2**			**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**9,2**			**X**	

Impact Discussion:

1a.-d. **Environmental and Regulatory Setting:**

The County of San Luis Obispo Coastal Zone Land Use Ordinance Section 23.04.210: Visual Resources. This section describes standards to protect Critical Viewsheds, Scenic Corridors and Sensitive Resource Areas that are intended to protect visual resources. Sections relevant to this Project are excerpted below.

The following standards apply within Critical Viewsheds, Scenic Corridors and Sensitive Resource Area (SRA) Combining Designations that are intended to protect visual resources, as identified in this title, the Official Maps, Part III of the Land Use Element, or the area plans of the Local Coastal Plan.

a. Applicability of standards. The following standards apply to new development required by the Coastal Zone Land Use Ordinance to have a land use permit, except that the following are exempt from some or all of the standards (a)-(d):
2) Project not visible. An exemption from the standards in the following subsections c(1), (2), (4), and (5) may be granted if documentation is provided demonstrating that the development will not be visible from the shoreline, public beaches, the Morro Bay estuary, any of the roads specified in the applicable area plan planning area standards for Critical Viewsheds, Scenic Corridors or SRA's that are intended to protect visual resources. Such documentation shall be prepared by a qualified professional acceptable to the Planning Director and at a minimum shall provide scaled topographic and building elevations with preliminary grading, drainage, and building plans. An exemption from the standard in subsection c(6) may be granted if the preceding documentation is provided, and if it is determined by the Planning Director that open space preservation within the Critical Viewshed or SRA is not otherwise needed to protect the scenic and visual resource, sensitive habitat or watershed, as identified in the area plans.

c. Standards for Critical Viewsheds and SRAs for protection of visual resources. The following standards apply within areas identified as Critical Viewsheds or SRAs in the area plans for protection of visual resources.

(1) Location of development. Locate development, including, but not limited to primary and secondary structures, accessory structures, fences, utilities, water tanks, and access roads, in the least visible portion of the site, consistent with protection of other resources. Emphasis shall be given to locations not visible from major public view corridors. Visible or partially visible development locations shall only be considered if no feasible non-visible development locations

are identified, or if such locations would be more environmentally damaging. New development shall be designed (e.g., height, bulk, style, materials, color) to be subordinate to, and blend with, the character of the area. Use naturally occurring topographic features and slope-created "pockets" first and native vegetation and berming second, to screen development from public view and minimize visual intrusion.
(2) Structure visibility. Minimize structural height and mass by using low-profile design where feasible, including sinking structures below grade. Minimize the visibility of structures by using design techniques to harmonize with the surrounding environment.

(6) Open space preservation. Pursuant to the purpose of the Critical Viewshed or SRA to protect significant visual resources, sensitive habitat or watershed, open space preservation is a compatible measure. Approval of an application for new development in these scenic coastal areas is contingent upon the applicant executing an agreement with the county to maintain in open space use appropriate portions of the site within the Critical Viewshed or SRA (for visual protection). Guarantee of open space preservation may be in the form of public purchase, agreements, easement controls or other appropriate instrument approved by the Planning Director, provided that such guarantee agreements are not to provide for public access unless acceptable to the property owner or unless required to provide public access in accordance with the LCP.

General Visual Standards for Coastal Development. Notwithstanding subsections (a)-(d) above, all development requiring a coastal development permit must be consistent with the requirements of Coastal Plan Visual and Scenic Resource Policies 1-11 as applicable.

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county to maintain in open space use appropriate portions of the site within the Critical Viewshed or SRA (for visual protection). Guarantee of open space preservation may be in the form of public purchase, agreements, easement controls or other appropriate instrument approved by the Planning Director, provided that such guarantee agreements are not to provide for public access unless acceptable to the property owner or unless required to provide public access in accordance with the LCP.

General Visual Standards for Coastal Development. Notwithstanding subsections (a)-(d) above, all development requiring a coastal development permit must be consistent with the requirements of Coastal Plan Visual and Scenic Resource Policies 1-11 as applicable.

Impact Discussion

Onshore

Coastal Aesthetic Policy AES 1 (construction staging area) in the County of San Luis Obispo Estero Area Plan would apply to construction activities and staging. This policy would require construction staging areas to be located away from sensitive viewing areas to the extent feasible. Temporary visual impacts viewing east from Highway 1 will not occur during construction because the area of work is within the developed EMT fenced area and will not be only present for a very limited period along the scenic corridor. Viewed west from Highway 1 temporary impacts will occur due to the short term presence of orange construction fencing, staging of equipment and materials on the beach and along the highway, equipment on the beach and traffic control devices. Because these activities are only a matter of weeks in duration, no significant impact would result.

During Project implementation, views of the coastline near the construction area from surrounding areas and roadways will be temporarily impaired. This temporary effect will include local visitors and tourists that tend to frequent the beach areas immediately east of the Project site due to the existing public access facilities (i.e., parking facilities, beach access routes, etc.). However, the number of persons affected by this temporary coastline view blockage would be not considerable. Further, due to the short-term nature of the proposed Project, this is considered only a less than significant aesthetic impact.

Impact VIS 2: The construction of the pipelines in approximately a 100 foot segment and access to the beach for pipe bend replacement in the Coastal Zone boundary will result in a disturbed ground surface that could be visually adverse.(Class II)

Mitigation Measure VIS-1: To mitigate post-construction disturbed soil on the pipeline trenches in the Coastal Zone, the applicant shall prepare and implement an approved restoration plan that uses native seed species and is consistent with Coastal Plan policy 30.

Offshore

The offshore work area would also be visible from the various residences located along the adjacent hillsides north and south of the site, the coastal residences located north of Morro Creek, and Highway 1 and Toro Creek Road. As such, the proposed offshore activities will cause a minimal obstruction of the ocean view from surrounding areas and roadways. Specifically, there will be marine work vessels (including a derrick barge, anchor assist vessel, and a utility vessel) visible from the beaches within and surrounding areas of the Project site. Boats in the area will also have an obstructed view of the shoreline because of the offshore Project equipment. However, marine work vessels (e.g., commercial fishing vessels, charter boats, etc.) from Morro Bay Harbor are common in the area and the additional work vessels that would be present as a result of the Project would only be present for an estimated period of four weeks. Therefore, it is expected that these impacts would all be considered minor, short-term inconveniences that would not result in a significant long-term impact to the visual resources of the Project site.

Light or Glare

No permanent light fixtures are proposed. Although night time construction is proposed, the construction duration is a matter of weeks during the pulling of the HDPE pipe through LL2, therefore no impacts due to light or glare are identified.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
2. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies					

may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:			Incorporation		
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	**2**				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	**2**				**X**
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	**2**				**X**

Impact Discussion:

2a-c. No agricultural resources are present within the project boundaries.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	**2**				**X**
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	**2,6**			**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	**2,6**			**X**	

d) Expose sensitive receptors to substantial pollutant concentrations?	**2,6.1**			**X**	
e) Create objectionable odors affecting a substantial number of people?	**2,6,1**			**X**	

Impact Discussion:
3a-d.

Environmental and Regulatory Setting: The environmental and regulatory setting for air quality for the CSWP, including the proposed new ocean outfall, is described in detail in the CSWP EIR incorporated herein by reference.

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

Regulated Air Pollutants
The United States Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria.

The California Air Resources Board (CARB) has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles.
A description of the criteria air pollutants typically associated with the proposed project area and the proposed project's potential emission sources is provided below. Air pollutants not commonly associated with the existing or proposed sources in the vicinity of the project site, such as visibility reducing particles and lead, are not described below.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called Reactive Organic Gasses (ROG), in the presence of sunlight (U.S. EPA, 2017a). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.

    - **ROG** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA (CARB, 2004).

    - **VOC** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as: methane, ethane, and methylene chloride (CARB, 2004).

- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA, 2016a).

    - PM_{10}, also known as inhalable coarse, respirable, or suspended PM10, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people

with heart or lung disease (U.S. EPA, 2016a).

- $PM_{2.5}$, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately 1/30th the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA, 2016a).

- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are typically the single largest source of carbon monoxide. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA, 2016b).

- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA, 2016c).

- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as oxides of sulfur (SO_X). Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA, 2016d).

- **Sulfates ($SO4^{2-}$)** are the fully oxidized ionic form of sulfur. $SO4^{2-}$ are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB, 2009a).

Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as hazardous air pollutants (HAPs) or toxic air contaminants (TACs), respectively. These pollutants can cause severe health effects at very low concentrations, and many are suspected or confirmed carcinogens. The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines (DPM) and other substances to be TACs[5].

- **DPM**. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Many of the toxic compounds adhere to the particles, and because diesel particles are very small (less than 2.5 microns in diameter), they penetrate deeply into the lungs. CARB has identified diesel PM as a human carcinogen.

Common criteria air pollutants, such as ozone precursors and PM, are emitted by a large number of sources and have effects on a regional basis; other pollutants, such as TACs, and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

Local Topography and Meteorology

Topography and climate throughout the SCCAB varies and is influenced by the basin's proximity to the Pacific Ocean and the Coast and Transverse Ranges that trend in a general northwest-southeast and east-west orientation, respectively, within the basin. The SCCAB experiences a Mediterranean-type climate that is characterized by warm, dry summers and cool, wet winters. The north Pacific high pressure system, a semi-permanent area of high pressure centered over the north Pacific Ocean, pushes storms to the north during the summer. During the winter, the pressure center moves south, brining rain and cooler temperatures. Near the coast, onshore breezes moderate summer and winter temperatures. Average maximum temperatures in the summer are typically in the 60s and 70s; average minimum temperatures in winter are typically in the 40s and 50s. Precipitation near the coast averages between 15 to 25 inches per year. The Coast and Transverse Ranges that run through the basin serve to keep inland portions of the SCCAB warmer and dryer. Although average minimum temperatures in inland areas also typically ranges in the 40s and 50s, average maximum temperatures are in the high 70s and daily maximums can exceed 100 degrees Fahrenheit. Precipitation in inland portions of the SCCAB averages less than 15 inches per year.

Air Quality Conditions and Attainment Status

The federal and state governments have established emissions standards and limits for air pollutants which may

reasonably be anticipated to endanger public health or welfare. These standards typically take one of two forms: standards or requirements that are applicable to specific types of facilities or equipment (e.g., petroleum refining, metal smelting), or concentration-based standards that are applicable to overall ambient air quality. Air quality conditions are best described and understood in the context of these standards; areas that meet, or attain, concentration-based ambient air quality standards are considered to have levels of pollutants in the ambient air that, based on the latest scientific knowledge, do not endanger public health or welfare.

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.

- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and state laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

- **Unclassified.** An area is unclassified if the ambient air quality monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Attainment status in the SCCAB varies by county and geographic area. The proposed project is is located in the City Morro Bay, along the western, coastal portion of the County of San Luis Obispo (SLO County). This part of the County is designated non-attainment for the 1-hour and 8-hour O_3 CAAQS and the 24-hour and annual average PM_{10} CAAQS. The western portion of SLO County is considered unclassified or in attainment of all other CAAQS and NAAQS.

Sensitive Receptors

Some people are more affected by air pollution than others. Sensitive air quality receptors include specific subsets of the general population that are susceptible to poor air quality and the potential adverse health effects associated with poor air quality. In general, children, senior citizens, and individuals with pre-existing health issues, such as asthmatics, are considered sensitive receptors. Both CARB and the SLOAPCD consider schools, schoolyards, parks and playgrounds, daycare facilities, nursing homes, hospitals, and residential areas as sensitive air quality land uses and receptors (CARB, 2005 and SLOAPCD, 2012). There are no sensitive receptors within 1,000 feet of the proposed project work areas.

Regulatory Setting

Federal and State Clean Air Act

The federal Clean Air Act, as amended, provides the overarching basis for both federal and state air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. The U.S. EPA also requires that each state prepare and submit an SIP that consists of background information, rules, technical documentation, and agreements that an individual state will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. In California, both the federal and state Clean Air acts are administered by CARB. It sets all air quality standards including emission standards for vehicles, fuels, and consumer goods and monitors air quality and sets control measures for toxic air contaminants. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

California Air Resources Board (CARB)

In-Use Off-Road Diesel-Fueled Fleets Regulation

On July 26, 2007, CARB adopted a regulation to reduce diesel particulate matter (DPM) and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. This regulation applies to all self-propelled off-road diesel vehicles over 25 horsepower. The regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;

- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Report System DOORs) and labeled;

- Restricts the adding of older vehicles into fleets; and,

- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits).

Commercial Harbor Craft Regulation
In October 2008, CARB adopted a regulation to reduce DPM, NO_x, and ROG emissions from diesel engines used in commercial harbor craft (e.g., crew and supply boats, fishing vessels, ferries, excursion vessels, tug boats, barges, dredges, and other vessel types) operating within 24 nautical miles of the California coast. The regulation includes requirements for new and in-use (existing) engines, including the use of ultra-low sulfur diesel fuel (15 parts per million [ppm]) or other CARB-approved fuel and the phased turnover of older, higher-emitting engines to newer engines that meet stricter emission standards. The regulation will be fully implemented by the end of 2022 barring amendment or modification of the existing regulation by CARB.

Naturally Occurring Asbestos (NOA)
NOA includes fibrous minerals found in certain type of rock formations, such as serpentine rock. Serpentinite is a metamorphic rock, derived from ultramafic rock, which is an igneous rock composed mostly of iron- and magnesium-rich minerals. Serpentinite is a rock composed mostly of the serpentine group of minerals. The serpentine mineral group includes at least twenty different hydrous, magnesium and iron silicate minerals derived from the metamorphism of ultramafic rock. Only a few specific minerals in the serpentine group may exhibit a fibrous texture. Those minerals, such as chrysotile, are termed asbestos. Soil derived from serpentinite rock may contain asbestos.
The U.S. EPA and CARB have adopted regulations to control emissions of asbestos-laden dust. The U.S. EPA's *National Emission Standard for Asbestos* (40 CFR Part 61, Subpart M) establishes inspection, notification, and asbestos emission control requirements for demolition and renovation activities. The standard defined demolition as the "wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility." Thus, this standard would not apply to the project.

CARB's *Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operation*s (17 CCR §93105) applies to any road construction and maintenance or construction and grading operations on any property that is located in a geographic ultramafic rock unit or has NOA, serpentine rock, or ultramafic rock. According to asbestos hazard maps prepared by the SLOAPCD, the proposed project is located in an NOA area of concern because it is located near a known serpentine rock formation (SLOAPCD 2018). For construction and grading projects involving less than one-acre of surface disturbance, such as the proposed project, the ATCM requires the following dust mitigation measures to be implemented at the start and maintained throughout the duration of construction and grading activities:

- Construction vehicle speed at the work site must be limited to 15 miles per hour or less

- Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line

- Areas to be graded or excavated must be kept adequately wetted to prevent visible emission from crossing the property line

- Storage piles must be kept adequately wetted, treated with chemical dust suppressant, or covered when material is not being added to or removed from the pile

- Equipment must be washed down before moving from the property onto a paved public road

- Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within 24 hours

An exemption from the ATCM requirements may be granted for activities occurring in remote locations that are more than one mile from any receptor, including any hospital, school, day care center, work site, business, residence, public road, or permanent campground.

SLOAPCD

The SLOAPCD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SLO County portion of the SCCAB. The SLOAPCD carries out this responsibility by preparing,

quality standards.

Rules and Regulations
The SLOAPCD currently has nine regulations containing approximately 100 rules that control and limit emissions from sources of air pollutants. Regulations that may apply to the proposed project include Rule 401, Visible Emissions, which generally limits of pollutants based on opacity.

2001 Clean Air Plan
In 2001, the SLOAPCD adopted its *2001 Clean Air Plan*. This plan updates the SLOAPCD's *1998 Clean Air Plan* and identifies control measures to reduce ozone precursor emissions of ROG and NO_X as well as PM emissions. The *2001 Clean Air Plan* identifies the control measures necessary to attain ozone air quality standards. The 2001 *Clean Air Plan* includes emissions of ROG and NO_X from mobile and area wide emission sources in its reference (1991) and forecasted (2015) emissions inventories and plans for achieving attainment of air quality standards. Although some of the control measures set forth for controlling ROG and NOX emissions have a co-benefit of reducing PM emissions, the plan does not identify any control measures solely related to PM emission reductions. As stated in the *2001 Clean Air Plan*, "The District expects to formally address PM_{10} nonattainment in future planning efforts" (SLOAPCD, 2001, pg. 1-2).

2013-2017 Strategic Action Plan
The SLOAPCD *2013-2017 Strategic Action Plan* guides how SLOAPCD resources will be applied to meet key air quality goals and program requirements identified as part of a five year planning cycle (SLOAPCD, 2012a). The *2013-2017 Strategic Action Plan* identifies six strategic goals and performance measures for the 2013 to 2017 timeframe related to achieving and maintaining the CAAQS and NAAQS, managing TACs, ensuring air quality impacts from land use projects are addressed, reducing greenhouse gas emissions to levels in line with state and federal requirements, enhancing awareness of air quality issues, and developing cost-effective services. The *Strategic Action Plan* identifies performance measures, strategies, and actions the SLOAPCD and its partners may undertake to achieve its strategic goals. The *Strategic Action Plan* does not include strategies or policies that directly apply at the individual project level.

CEQA Air Quality Handbook
In April 2012, the SLOAPCD updated its *CEQA Air Quality Handbook*, which contains the SLOAPCD's recommendations to Lead Agencies for evaluating and assessing the significance of a project's potential air quality impacts (SLOAPCD, 2012b and 2017). The SLOAPCD clarified several components of the *CEQA Air Quality Handbook* in 2017. The SLOAPCD's current construction-related thresholds of significance for criteria pollutants and toxic air contaminants are summarized in the table below. The proposed project would not result in long-term operational emissions and therefore, SLOAPCD-recommended thresholds for operations-related emissions are not included in this document. The SLOAPCD considers projects that exceed its recommended CEQA threshold to have a significant air quality effect.

Table 3-1: SLOAPCD CEQA Thresholds of Significance for Construction Activities

Pollutant	Threshold		
	Daily	Quarterly Tier 1	Quarterly Tier 2
ROG and NOx (Combined)	137 pounds	2.5 tons	6.3 tons
Diesel PM (Exhaust)	7 pounds	0.13 tons	0.32 tons
Fugitive PM_{10} (Dust)		2.5 tons	
Source: SLOAPCD, 2012b and 2017			

Discussion

Would the proposed project:

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

No Impact. Within SLO County, the applicable air quality plan is the SLOAPCD's *2001 Clean Air Plan* (SLOAPCD, 2001). This plan addresses attainment and maintenance of state and federal ambient air quality standards (SLOAPCD 2001, page 1-1); however, the *Clean Air Plan* "primarily addresses the [County's] ozone nonattainment problem" (SLOAPCD 2001, page 1-2). Importantly, the *2001 Clean Air Plan* includes PM and ozone pre-cursor pollutant emissions (i.e., NO_X, ROG) from mobile sources such as vehicles, ships and boats, and other commercial and industrial equipment in its existing (1991) and forecast year (2015) emissions inventories upon which the *Clean Air Plan* is based (i.e., emissions from these sources are inventoried, forecasted based on changes in population and growth expected to occur, and planned for in the *Clean Air Plan*).

The proposed project consists of short-term, construction-related activities that would last no more than approximately 50 days. These activities would not generate levels of ozone precursor or PM_{10} emissions that exceed SLOAPCD-recommended CEQA significance thresholds (see discussion in section b) below). In addition, the proposed project does not involve changes in land use or stationary sources that would continuously emit substantial amounts of pollutants over a long period of time. The proposed project, therefore, would not conflict with or obstruct implementation of the SLO County APCD's *2001 Clean Air Plan* or *2013-2017 Strategic Action Plan*.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The proposed project would consist of the following construction activities[6]:

- Effluent Transmission Pipeline Tie-In: The effluent transmission pipeline would be connected to the LL2 vertical riser located in the EMT. This would require approximately 100 feet of trenching using a trencher, a loader or other similar piece of equipment, and welding equipment. Presuming a trench excavation of 4 feet wide and 6 feet deep, a minor amount of debris and excavated soil that cannot be backfilled into the trench would be hauled away, estimated to be approximately 12 cubic yards (assuming a 100-foot-long 22-inch cylindrical pipe). Subtracting out mobilization time, this active construction is anticipated to take up to 10 days to complete.

- Pipe Replacement: The bend in LL2, an approximately 104-foot-long section of buried 22" pipe, will be replaced as part of the project. For the purposes of this analysis, this activity was presumed to require excavation of an approximately 36-foot by 142-foot area to a depth of approximately 4 feet below grade. With a 10% safety factor, the total amount of excavation is presumed to be equal to approximately 250 cubic yards of cut. Since this activity involves replacement of an existing pipe, no net soil export is anticipated to occur (i.e., cut soils would be replaced in the excavated area). The only off-haul activity would be associated with the removed section of pipe. This activity is anticipated for the purposes of analysis to take approximately 15 days and require the use of a concrete saw, an excavator, one wheel loader, and welding equipment. This construction activity could occur at the same time as the effluent transmission pipeline tie-in activity.

- LL2 HDPE Pipe Pull and Installation of the Diffuser: The HDPE pipe will be assembled on shore, towed out to the LL2 pipeline terminus, inserted into the LL2 pipe, and pulled via winches from the shoreline. Due to the short distance associated with the pull (3,952 feet or approximately three-quarters of a mile), this activity was anticipated to take 25 active construction days to complete and would occur after the tie-in and pipe replacement is completed. For the purposes of this air quality analysis, the following marine equipment was assumed to be used for the proposed pipe pull operation and installation of the diffuser:

    - One 200-ton barge that would store segments of pipe and other equipment to support the shore pulling effort and diffuser installation. This barge was assumed to have one, 100 horsepower (hp) auxiliary engine (generator) in service 24-hours per day during the pipe pull and diffuser installation operation.

    - Two tugboats to support the barge and pipe pull and diffuser installation operation. Each tug boat was assumed to have two, 500 hp propulsion engines that would operate up to 4 hours per day and one, 100 hp auxiliary engine (generator) that would operate 24 hours per day during the pipe pull and diffuser installation operation.

    - One crew boat to support barge/tugboat workers. This crew boat was assumed to have two, 500 hp propulsion engines that would operate up to 4 hours per day and one, 100 hp auxiliary engine (generator) that would operate 24 hours per day during the pipe pull and diffuser installation operation

    - Shore-based, heavy duty construction equipment including air compressors, material lifts, two, 238-hp winches to pull the pipe, and welders. This equipment would operate between 8 and 24 hours per day.

In addition to the heavy-duty construction equipment identified above, project construction would also generate emissions from worker and vendor delivery trips. The tie-in and pipe replacement are anticipated to require separate crews of 8 workers each, while the pipe pull and diffuser installation is anticipated to involve 35 workers at maximum.

Footnote 6:The proposed project's heavy duty non-marine construction equipment (e.g., loader) emissions and on-road emissions (e.g., worker, vendor, and hauling trips) were estimated using CalEEMod, Version 2016.3.2. The proposed project's marine construction emissions were estimated using vessel assumptions from the Morro Bay Power Plant Decommissioning Project (CLSC, 2018) and emission factors from the 2016 Puget Sound Maritime Air Emissions Inventory and CalEEMod, V. 2016.3.2 default data information (Starcrest Consulting Group, 2018 and Trinity

Consultants, 2016, Appendix D, Table 3.4). The project's construction emissions are shown in Tables 3-2 and 3-3 below. In addition, although the proposed Ocean Outfall Project's construction activities associated with tie-in to the new ocean outfall may not overlap with construction activities of the original CSWP described in the CSWP EIR, Tables 3-2 and 3-3 show the total potential combined overlap should the final phases of the CSWP project overlap with the tie-in and pipe replacement components of tie-in to the new ocean outfall. Pipe pull operations and installation of the diffuser cannot occur until all other construction activities are completed and thus would not overlap with other construction activities.

Table 3-2: Project Construction Emissions (Maximum Daily)

Phase	Maximum Daily Emissions (Pounds Per Day)					
	ROG + NO_X	**CO**	**SO_2**	**PM_{10}[A]**	**$PM_{2.5}$[A]**	**DPM[B]**
Ocean Outfall Component (Tie-In and Pipe Replacement)						
Effluent Pipeline Tie-In	17.83	8.92	0.03	6.20	1.25	0.71
Pipe Replacement (Bend in LL2)	20.74	14.62	0.04	8.29	2.92	0.81
Subtotal	*34.57*	*23.54*	*0.07*	*14.49*	*4.17*	*1.52*
CSWP Final EIR Emissions[C]	56.72	22.51	0.04	2.58	1.71	1.52
Total Combined Emissions	91.29	46.05	0.11	17.07	5.88	3.04
SLOAPCD Threshold[D]	137	--	--	--	--	7
Exceeds Threshold?	No	N/A	N/A	N/A	N/A	No
Ocean Outfall Component (LL2 Pipe Pull and Diffuser installation)						
Pipe Pull (non-marine)	34.57	34.02	0.05	17.88	3.31	1.61
Pipe Pull (marine)	85.00	68.20	6.57	3.62	3.54	3.62
Combined Emissions	119.57	102.22	6.62	21.5	6.85	5.23
SLOAPCD Threshold[D]	137	--	--	--	--	7
Exceeds Threshold?	No	N/A	N/A	N/A	N/A	No

Source: MIG 2018 (see Appendix); CSD, 2017

(A) PM_{10} and $PM_{2.5}$ emissions estimates include fugitive dust and equipment exhaust emission.

(B) DPM emissions estimates based on PM10 equipment exhaust emissions for non-marine equipment.

(C) CSWP Draft EIR emissions represent maximum mitigated emissions during the last year of construction (CSD, 2017). Listed values are from Draft EIR Technical Appendix Part 8, Air Quality Modeling, MIG, page 6 of 30 in the CalEEMod Winter output file. In actuality, emissions associated with CSWP activities would likely be substantially lower than presented here because the effluent pipeline was originally planned to be installed to Morro Bay.

(D) SLOAPCD, 2012b and 2017

Table 3-3: Project Construction Emissions (Tons per Quarter)

Phase	Maximum Quarterly Emissions (Tons Per Quarter)					
	ROG + NO_X	**CO**	**SO_2**	**PM_{10}[A]**	**$PM_{2.5}$[A]**	**DPM[B]**
Ocean Outfall Component						
Effluent Pipeline Tie-In	0.09	0.04	<0.00[C]	0.03	0.01	<0.00[C]
Pipe Replacement	0.16	0.11	<0.00[C]	0.06	0.01	0.01
Pipe Pull (non-marine)	0.43	0.42	<0.00[C]	0.20	0.04	0.02
Pipe Pull and diffuser (marine)	1.06	0.85	0.08	0.05	0.04	0.05

Subtotal	*1.74*	*1.42*	*0.08*	*0.34*	*0.1*	*0.08*
CSWP Final EIR Emissions(D)	0.30	0.63	<0.00(C)	0.07	0.05	0.04
Total Combined Emissions	2.04	2.05	0.08	0.41	0.15	0.12
SLOAPCD Threshold(E)	2.5	--	--	2.5	2.5	0.13
Exceeds Threshold?	No	N/A	N/A	No	No	No

Source: MIG 2018 (see Appendix); CSD, 2017

(A) PM_{10} and $PM_{2.5}$ emissions estimates include fugitive dust and equipment exhaust emission.

(B) DPM emissions estimates based on PM_{10} equipment exhaust emissions for non-marine equipment.

(C) "<0.00" indicates the emission is smaller than 0.005.

(D) CSWP Draft EIR emissions represent maximum mitigated emissions during the last active construction quarter (CSD, 2017). Listed values are from Draft EIR Technical Appendix Part 8, Air Quality Modeling, MIG, page 7 of 35 (for combined ROG and NOx) and page 6 of 35 (for all other pollutants the quarterly value represents the annual emissions divided by four) in the CalEEMod Annual output file. In actuality, emissions associated with CSWP activities would likely be substantially lower than presented here because the effluent pipeline was originally planned to be installed to Morro Bay.

(E) SLOAPCD, 2012b and 2017

As shown in the Tables 3-2 and 3-3 above, neither the proposed project's emission nor the total potential combined emissions from the original CSWP project and the new ocean outfall component would exceed SLOAPCD daily or quarterly thresholds. The proposed project, therefore, would not result in a new or substantially more severe impact than previously identified for the CSWP project. The project would not result in additional operational emissions beyond that identified in the CSWP EIR as well.

Although project emissions would not exceed SLOAPCD-recommended significance thresholds, the construction activities associated with use of the new ocean outfall would be subject to the mitigation measures incorporated into the CSWP Project during development of the CSWP EIR. In addition, the proposed grading activities could encounter NOA pursuant to Impact AQ-3. Therefore, as identified in the CSWP EIR, the following mitigation measures would apply to the proposed project:

CSWP EIR Mitigation Measure AQ-1: The following standard SLOAPCD dust control measures shall be implemented:

a. The amount of the disturbed area shall be minimized;
b. Water trucks or sprinkler systems shall be used in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water or an APCD-approved dust suppressant should be used whenever possible;
c. All dirt stock pile areas shall be sprayed daily and covered with tarps or other dust barriers as needed;
d. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive, grass seed and watered until vegetation is established;
e. All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
f. All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used;
g. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
h. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
i. Wheel washers and/or rumble strips shall be installed where vehicles enter and exit unpaved roads onto streets; and
j. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible

emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. The name and telephone number of such persons shall be provided to the APCD Engineering & Compliance Division prior to the start of any grading, earthwork or demolition.

CSWP EIR Mitigation Measure AQ-2: Prior to starting any ground-disturbing construction activities for the pipeline trenching the CSD shall conduct a geologic evaluation for NOA along the pipeline routes following the *Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California* (California Geologic Survey [CGS] Special Publication 124, 2002) to determine whether the construction of the pipelines has the potential to disturb NOA, and if so, how many acres. If no NOA is expected to be disturbed, the applicant shall submit a request for an exemption from CARB's Asbestos ATCM, along with the geologic evaluation report. If NOA is expected to be disturbed, the SLOAPCD must be notified and preparation and approval of an Asbestos Dust Mitigation Plan and Asbestos Health and Safety Program may be required.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. SLO County is an area of non-attainment for state ozone and PM_{10} air quality standards. This attainment status is primarily the result of the region's development history; past, present, and future development projects all contribute to the region's attainment status on a cumulative basis. In developing thresholds of significance for air pollutants, air districts typically considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As discussed under paragraphs a) and b) above, the proposed project does not conflict with the SLOAPCD's *2001 Clean Air Plan* and *2013-2017 Strategic Action Plan*, nor result in construction emissions that exceed SLOAPCD thresholds of significance. As such, the proposed project would not result in a cumulatively considerable contribution to regional air quality impacts.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The proposed project would emit DPM emissions at levels that do not exceed SLOAPCD recommended daily or quarterly thresholds. In addition, there are no sensitive receptors located within 1,000 feet of the proposed construction activities. The project, therefore, does not have the potential to expose sensitive receptors to substantial pollutant concentrations.

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

Less Than Significant Impact. Construction of the project would generate typical odors associated with construction activities, such fuel and oil odors, solvent odors, etc. The odors generated by the project would be intermittent and localized in nature and would disperse quickly. In addition, there are no sensitive receptors located within 1,000 feet of proposed work areas. The project, therefore, would not create objectionable odors affecting a substantial number of people.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	**1,2,15,17**		**X**		

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	**1,2,15,14, 17, 18**				**X**
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	**1,2**				**X**
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	**1,2,15**			**X**	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	**1,2**				**X**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**1,2,15**				**X**

Regulatory Setting and Previous Analysis:

Portions of the project are within the Coastal Zone of both the County of San Luis Obispo and the City of Morro Bay and must be developed in accordance with the Coastal Zone Land Use Plans for both. In the County, the Coastal Land Use Element (CZLUE) and the Coastal Zone Land Use Ordinance provide policies and development standards protecting sensitive biological resources that include SRA (Sensitive Resource Areas) and ESHA (Environmentally Sensitive Habitat Areas). In the City, EHSA are also protected, however, ESHA protected by the City does not occur in the project area.

The following biological resources section summarizes information regarding onshore and offshore biological resources located within and immediately adjacent to the EMT. The information provided in this section is based on the findings of a biological resources survey in the Chevron EMT Decommissioning Project PEP, Appendix I – Biological Resources Survey, the CSWP EIR (2017), the Caltrans Toro Creek Replacement Project CEQA document (2018), and updated biological evaluations specific to this Project by marine biologist Eric Miller of Miller Marine Science and Consulting.

Finally, excavation of LL2 to replace the bend in the pipeline would occur below the mean high tide line within the original permit jurisdiction of the California Coastal Commission and also directly subject to the protection policies of the California Coastal Act.

This section summarizes information regarding onshore and offshore biological resources located within and immediately adjacent to the EMT. It also evaluates the potential impacts to biological resources as a result of the proposed Project. The description of existing biological resources in the vicinity of the Project site is based on a review of documents and recent field surveys summarized below:

- Technical Memorandum: Cayucos Sustainable Water Project Ocean Outfall Marine Construction Range of Effects and Proposed Mitigation, prepared by Miller Marine Sciences (September 2018);
- Morro Bay to Cayucos Connector EIR, Biological Resources, prepared by SWCA (2010);
- Chevron/Estero Marine Terminal Source Removal Project EIR, prepared by Rincon Consultants (2004);
- Administrative Draft Environmental Impact Report for the Estero Marine Terminal State Lands Lease Renewal, prepared by Ecology and Environment (1995);
- Biological Resources Assessment for the Chevron Estero Fiber Optic Project, San Luis Obispo County, California, prepared by Gaylene Tupen, (1998);
- California Red-legged Frog and Pond Turtle Surveys for the Chevron/Estero Marine Terminal Source Removal Project EIR, prepared by Rincon Consultants (2005);
- Marine Biological Survey of Proposed Anchor Locations and Existing Pipeline Corridor, prepared by Padre Associates, Inc. (December 2005);
- Review of Biological Survey Report for Duke Energy, prepared by V.L. Holland, Ph.D. & F. Villablanca, Ph.D. (2000);
- Numerous reconnaissance-level biological field surveys and site visits of the onshore portion of the Project site conducted by Padre (2001 - 2005);
- Recent discussions with local biologists;
- Database search utilizing the most recent version (2012) of the California Department of Fish and Wildlife California Natural Diversity Data Base (CNDDB); and
- National Marine Fisheries Service (NMFS) marine mammal stock assessment reports and final rule to revise critical habitat designations for the federally endangered leatherback turtle.
- For an overview of marine wildlife monitoring, mitigation, Essential Fish Habitat Analysis, and contingency measures, refer to Appendix E – Preliminary Marine Wildlife Contingency Plan, attached in the IS Technical Appendix.

Onshore Biological Resources
County of San Luis Obispo General Plan and Local Coastal Plan

The Land Use Element (LUE) and Local Coastal Plan (LCP) of the San Luis Obispo County General Plan is meant to guide development and protect resources within the plan area. The plan identifies Sensitive Resource Areas (SRA), which are also designated as Environmentally Sensitive Habitat Areas (ESHA) under the LCP. The following policies identified in the CSWP EIR are presented here as an overview.

Coastal Plan Policies

ENVIRONMENTALLY SENSITIVE HABITAT AREA
Policy 1: Land Uses Within or Adjacent to Environmentally Sensitive Habitats
New development within or adjacent to locations of environmentally sensitive habitats (within 100 feet unless sites further removed would significantly disrupt the habitat) shall not significantly disrupt the resource. Within an existing resource, only those uses dependent on such resources shall be allowed within the area.
Policy 2: Permit Requirement. As a condition of permit approval, the applicant is required to demonstrate that there will be no significant impact on sensitive habitats and that proposed development or activities will be consistent with the biological continuance of the habitat. This shall include an evaluation of the site prepared by a qualified professional which provides: a) the maximum feasible mitigation measures (where appropriate), and b) a program for monitoring and evaluating the effectiveness of mitigation measures where appropriate.
Policy 3: Habitat Restoration. The county or Coastal Commission should require the restoration of damaged habitats as a condition of approval when feasible.

COASTAL STREAMS
Policy 20: Coastal Streams and Riparian Vegetation. Coastal streams and adjoining riparian vegetation are environmentally sensitive habitat areas and the natural hydrological system and ecological function of coastal streams shall be protected and preserved.

Policy 21: Development in or Adjacent to a Coastal Stream. Development adjacent to or within the watershed (that portion within the coastal zone) shall be sited and designed to prevent impacts which would significantly degrade the coastal habitat and shall be compatible with the continuance of such habitat areas. This shall include evaluation of erosion and runoff concerns

Policy 26: Riparian Vegetation. Cutting or alteration of naturally occurring vegetation that protects riparian habitat is not permitted except for permitted streambed alterations (defined in Policy 23) and where no feasible alternative exists or an issue of public safety exists.

Policy 28: Buffer Zone for Riparian Habitats
In rural areas (outside the USL) a buffer setback zone of 100 feet shall be established between any new development (including new agricultural development) and the upland edge of riparian habitats.

TERRESTRIAL ENVIRONMENTS
Policy 29: Protection of Terrestrial Habitats. Designated plant and wildlife habitats are environmentally sensitive habitat areas and emphasis for protection should be placed on the entire ecological community. Only uses dependent on the resource shall be permitted within the identified sensitive habitat portion of the site.

Policy 30: Protection of Native Vegetation. Native trees and plant cover shall be protected wherever possible. Native plants shall be used where vegetation is removed.

Policy 35: Protection of Vegetation. Vegetation which is rare or endangered or serves as cover for endangered wildlife shall be protected against any significant disruption of habitat value. All development shall be designed to disturb the minimum amount possible of wildlife or plant habitat.

Title 23 Coastal Zone Land Use Ordinance

Title 23 Coastal Zone Land Use Ordinance (CZLUO) contains the following provisions related to the biological resources of the Proposed Project Proposed Project:

23.07.170
b. Required findings: Approval of a land use permit for a project within or adjacent to an Environmentally Sensitive Habitat shall not occur unless the applicable review body first finds that:
(1) There will be no significant negative impact on the identified sensitive habitat and the proposed use will be consistent with the biological continuance of the habitat.
(2) The proposed use will not significantly disrupt the habitat.

e. Development standards for environmentally sensitive habitats. All development and land divisions within or adjacent to an Environmentally Sensitive Habitat Area shall be designed and located in a manner which avoids any significant disruption or degradation of habitat values. This standard requires that any project which has the potential to cause significant adverse impacts to an ESHA be redesigned or relocated so as to avoid the impact, or reduce the impact to a less than significant level where complete avoidance is not possible.
(1) Development within an ESHA. In those cases where development within the ESHA cannot be avoided, the development shall be modified as necessary so that it is the least environmentally damaging feasible alternative. Development shall be consistent with the biological continuance of the habitat. Circumstances in which a development project would be allowable within an ESHA include:
iii. Incidental public services and utilities in wetlands. Essential incidental public services and utilities pursuant to ESHA Policy 13 and CZLUO Section 23.07.172(e).

(2) Development in ESHA to avoid a takings. If development in an ESHA must be allowed to avoid an unconstitutional taking, then all of the following standards shall apply with respect to such development:
i. Avoidance of takings. The amount and type of development allowed shall be the least necessary to avoid a takings.
ii. Impacts avoided/minimized. All development in and impacts to ESHA shall be avoided to the maximum extent feasible. Any unavoidable impacts shall be limited to the maximum extent feasible.
iii. Mitigation required. All adverse impacts to the ESHA shall be fully mitigated.

(3) Steelhead stream protection: net loss stream diversions prohibited. Diversions of surface and subsurface water will not be allowed where a significant adverse impact on the steelhead run, either individually or cumulatively, would result.

(4) Other prohibited uses. Prohibited development activities include:
i. Placement of barriers to fish. In-stream barriers to sensitive freshwater species migration, including types of dams not covered above, weirs, and similar obstacles which would substantially interfere with

normal migration patterns, except where barriers cannot be avoided and impacts are mitigated to less than significant levels (e.g., with fish ladders or other effective bypass systems).

ii. Destruction of rearing habitats. Development which would cause loss of spawning or rearing habitat through flooding, siltation or similar impacts.

iii. Disturbance or removal of native riparian vegetation on the banks of streams.

Locations constituting an exception to this requirement are:

1.In-between stream banks when essential for flood control purposes and no less environmentally damaging alternative is available to protect existing structures;

2.On roads, trails, or public utility crossings where vegetation removal cannot be avoided, and where there is no feasible alternative and no significant disruption would result; and

3.For native habitat restoration and protection projects.

i. Interference with fish migration. Any other development activity that would raise overall stream temperatures to unfavorable levels, or that would interfere with normal fish migration and movement within the stream.

(5) Grading adjacent to Environmentally Sensitive Habitats shall conform to the provisions of Section 23.05.034c (Grading Standards).

City of Morro Bay Local Coastal Plan

The City of Morro Bay's Local Coastal Plan also protects ESHA, specifically, coastal wetlands, streams, and riparian areas, and rare or unusual native plant communities. Construction equipment would need to cross central foredune habitat within the City's jurisdiction to replace the bend in LL2, however, the area affected is dominated by iceplant with only a few native plant species common to foredune habitat (i.e., silver beachweed, mock heather, and sea rocket), therefore, this area is not comprised of a rare or unusual native plant community and therefore not considered ESHA by the City.

California Coastal Act

Portions of the access route to, as well as, the excavation site to replace the bend in LL2 are below the mean high tide line and therefore, directly subject to the policies and standards of the California Coastal Act (CCA). Installation of the diffuser at the outfall is also subject to the policies and standards of the CCA.

Section 30107.5 of the CCA define an Environmentally Sensitive Area as "any area 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 channel of Toro Creek as well as sandy beach habitat within the access route and excavation site are within designated Environmentally Sensitive Areas under the California Coastal Act.

Section 30240 of the CCA contains the following protection policy for Environmentally Sensitive Areas as follows:

"Environmentally sensitive habitat areas; adjacent developments (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."

Offshore Biological Resources

Essential Fish Habitat (EFH)

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires Federal agencies to consult with the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) on activities that may adversely affect EFH. An EFH assessment is conducted to determine whether or not a project may adversely affect a designated EFH for relevant commercially, federally-managed fisheries species within the project area, and measures are proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the project.

EFH exists for the following species within Estero Bay at the outfall for the project:

- All Coastal Pelagic Species including:

    - Finfish;
    - Market squid; and
    - Krill (Thysanoessa spinifera, Euphausia pacifica, and other krill species); and
- Groundfish.

Marine Mammal Protection Act (MMPA)

The Marine Mammal Protection Act (MMPA) was enacted on October 21, 1972. All marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), and sea otters are protected under the MMPA. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters. NOAA's NMFS also enforces the MMPA for cetaceans and pinnipeds while the U.S. Fish and Wildlife Service (USFWS) enforces the MMPA for sea otters. Incidental take of marine mammals is authorized by these regulatory agencies through incidental Harrassment Authorizations (IHAs), or in some instances, Letters of Authorization (LOAs) depending on the level of potential impact. IHAs are required for harassment of marine mammals (i.e., in the form of construction noise) for less than a year, while LOAs are required for projects resulting in potential harassment of marine mammals for multiple years and/or resulting in potential injury to marine mammals.

Federal and California Endangered Species Acts

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA also requires the preparation of recovery plans and the designation of critical habitat for listed species. Section 7 requires Federal agencies, in consultation with, and with the assistance of the USFWS or NMFS, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Both the USFWS and NMFS share the responsibility for administration of the FESA.

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977, and the California Endangered Species Act (CESA) in 1984. The California Department of Fish and Wildlife (CDFW) implements CESA. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the proposed project to affect state-listed plants and animals.

Marine Invasive Species Act and State's Marine Invasive Species Program (MISP)

A native species is essentially a species that lives in its place of origin. In this context, origin is considered in terms of thousands of years. Native species evolve by adapting to their local habitats; all forms of life are a result of a continuing process of interaction between their inherited traits and characteristics of their environment. A native organism lives within its natural and historical range and zone of dispersal. A non-native (or exotic) species is a species (including any of biological matter capable of propagation) that is not native to the ecosystem(s) in which it occurs (i.e., a species transported beyond its natural range to places it could not get to either by itself or through natural dispersal, such as by wind, tides, currents).

Non-native species can be introduced to the marine ecosystem via the hulls of commercial and recreational vessels and live well tanks. Vessel hulls, rudders, propellers, seawater piping systems, intake screens, and ballast pumps are also capable of inadvertently transporting non-native species via "biofouling," or "attachment or association of marine organisms to the wetted portions of a vessel or its appurtenances," Ballast water can also convey adults, larvae, spores, and seeds of an introduced species but not necessarily the natural predators associated with the adult form. Benthic organisms may also inadvertently be taken in with sediments in water uptake.

Non-native species can have several types of impacts on native coastal marine species:
• Replacement of a functionally similar native species through competition;
• Reduction in abundance or elimination of an entire population of a native species, which can affect native species richness;
• Inhibition of normal growth or increased mortality of the host and associated species;
• Increased intra- or interspecies competition with native species;
• Creation or alteration of original substrate and habitat;
• Hybridization with native species;
• Other genetic effects;

• Transfer of new parasites and diseases; and
• Direct or indirect toxicity (e.g., toxic diatoms).

The California State Lands Commission (CSLC), in coordination with the California Department of Fish and Wildlife's (CDFW) Office of Spill Prevention and Response (OSPR), administers California's Marine Invasive Species Program (MISP) pursuant to California's Marine Invasive Species Act (MISA). Under the MISA, CSLC enforces regulations governing ballast water management and biofouling management, requiring performance standards for ballast water discharges, mandatory deterrence of biofouling, and mandatory reporting requirements for vessels 300 gross tons or greater.

As noted in the Project Description only California port vessels complying with MISP will be used avoiding potential impacts related to marine invasive species.

Impact Discussion
Impacts to Environmentally Sensitive Habitat Areas (ESHA)- LL2 Tie in Site

ESHA's are defined by the California Coastal Act as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Under this definition wetlands and jurisdictional waters, riparian habitat, designated critical habitat, and CNDDB special communities are ESHAs.

At the effluent conveyance pipeline route where the tie-in segment will be installed within the EMT site, annual grassland habitat occurs along Toro Creek Road and State Route 1 and is dominated by weedy non-native grasses and forbs.

Based on the biological resource information presented in the CSWP EIR, the outfall project would not affect nesting birds or bats. Potential effects to sensitive species related to ESHA in the Coastal Zone are detailed following.

The proposed pipeline segment from the existing effluent pipeline in the SR 1 right of way extending east into the EMT tie-in location is within 100 of the Toro Creek riparian edge, which is ESHA. The tie-in point itself if just over 100 ft from ESHA, however some activities around the tie-in on existing paved surfaces are within 100 feet of the ESHA boundary.

The proposed pipeline segment construction corridor and tie in occurs within the Coastal Zone upland area where approximately 2,000 s.f. occur in ruderal grassland, 1,600 s.f in existing paved area and of this 0.02 acres within 100 feet of ESHA at Toro Creek.

No significant impacts will occur to special status plant or wildlife species or any Environmentally Sensitive Habitat Areas (ESHA) in County jurisdiction (upland) with implementation of avoidance and minimization measures detailed following because no wetlands and jurisdictional waters, riparian habitat, designated critical habitat, and CNDDB special communities are significantly or permanently affected.

Specifically, the incorporation of mitigation measures to protect water quality during construction detailed in Mitigation Measure BIO-1 and compliance with the County construction permit and California Building Code would reduce potential adverse effects to stream water quality related to the trenching and pipe tie-in to the existing outfall pipe to less than significant.

The incorporation of mitigation measures to protect special status fish, amphibians and reptiles during construction detailed in Mitigation Measures BIO-2 and BIO-3 below would reduce potential adverse effects to these species to less than significant. Measure BIO-3 includes permanent re-vegetation of the trench area within 100 feet of ESHA. Measure BIO-4 includes restrictions for equipment re-fueling outside the 100 foot ESHA setback as well. Therefore, impacts on biological resources within County jurisdiction would be less than significant.

Impacts to Associated with Replacement of Bend in LL2

Replacement of the bend in LL2 will involve access to the location of the bend resulting in temporary disturbance of ruderal areas, central foredune habitat, and sandy beach, and clean excavation of an approximate 22 foot wide by 35 foot long area. Three feasible access routes have been identified to the excavation site (see Figure 4). One access route will be selected based upon the final selection of equipment necessary to perform the replacement. Staging of equipment would occur in the main EMT parking lot. A biological survey of the access routes and excavation area was performed on

October 31, 2018 by a MIG Biologist. Portions of the access routes and excavation site have been surveyed previously by biologists for the Morro Bay to Cayucos connector trail along SR 1 (SWCA 2010) as well as for replacement of the Toro Creek Bridge (Caltrans 2018).

Central foredune habitat in the locations for each access route are dominated by iceplant (*Carpobrotus edulis*), and sparsely populated by the common foredune species silver beachweed (*Ambrosia chamissonis*), mock heather (*Ericameria ericoides*), and sea rocket (*Cakile maritima*). Red sand verbena (*Abronia maritima*), special status plant species ranked 4.2 in the California Native Plant Society's (CNPS) rare plant ranking system, has been observed in central foredune habitat in close proximity to possible access route #2. The species is a perennial herb that blooms from February through November, however no individuals were observed during the survey performed on October 31, 2018. One individual of the federally endangered seablite (*Suaeda californica*) has been observed in central foredune habitat north of, and near, Toro Creek during surveys performed for the Morro Bay to Cayucos connector trail in 2010. The location is over 50 feet away from possible access route #1. Seablite is a shrub that blooms July through October. No individuals were observed along any possible access routes to the proposed excavation site.

During the site visit on October 31, 2018, the active channel of Toro Creek was well outside of the excavation site and the mouth of the creek was blocked by sand. Replacement of the bend in LL2 will occur in the Fall. Operation of a dewatering system would not be effective, therefore, replacement of the bend in LL2 would be infeasible while the active channel of Toro Creek is wetted in the project area. Therefore, construction would not occur during wetted conditions. Toro Creek is expected to be landlocked during the construction period and would not be traveling to the ocean at that time.

Central foredune habitat in the project area is within the City of Morro Bay's jurisdiction and is not designated as ESHA. Sandy beach habitat and the channel of Toro Creek is located below the mean high tide line and protected as Environmentally Sensitive Areas under the California Coastal Act. Only temporary impacts would occur on central foredune and sandy beach habitat and to the channel of Toro Creek. Tracks or plates may be used to minimize compaction impacts associated with travel of equipment to and from the excavation site. Sand will be re-spread after construction. However, significant impacts could occur to these habitats should multiple paths be taken by equipment or should equipment deviate from access routes. Significant impacts to red sand verbena or seablite could occur if designated access routes are not utilized as well. However, Mitigation Measure BIO-4 will require the presence of a biological monitor during construction to ensure that access routes are followed and that sensitive plants are avoided by equipment. With implementation of this measure, potentially significant impacts on sensitive habitats and sensitive plant species would be reduced to less than significant levels.

Portions of the access route and the excavation site will occur below the mean tide line and inside the ordinary high water (OHW) mark for Toro Creek; areas that are under the jurisdiction of Section 404 of the Clean Water Act. Replacement of the bend in LL2 would only involve travel of heavy equipment across jurisdictional areas and a clean excavation. Therefore, replacement of the bend is not expected to result in fill or discharge to waters of the United States resulting in no impacts to jurisdictional resources.

Finally, because replacement of the bend in LL2 will occur outside of the breeding season for western snowy plover, as well as the breeding season for other bird species that could be present in the excavation area, construction will not adversely affect the federally listed breeding western snowy plover and will not result in take of migratory nesting bird species. Impacts on central foredune habitat for shorebird species could be potentially significant if access routes are not followed by equipment. However, implementation of biological monitoring required in Mitigation Measure BIO-4 would ensure that impacts on foredune habitat is minimal. Therefore, impacts would be reduced to less than significant levels.

Finally, because replacement of the bend in LL2 would not be conducted in wetted areas of Toro Creek and would be well away from the active channel of the creek, and because sandy beach will be replaced after construction, there will be no direct or indirect impacts on aquatic species utilizing the creek for transport upstream or downstream.

Onshore Impacts after Mitigation Measure Implementation

The following describes the applicable mitigation measures that will reduce potential impacts to onshore biological resources to less than significant (Class III). These measures are modeled after and consistent with the adopted CSWP Mitigation Monitoring and Reporting Plan (MMRP) and Coastal Development Permit for the CSWP.

> **Impact BIO-1:** Construction equipment and vehicle traffic, sedimentation due to exposed trench spoils, or spills during construction may impact special status reptiles and amphibians, a potentially significant but mitigable impact (Class II).

Mitigation Measure BIO-1: To mitigate adverse impacts to potentially present status reptiles and amphibians western pond turtle, foothill yellow-legged frog, coast range newt, and two-striped garter snake, in addition to Mitigation Measure BIO-2, the following shall be implemented:

• A pre-construction survey would be conducted within 48 hours prior to starting work in or within 50 feet of habitats likely to support sensitive reptiles and amphibians such as seasonal drainages and riparian. The survey would be conducted by a qualified biologist approved to relocate sensitive species should they occur. If sensitive reptile or amphibian species are located during the pre-construction survey, a biologist would monitor ground-breaking work conducted within 50 feet of habitat.

• Qualified biologists will brief all project personnel prior to participating in construction activities. At a minimum, the briefing will include a description of the project components and techniques, a description of the listed species occurring in the project area, and the general and specific measures and restrictions to protect the species during implementation of the project.

• Post construction re-vegetation plans for work areas disturbed within 100 feet of ESHA at Toro Creek shall be submitted for County approval and implemented upon completion of pipeline work in that area. The re-vegetation plan shall use only native plant species pursuant to Coastal Policy 30. The species shall be selected to provide permanent erosion control and soil cover pursuant to Coastal Policy 21.

Impact BIO-2: Construction equipment and vehicle traffic, sedimentation due to earthmoving, or spills during construction or operation of the WRRF may impact California red-legged frog (CRLF), a potentially significant but mitigable impact (Class II).

Mitigation Measure BIO-2: To mitigate adverse impacts to potentially present California red-legged frog (CRLF), the following shall be implemented:
Pre-construction Survey. Prior to commencement of grading activities, a USFWS-approved biologist will survey the project site 48 hours before the onset of work activities. If any life stage of the California Red-legged Frog (CRLF) is found and these individuals are likely to be killed or injured by work activities, the biologist will be allowed sufficient time to move them from the site before work activities begin. The biologist will relocate the CRLF the shortest distance possible to a location that contains suitable habitat and will not be affected by activities associated with the proposed project. The biologist will maintain detailed records of any individuals that are moved (e.g., size, coloration, distinguishing features, digital images, etc.) to assist in determining whether translocated animals are returning to the original point of capture.

Pre-construction Training. Prior to commencement of grading activities, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and its habitat, the specific measures that are being implemented to conserve the CRLF for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

Biologist Present during Construction. A USFWS-approved biologist will be present at the work site until all CRLF have been removed, workers have been instructed, and disturbance of habitat has been completed. After this time, the County will designate a person to monitor on-site compliance with all minimization measures. The biologist will ensure that this monitor receives the training outlined above and in the identification of CRLF. If the monitor/biologist determine CRLF impacts are greater than anticipated or approved, work shall stop until the issue is resolved. The monitor/biologist shall immediately contact the resident engineer (the engineer overseeing and in command of the construction activities), where the resident engineer will either resolve the situation by eliminating the effect immediately, or require that all actions which are causing these effects be halted. If work is stopped, the County/ USFWS will be notified as soon as is reasonably possible.

Trash Removal. During construction/ground disturbing activities, all trash that may attract CRLF predators will be properly contained, removed from the work site, and disposed of regularly. Prior to occupancy or final inspection, whichever occurs first, all trash and construction debris will be removed from work areas.

Equipment Maintenance. During construction/ ground disturbing activities, all refueling, maintenance, and staging of equipment and vehicles will occur at least 100 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. The monitor will ensure contamination of habitat does not occur during such operations. Prior to commencement of grading/construction activities, the monitor will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Revegetation. Prior to final inspection for disturbed areas within the project boundaries, they shall be revegetated with an assemblage of native vegetation suitable for the area.

Work Scheduling. Prior to commencement of trenching/construction activities, the applicant shall make all efforts to schedule work activities for times of the year when impacts to the CRLF would be minimal. As examples: a) work that would affect large pools that may support breeding would be avoided, to the maximum extent practical, during the breeding season (November through May); b) isolated pools that are important to maintain CRLF through the driest portions of the year (late summer, early fall) would be avoided to the maximum extent practical. When such conditions exist, the applicant will work with the biologist to coordinate the construction schedule to minimize impacts to the CRLF.

Sedimentation and Erosion Control. Prior to issuance of construction permit(s), sedimentation and erosion control plans shall be submitted using Best Management Practices (BMPs) to minimize sediment from entering nearby water bodies or prominent drainage courses, consistent with Mitigation Measure WQ-1. During or after construction/ ground disturbing activities, if these BMPs are ineffective, the applicant will work with the monitor/biologist and resident engineer, in consultation with USFWS, to install effective measures prior to the next rain event.

Water impoundment. Unless approved by the USFWS, water will not be impounded in a manner that may attract CRLF.

Completion Report. Prior to occupancy or final inspection, whichever occurs first, the applicant shall submit to the County and USFWS, a project completion report form, completed by the USFWS-approved biologist. The report form should identify any recommended modifications or protective measures, if additional stipulations to protect CRLF are warranted, or if alternative measures would facilitate compliance with the provisions of this consultation.

Special Status Fish - Two federally listed fish species have been observed in Toro Creek, and gobies have been observed in Willow Creek. Steelhead (federally listed fish species) fry were observed in Toro Creek during an October 2015 site visit to the CSWP site viciity. Steelhead habitat may be affected by sedimentation due to trenching, or spills during construction.

Impact BIO-3: Steelhead and tidewater goby habitat may be affected by sedimentation due to pipeline construction activities within 100 feet Toro Creek (EHSA within the Coastal Zone). This is a significant but mitigable impact (Class II).

Mitigation Measure BIO-3: To mitigate potential adverse effects to water quality and special status species habitat in project area creeks, in addition to measures on the required Erosion Control Plan including appropriate best management practices (BMPs) utilized within the construction areas to prevent excess sediment from entering Toro Creek the following additional measures are required:

• During construction of the pipeline near Toro Creek, no ground disturbing activities will take place within the riparian corridor or within the top of bank channel.

• The edge of riparian vegetation / ESHA will be shown on construction plans and boundaries of the work area will be shown on construction plans. Limits of grading will be clearly delineated in the field prior to initiation of construction activities.

• All hazardous materials required to operate and maintain equipment will be properly used in accordance with manufacturer's specifications.

• The contractor shall follow an approved spill prevention plan, including procedures to ensure that all equipment is properly maintained and free of leaks and all necessary repairs incorporate proper spill containment.

• Hazardous materials will be properly stored and managed in secured areas located outside riparian corridors.

• Fueling of equipment will be conducted in pre-designated areas at least 300 ft from the top of bank drainages, or on existing paved road surfaces. Spill containment materials will be placed around the equipment before refueling. Standing equipment will be outfitted with drip pans and hydrocarbon absorbent pads.

Impact BIO-4: Replacement of the bend in LL2 has the potential to trample vegetation in central foredune habitat and to disturb sandy beach habitat resulting in significant temporary impacts on these habitats. Deviation from approved access routes would also have the potential to disturb special status plant species (red sand verbena and seablite) occurring near access routes. This is a significant but mitigable impact (Class II).

Mitigation Measure BIO-4: To mitigate potential adverse effects on central foredune habitat, sandy beach habitat, and sensitive plant species, the following additional measures are required during replacement of the bend in LL2:

• During staging, access, and construction of the replacement of the bend in LL2, a biological monitor shall be present at all times to ensure that equipment follow designated access routes as directed by the biologist to minimize impacts on these habitats and to ensure that impacts on special status plant species are avoided. The biological monitor shall be present at all times during which equipment could be traveling to or from the excavation site.

• One access route to and from the excavation site with one hammerhead turnaround at the excavation site shall be designated. Construction fencing shall not be utilized to designate the access route, nor should flagging or pins be used. The biological monitor shall be present at each morning's daily tailgate safety meeting to instruct new workers on the designated access route, as well as to discuss daily procedures for handling deliveries to the excavation site if necessary.

• All equipment shall be staged in paved areas at the EMT, old pier landing paved area, or immediately adjacent to the excavation site.

• Sand shall be stockpiled immediately adjacent to the excavation site to minimize the footprint of disturbance associated with the excavation. Neither the excavation, nor stockpiling of material, shall occur in wetted portions of Toro Creek. Stockpiled materials shall be as far outside of the active channel of Toro Creek as possible.

• Following completion of the pipeline segment replacement, sand shall be re-spread to match pre-construction conditions to the maximum extent feasible along the access route(s) and at the excavation site.

Offshore Biological Resources (excerpted from the Chevron Decommissioning PEP and edited for the Outfall Project with additional analysis from Eric Miller, Miller Marine Science and Consulting and the diffuser benthic sediment analysis prepared by Dr. Scott Jenkins, Michael Baker International, see reference list)

Regionally Occurring Sensitive Habitats
Based on information in the PEP, several marine habitats occur in the region that are afforded protection by Federal, State, or local authority, and may support special-status plants and wildlife. For the purpose of this section, sensitive habitats include the following:

- Essential Fish Habitat for Federally managed fisheries.
- Critical Habitat defined by the FESA under Section 3, and protected by the USFWS and/or NMFS;
- Sensitive habitats defined by the CESA and protected by the CDFW and/or local agencies;
- Marine protected areas (MPAs) afforded protection by the CDFW under the Marine Life Protection Act;
- Sensitive habitats protected by the County of San Luis Obispo;
- Rare habitats protected by local professional organizations and/or the scientific community.

Essential Fish Habitat. The CSWP will create no new significant adverse impacts on EFH and associated fish species. As summarized below, taxa and the habitats of particular concern included in the applicable fishery management plans will not be altered or otherwise significantly impacted.

Use of a new outfall location for CSD effluent, has the potential to impact water quality and benthic communities and aquatic species in the new location that has not had historic effluent disposal. However, past monitoring results at the MBCSD WWTP outfall have indicated that effluent discharges have had a less than significant impact on benthic invertebrate communities and aquatic species and the CSWP effluent water quality will be primarily tertiary treated and not secondary treatment as at Morro Bay. In addition the Project would result in no further transmission of raw sewage for several miles to the Morro Bay Wastewater Plant, eliminating the risk of a sewage spill in the ocean. Therefore, long-term discharges from the new outfall location are not anticipated to result in an adverse, long-term impact on water quality and impacts on the benthic community and aquatic species at the proposed new discharge location.

Finally, the NPDES permit that will be received for the tertiary level of treatment will also have strict limits on effluent and receiving water quality that are protective of these species and their habitat. In addition, the NPDES permit will require implementation of a rigorous monitoring program and enforcement program that will ensure compliance with permit limits. Therefore, no significant adverse effects on EFH are anticipated.

Leatherback Turtle Critical Habitat. Critical Habitat for federally Endangered leatherback turtle (*Dermochelys coriacea*) was proposed in 2010, and revised and finalized on January 26, 2012, for the eastern Pacific Ocean population (NMFS, 2012). The Project area is within Area 7 of the designated critical habitat, which encompasses the neritic waters between Point Arena and Point Arguello. Area 7 encompasses 87,894 km^2 (33,936 mi^2). Satellite telemetry data indicate that foraging behavior occurred within the 1,981.2 m (6,500 ft) isobath, west of Monterey Bay and Big Sur, and west of Morro and Avila bays. Foraging typically occurs during the spring and early summer when neritic waters are cool. Leatherback sea turtles that foraged in this area eventually moved further east or north into Area 1 during the late summer (NMFS, 2012). Project activities are scheduled to occur in fall, after the foraging period of the turtle in the Project area. One primary constituent element has been identified for leatherback turtle Critical Habitat is the occurrence of prey species, primarily scyphomedusae of the order Semaeostomeae (e.g., *Chrysaora*, *Aurelia*, *Phacellophora*, and *Cyanea*), of sufficient condition, distribution, diversity, and abundance and density necessary to support individuals, as well as population growth, reproduction, and development of the leatherback turtle.

Marine Protected Areas. Marine Protected Areas (MPAs) are afforded protection with the CDFW under the Marine Life Protection Act. The following designations are managed within the Central Coast MPA network: State Marine Reserve (SMR), State Marine conservation Area (SMCA), and State Marine Recreational Management Area (SMRMA). The nearest MPA to the Project area is the Morro Bay SMRMA occurring within the Morro Bay Estuary, south of Morro Rock, which is approximately 4.0 km (2.5 mi) south of the Project area. Project activities are not proposed to occur within any MPAs.

5.4.3.2 Offshore Habitats

Offshore Habitats

Intertidal Zone. The intertidal zone is a dynamic environment characterized in part by daily tidal fluctuations (leading to high concentrations of sunlight, and periods of aerial exposure) and wave forces. This zone would not be affected by the Proposed Project

Subtidal Zone. As with the intertidal zone, subtidal areas containing hard substrate typically support a wide variety of organisms. In subtidal areas off the southern California coast where hard/rocky substrate is available, giant kelp (*Macrocystis pyrifera*) communities (i.e., kelp forests) are often present. The nearest kelp forest is located to the north of Cayucos outside the proposed offshore diffuser's expected ZID (1.4 acres centered on the diffuser). The CSWP discharge plume will be buoyant due to its lower density than the receiving waters, therefore the plume will not settle on the seabed, but rather rise in the water column until it reaches a trapping layer or thermocline as it mixes with the receiving waters. The proposed offshore diffuser was designed to ensure the diffuser induced velocities of receiving water being entrained into the effluent would remain at least five-times less than the threshold of motion speed of the seabed sediments found at the LL2 discharge site. No seabed scour or sediment resuspension will occur as a result of the CSWP diffuser operation.

In regards to soft substrate habitats within the subtidal zone, the diversity and abundance of species is generally less than those areas with hard substrate. However, the sandy subtidal environments support communities of organisms that are adapted to, and in some cases unique to, this environment, and as such are important to marine ecosystems. Organisms typically found in sandy subtidal environments include, but are not limited to: tube worms (*Diopatra ornate*), sand dollars (*Dendraster excentricus*), and various species of crabs, sea stars, snails, bottom dwelling fishes, etc.

Seagrasses. Two important seagrass species found on the West Coast of the United States are eelgrass (*Zostera* spp.) and surf grass (*Phyllospadix* sp.). These grasses are vascular plants, not algae, forming dense beds of leafy shoots year-round

in the lower intertidal and subtidal areas. Eelgrass is found on soft-bottom substrates in intertidal and shallow subtidal areas of estuaries and in some nearshore areas, such as the Channel Islands and Santa Barbara Channel. Eelgrass provides shelter for invertebrates and juvenile fish, contributes to the detrital food chain, and is considered a critical habitat for some vertebrate and invertebrate species.

Surf grass occurs on hard-bottom substrates along higher energy coastlines. Studies have shown seagrass beds to be among the areas of highest primary productivity in the world.

Although no quantitative seagrass mapping of the area has been completed to date, the water depths and seafloor bottom within the Project site are near and beyond the maximum reported surf grass depth range. Surveys of the area were conducted in September 2012. The surveys did not identify any seagrass habitat in the offshore pipeline area likely to be impacted by the installation and operation of a diffuser.

Offshore Wildlife

Birds. Bird species commonly associated with nearshore open waters of the central California coast have the potential to occur in the open waters of the Project site. These birds include, but are not limited to grebes, loons, gulls, scoters, eiders, and murres. Nesting will not be impacted by the project. Foraging will be minimally displaced during construction offshore as the area where the barge and other support craft are positioned will inhibit foraging at their exact locations. The surrounding foraging habitat will remain undisturbed and available to local bird populations. Operation of the diffuser will not result in a surface disturbance or other hydrodynamic feature that could disperse forage fish susceptible to most diving birds. Discharge plume rise is estimated to peak at approximately two meters (six feet) below the sea surface where a thermocline or trapping layer typically forms to suppress the buoyant plume as it mixes.

Marine Invertebrates. The nearshore subtidal habitat in Estero Bay is predominantly sedimentary, and interspersed with isolated rocky features, such as Morro Rock. The epifauna of the shallower sedimentary habitats, including the Project site, typically includes several species of macro-invertebrates including sand stars (*Astropecten armatus*), sand dollars (*Dendraster excentricus*), and slender crabs (*Metacarcinus* [formerly *Cancer*] *gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota comprised of macrophytic algae, urchins, sea stars, and cnidarians (anemones and solitary corals).

Wave exposure, sediment grain size, and depth are the main physical factors that influence the composition of subtidal benthic communities. Other subtidal benthic studies that have been conducted on the central California coast (Tenera, 2000; ABC, 1995; KLI, 1996; Clogston, 1970; Pimentel, 1959) have identified over 100 species of invertebrates, many of which would likely occur at the Project site if surveyed over an extended period of time or examined at a microscopic level. For example, sand dollars are exceedingly abundant off many beaches along the outer coast and would be expected to occur within the study area. Most species of benthic invertebrates are patchily distributed, many are highly mobile, and as a group are well adapted to recolonizing habitat disturbed by wave action and/or predators. Minor disturbance to the benthic communities will occur during the construction of the diffuser, but the community will likely recolonize the area after construction has completed around the diffuser supports. The diffuser operation will not impact epibenthic and benthic marine invertebrates due to the buoyant plume and minimal seabed contact at the discharge ports

Because of the absence of hard substrate in close proximity to the marine terminal pipelines, abalone is not anticipated to occur within the Project site (Tenera, 2002). Further, no abalone were identified during the 2005 marine biological dive survey of the offshore component of the Project site conducted by Padre marine biologist, L.A. de Wit. As such, this species would not be impacted by construction activities.

Pacific sand dollars are disc-shaped echinoderms that typically occur in dense populations, only partially buried, and feed on suspended material swept by ocean currents. They move towards shore during calm conditions, and move into deeper water during rough conditions. As with many marine invertebrates, Pacific sand dollars are broadcast spawners, meaning that gametes are dispersed into the water column where fertilization and larval development take place. Upon completion of larval development, recruits settle in areas containing adequate sandy substrate. Occasional winter storms may be severe enough to disrupt the sand dollar bed structure, resulting in the removal or mortality of individual sand dollars. The elimination of existing sand dollars; however, results in open space that may be colonized by other sand dollars, tube-worms, or other benthic organisms that may take up residence within the sand. Similar to the impacts to benthic communities, the sand dollar community will temporarily disturbed during construction with a minor loss of habitat where the diffuser supports are placed, but the surrounding sediments will be available for recolonization once construction is complete. Pacific sand dollars will not be impacted by the discharge of a buoyant plume from the diffuser.

Fish. Fish assemblages off of central California are comprised of both year-round residents and migratory species.

Although some species may be year-round residents, such as northern anchovy (*Engraulis mordax*), their abundances may fluctuate considerably as new cohorts of juveniles migrate inshore or develop from larvae during spring and summer months. Substrate composition, wave exposure, depth, and presence of kelp or seagrass often determine fish species composition in a particular area. In Estero Bay, and at the Project site in particular, many of the species are demersal types, such as sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*), or Pacific staghorn sculpin (*Leptocottus armatus*) that are associated with soft substrates. Other species such as white croaker (*Genyonemus lineatus*) or barred surfperch (*Amphisticus argenteus*) inhabit the water column but feed on invertebrates living in the substrate. Still others are restricted mainly to the water column such as northern anchovy, Pacific sardine (*Sardinops sagax*), topsmelt (Atherinidae), or white seabass (*Atractoscion nobilis*) where they feed on midwater plankton or other midwater fishes (Tenera, 2002). Midwater pelagic fishes will not be impacted by the benthic construction and are unlikely to be impacted by the diffuser operation. Area species will distribute away from the plume as it mixes, but outside of the ZID, the fish community will be unaffected.

The outfall diffuser site is comprised mostly of soft substrate and open water habitats, and therefore supports fish assemblages adapted to these habitats. Recreational fishery statistics have shown that in San Luis Obispo County, the Pacific staghorn sculpin, white croaker, and various species of surfperches were the most commonly caught species. Other species commonly caught by pier fishers include jacksmelt (*Atherinopsis californiensis*) and, during warm water years, Pacific mackerel (*Scomber japonicus*). California halibut is a prized species targeted by recreational anglers in Estero Bay, particularly during summer months, when larger individuals tend to move inshore including within the nearshore areas of Morro Bay harbor. As a mobile species adapted to the common soft substrate in the area, the presence of the construction divers in the area preparing the site would induce California halibut, if present in the diffuser footprint, to move out of the construction area and into surrounding, unimpacted areas. Recreational fishing opportunities in the area will be unaffected by the diffuser operation as soft-substrate fishes will reside below the buoyant plume and pier fishing will occur outside the ZID.

California Grunion (*Leuresthes tenuis*) is a member of the silverside family (Atherinidae) that utilizes sandy beaches from Monterey Bay to Central Baja California for spawning. The Proposed Project does not include any activities between the surfzone and the spring high tide level at this time and, therefore, would not affect California grunion spawning habitat.

Found in brackish shallow lagoons and lower stream reaches, the tidewater goby (*Eucyclogobius newberryi*) is a Federally Endangered fish species which has been identified within Toro Creek (Trihey & Associates, 1995). They have a wide distribution within California from San Diego to Arcata, but they are not considered common except in Morro Bay. Because it is restricted to coastal creek systems and the nearshore waters during larval dispersal it is unlikely that offshore construction and diffuser operations would impact this species.

The south-central California coast steelhead (*Oncorhynchus mykiss*), a federally threatened species, occurs in nearby Toro Creek and as such, utilizes Estero Bay as a migratory corridor. The steelhead in San Luis Obispo County is considered part of the south- central California coast DPS (Distinct Population Segment) extending from the Pajaro River, Santa Cruz County to (but not including) the Santa Maria River (Busby et al., 1996). Total abundance of steelhead in this DPS is extremely low and declining. Risk factors include habitat deterioration due to sedimentation and flooding related to land management practices and potential genetic interactions with hatchery rainbow trout. Offshore construction and diffuser operation will occur near the limit of the typical steelhead commonly occurring depth range, which Love (2011) estimates at 20 m. Streams and other upland natal steelhead habitat will not be disturbed by the offshore construction or operation of the diffuser. Due to the localized area of disturbance associated with the diffuser, the installation of the outfall diffuser would not significantly impact steelhead habitat.

Marine Mammals and Turtles. All marine mammals are protected under the 1972 Federal Marine Mammal Protection Act (MMPA), and all sea turtles in U.S. waters are listed under the ESA. Within the offshore component of the Project site, baleen whales, dolphins, sea lions, harbor seals, and sea otters could be expected and some sites in the general Project vicinity have been identified as haul-out areas for harbor seals. Harassment, defined as an act of pursuit, torment, or annoyance that has the potential to injure (Level A) or disturb (Level B) a marine mammal or marine mammal stock in the wild, is prohibited by the MMPA. Table 4-1 lists the species that could be encountered by support vessels operating in Estero Bay. Several species are likely to never occur in the area, but the highly migratory nature of cetaceans means their occurrences, however unlikely, cannot be completely ruled out. While much of this information reflects the seasonal nature of some marine mammals and sea turtles, it is important to note, where seasonal differences occur, individuals may also be found within the area during the “off” season. Also, depending on the species, the numbers of abundant animals present in their “off” season may be greater than the numbers of less common animals in their “on” season.

Acoustic effects on marine mammals can be categorized as impulsive (such as explosives, dynamic pipe ramming, impact

pile driving, and air guns) or non-impulsive (i.e., steady state) noise. Exposure to sound with sufficient duration and sound pressure level (SPL) may result in an elevated hearing threshold (i.e., a loss of hearing sensitivity), called a "noise-induced threshold shift" (NMFS 2018). If the hearing threshold eventually returns to normal, the threshold shift s called a temporary threshold shift (TTS) (NMFS 2018); otherwise, if thresholds remain elevated after some extended period of time, the remaining threshold shift is called a permanent threshold shift (PTS). Marine mammal noise-associated harassment includes a TTS (Level B); a PTS would be considered injury (Level A).

Table 4-1 below provides noise thresholds that would result in the onset of a PTS as well as a TTS within marine mammal groups of varying sensitivity (NMFS 2018).

Table 4-1: Marine Mammals with Potential to Occur in Offshore Project Area and Noise Thresholds

Hearing Group	Species in Project Area	Generalized Hearing Range	PTS Onset		TTS Onset
			Impulsive	Non-Impulsive	Non-Impulsive
Low-Frequency (LF) Cetaceans	Humpback Whale Gray Whale Blue Whale Fin Whale Minke Whale Sei Whale	7 Hertz (Hz) to 35 kHz	219 dB	199 dB	179 dB
Mid-Frequency (MF) Cetaceans	Coastal Bottlenose Dolphin Long-beaked Common Dolphin Baird's Beaked Whale Cuvier's Beaked Whale Killer Whale Risso's Dolphin Pacific White-Sided Dolphin Dwarf Sperm Whale Pygmy Sperm Whale Short-Beaked Common Dolphin	150 Hz to 160 kHz	230 dB	198 dB	178 dB
High-Frequency (HF) Cetaceans	Harbor Porpoise Dall's Porpoise	275 Hz to 160 kHz	202 dB	173 dB	153 dB
Phocid Pinnipeds (PW) (underwater)	Pacific Harbor Seal	50 Hz to 86 kHz	218 dB	201 dB	181 dB
Otariid Pinnipeds (OW) (underwater)	California Sea Lion	60 Hz to 39 kHz	232 dB	219 dB	199 dB

The minimum value across thresholds was 153 dB for the high-frequency cetacean hearing group. At this level, a temporary threshold shift in the hearing of high frequency cetaceans (e.g., harbor porpoise) would potentially occur. In addition to the underwater acoustic thresholds, airborne thresholds were established by NMFS for some pinnipeds that commonly haul out of the water. These include Pacific harbor seals (90 dB_{rms}) and California sea lions (100 dB_{rms}). Ancillary thresholds were incorporated for southern sea otter at 149 dB_{peak} for the in-air threshold (see USFWS 2017cited in CSLC 2018). The otariid seal (e.g., Pacific harbor seal) underwater acoustic threshold was used for southern sea otter
Marine mammal noise-associated harassment is defined by NOAA as any noise above 160 dB re 1 µPa RMS. The Project site supports a variety of marine mammal activity, but none of the construction or operation activities will produce noise at levels near the 160 dB range. This is especially true due to the proposed methods to support the diffuser with cradles on the seabed rather than driven piles, whose installation can result in significant noise. No known acoustic impact of diffuser operations have been noted during their long history of use and therefore no impacts are expected from the operation of the CSWP diffuser.

Dolphins, seals, sea otters, and sea lions may use the offshore outfall area for foraging. Installation of the diffuser is not

expected to significantly disrupt the habitat of any marine wildlife, though Project operations would result in temporary preemption of the immediate diffuser site. However, these potential impacts would be temporary, and any marine wildlife that is affected would be adequately served by the abundant habitat provided by nearby areas.

Gray whales could venture near or into the Project site during northbound or southbound migrations. Other whale species may periodically inhabit the area. Therefore, ship strike and migration route disruption is possible by support vessel traffic. These potential construction impacts will be mitigated through operational measures described in the Preliminary Marine Wildlife Contingency Plan (PEP Appendix E, attached). Whale migration and movements are fluid and would adapt, if encountered at all, to the presence of the diffuser's buoyant plume. No significant impact is expected.

Sea otters, if present, are unlikely to be impacted by vessel traffic as they predominantly stay near the kelp canopy. Their dark coloration and low profile make sea otters difficult to sight from a vessel. Maintaining a safe travel distance from kelp canopies, the primary sea otter habitat, is the easiest avoidance strategy. To avoid sea otters either in the kelp canopy or migrating between kelp canopies, support vessels will remain at least two kilometers offshore of all kelp beds when possible to avoid encroaching on potential sea otters in the area.

Although rarely encountered, marine turtles occur within waters off the central California coast, and as such, could potentially occur within the offshore component of the Project area. Populations of marine turtles have been greatly reduced due to over harvesting and loss of nesting sites in coastal areas. Sea turtles breed at sea and the females return to their natal beaches to lay their eggs. The eggs, after being laid in the sand, hatch in about two months; and the young instinctively head for the sea. No known sea turtle nesting beaches occur in the area. These potential construction impacts will be mitigated through operational measures described in the Preliminary Marine Wildlife Contingency Plan (Appendix E). Whale migration and movements are fluid and would adapt, if encountered at all, to the presence of the diffuser's buoyant plume. No significant impact is expected. The four listed sea turtles that may occur within the Project site include: Endangered: Leatherback turtle; Threatened: Green turtle, Olive Ridley turtle, and Loggerhead turtle. Although several occurrences of green sea turtles have been documented off Diablo Canyon, 24.1 km (15 mi) south of the Project site (Tenera, 2001), the likelihood of their occurrence in the Project site is considered low.

Subtidal Community Impacts.
Proposed offshore project activities include installation of diffuser apparatus at the end of LL2. Organisms residing on the seafloor (benthic) along the pipeline corridor and adjacent to the excavation areas could be suspended in water possibly exposing them to fish and macroinvertebrate predators during the excavation process. Therefore, it is assumed that there will be some mortality of benthic organisms residing within the seafloor sediments in areas within or adjacent to underwater excavations.

It is also expected that temporary disturbance of any Pacific sand dollar beds as a result of Project operations (e.g., anchoring, jetting, etc.) would likely result in mortality of all or some of the individual sand dollars within a given bed. However, due to the relative abundance of Pacific sand dollar beds in the area, rapid re-colonization of empty space by individual Pacific sand dollar recruits would be expected.

Mobile organisms (e.g., fish, large crustaceans, etc.) are expected to depart the area during the disturbance and are not expected to be significantly impacted by Project activities. This also includes south-central California coast steelhead, a federally-threatened species. Less mobile organisms may be impacted by adjacent sediment deposition that would occur during excavation activities. The extent of mortality in this situation would be dependent upon the volume of material removed, conditions (e.g., current, direction, tide), and number of organisms in the deposition area. Due to the short-term affects to the seafloor that will occur as a result of proposed activities (i.e., increased turbidity, smothering of benthic organisms, and temporary displacement) and the limited area of disturbance in relation to the surrounding area, the implementation of planned operations within the offshore portions of the Project site would not result in any significant, long-term impacts to marine organisms.

In addition, based on the results of the marine biological survey of the anchor locations and existing pipeline corridor (refer to PEP Appendix J – Pre-Removal Seafloor Habitat and Biological Survey), impacts to the seafloor would be minimized by the avoidance of sensitive habitats (e.g., moderate to high-relief rock) during barge anchoring. Specifically, these anchor locations would be relocated as indicated within Table J.3- 1 of Appendix J. Furthermore, a dive survey of the sensitive anchor locations would be completed within one month of project initiation to confirm conditions remained stable during the intervening years. As such, short-term impacts to hard bottom habitat areas related to anchoring the offshore barge would be minimized, and long-term impacts would be considered less than significant.

The above mentioned impacts to subtidal organisms would be short-term, and would not apply to any species of special

concern. In addition, sediment contours within the impacted areas would be expected to be gradually recontoured by natural processes including wave action and water movement, and subsequent re-colonization by benthic organisms would be expected to occur rapidly. Considering all the above, construction impacts of the Project to the subtidal community would range from less than significant to less than significant with mitigation.

No significant impacts to subtidal communities are anticipated from the operation of the offshore diffuser. The buoyant plume will rise above benthic communities while midwater and pelagic communities will move in relation to the plume and remain outside the ZID. The unstructured habitat of the midwater provides abundant surrounding habitat for any and all forms of marine life surrounding the ZID.

Finally, the use of a barge and tugboats to construct the proposed Project have the potential to harbor non-native species. The size of these vessels would not be regulated under the Marine Invasive Species Act. However, construction and operation of the Project is not expected to significantly increase vessel traffic in the area or increase the risk of introduction of non-native species to the area. In addition, the vessels proposed for use would originate from either the Morro Bay Harbor, San Francisco Bay area harbors, or Port of Long Beach/Los Angeles area and would have been continuously based in either of these harbors since their last dry docking. Finally, voluntary implementation of measures recommended in the Marine Invasive Species Program will be implemented. Therefore, the Project would have a less than significant impact on the marine environment due to risk of invasion from non-native species.

Considering the above, construction impacts of the Project on marine wildlife are expected to be less than significant with mitigation.

Long-term operational impacts on benthic communities and aquatic species associated with discharge of effluent at this new outfall location are discussed further below in Section 9, under Hydrology and Water Quality.

Offshore Biological Impacts after Mitigation Measure Implementation

> **Impact BIO-5**: Marine mammals and sea turtles are likely to enter the work area, including transit to and from the project site and the home port, where possible contact with protected species can occur. This includes ship strikes, accidental physical interaction with a protected species during construction, and unforeseen low level acoustic impacts.
>
> **Mitigation Measure BIO-5:** A marine biological monitor will be placed on site during the offshore construction to evaluate ongoing potential impacts to protected species. A 100-m protection zone will be designated around the project site to allow for siting of the protected species and time for an adequate response. Marine monitoring will be implemented as described in a Final Marine Wildlife Contingency Plan modeled on the Preliminary Marine Wildlife Contingency Plan (PEP Appendix E).

California Coastal Act, CZLUO and Coastal Plan Policy Consistency

Onshore tie-in to LL2
The pipeline segment extension to the EMT site tie-in appears consistent with findings required by the County's CZLUO:

• There will be no significant negative impact on the identified sensitive habitat and the proposed use will be consistent with the biological continuance of the habitat.

• The proposed use will not significantly disrupt the habitat.

The type of project activity meets the types of allowable development in ESHA:

• Incidental public services and utilities in wetlands. Essential incidental public services and utilities pursuant to ESHA Policy 13 and CZLUO Section 23.07.172(e).

Further, the activity to place the pipe would not result in grading within ESHA, takings, stream diversions, diversion of surface or subsurface water, placement of barriers to fish, destruction of fish rearing habitat, or disturbance of native riparian vegetation on the banks of the stream.

The proposed actions to tie in to LL2 outside 100 feet of ESHA will not significantly disrupt the resources present and is consistent with Coastal Plan Policy 1.

Coastal Plan Policy 3 is implemented with the re-vegetation in mitigation measure BIO-3 below. Mitigation Measures BIO-3 and BIO-4 and WQ-1 ensure the creek hydrological and ecological functions are preserved and protected pursuant to Policies 20 and 21.

Terrestrial environments within 100 feet of ESHA are minimally impacted, preserved or restored consistent with Policies 29,30 and 31.

Replacement of the Bend in LL2 and Installation of the Pipeline Diffuser
Replacement of the bend in LL2 would result in temporary disturbance to Environmentally Sensitive Habitat areas comprising sandy beach and the channel of Toro Creek. However, construction would occur over one to two weeks and sand would be re-spread over all access routes and the excavation site. Construction would occur during the Fall, when the active channel of Toro Creek is at a minimal level and not expected to be breached to the ocean. Construction cannot and would not occur in wetted portions of the creek. In addition, installation of the diffuser would also occur over a short period and disturbance of biological resources would be temporary, cover a very small area, and would therefore, be minimal.

Therefore, replacement of the bend in LL2 and installation of the diffuser would not result in a significant disruption or degradation of habitat values of these areas. Impacts to these areas are required due to the pipeline's location, however, impacts are being minimized. In addition, construction will not significantly disrupt recreational use in the area. Therefore, the project would be consistent with the California Coastal Act, including Section 30240 protecting biological resources and Environmentally Sensitive Areas.

Effects on water quality discussed in section 9 of this document, and the above mitigation measures BIO-1 through BIO-4 discussed above to protect water quality, would also ensure that the long term effects of the project would not result in a significant disruption or degradation of habitat values at the outfall location.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	**1,2, 12**		**X**		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	**1,2,12**		**X**		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**1,2,12**			**X**	
d) Disturb any human remains, including those interred outside of formal cemeteries?	**1,2,12**			**X**	

5a.-d.
Public Resources Code
PRC section 6313 vests title to all abandoned shipwrecks, archaeological sites and historical or cultural resources on or in the tide and submerged lands of California to the State under the jurisdiction of the State Lands Commission.
Coastal Zone Land Use Ordinance

The County of San Luis Obispo Coastal Zone Land Use Ordinance (CZLUO) includes requirements for the protection of known cultural resources and for the implementation of mitigation measures to minimize potential impacts to known and

unknown resources. In addition to General Plan and ordinance requirements, Coastal Plan Policies include policies for the protection of cultural resources consistent with the requirements of the California Coastal Act (PRC Section 30000, et seq.)The Coastal Zone Land Use Ordinance sections 23.04.200 and 23.04.07 establish standards for review and design for development applications related to archaeologically sensitive areas as follows:

23.04.200 - Protection of Archaeological Resources Not Within the Archaeologically Sensitive Areas Combining Designation:

All development applications that propose development that is not located within the Archaeologically Sensitive Areas combining designation and that meets the following location criteria shall be subject to the standards for the Archaeologically Sensitive Areas Combining Designation in Chapter 23.07: development that is either within 100 feet of the bank of a coastal stream (as defined in the Coastal Zone Land Use Ordinance), or development that is within 300 feet of such stream where the slope of the site is less than 10 percent.

23.07.104 - Archaeologically Sensitive Areas:
To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.
a. Archaeologically sensitive areas. The following areas are defined as archaeologically sensitive:
(1) Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department.
(2) Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
(3) Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.
b. Preliminary site survey required. Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).

c. When a mitigation plan is required. If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator, and considered in the evaluation of the development request by the Review Authority.

d. Archeological resources discovery. In the event archeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first. [Amended 1995, Ord. 2715; Amended 2004, Ord. 3048]

Assembly Bill 52 Consultation & Tribal Resources
The CSD consultants contacted the California Native American Heritage Commission (NAHC) by letter on April 11, 2016 requesting a review of the Sacred Lands File (SLF) for the CSWP EIR. The NAHC responded on April 20, 2016, indicating that the search of the SLF did not indicate the presence of Native American cultural resources in the project area or anywhere in the vicinity. The NAHC provided a list of Native American contacts that may have additional information about the project area identified as the NAHC Tribal Consultation List, County of San Luis Obispo, dated April 20, 2016.

The Lead Agency's consultant mailed letter a notifying the Tribes on the NAHC Tribal Consultation List of the proposed outfall project and requesting information concerning cultural resources in the project area on September 1, 2017. This letter was identified as notification of the project pursuant to AB 52.

Two email responses from tribal representatives were received. The Salinan Tribe of San Luis Obispo and Monterey Counties responded on September 22, 2017 indicating that the Tribe considers the site vicinity as sacred land (a tribal resource) based on known burials in the vicinity and requested to be continued to informed about this project. The Northern Chumash Tribal Council responded on September 27, 2017 and indicted no issues with the Proposed Project. The AB 52 comment period ended December 1, 2017.

Environmental Setting

Archaeological evidence suggests that San Luis Obispo County has been inhabited for over 9,000 years. Archaeologists have established a detailed cultural chronology based upon excavations and site surveys across the County (Greenwood, 1972; Gibson, 1979; Jones and Waugh, 1995; Joslin, 2000). Over 1,500 archaeological sites have been recorded in San Luis Obispo County, although many of these heritage resources have been impacted by development.

The Project site lies near the boundary between the Chumash and Salinan language families. The Obispeno Chumash, the northernmost of the Chumash speakers (Gibson 1991; Greenwood 1978; Kroeber 1976), occupied land from the Pacific coast east to the crest of the Coast Range and from the Santa Maria River north to approximately Point Estero. The Salinan people held the territory as far north as Lopez Point and King City (Applied Earthworks, 2004).

A Historical Resources Analysis was prepared for the EMT by Applied Earthworks in December 2004. Previous cultural resources studies in the Project site indicate that the 25-acre Shore Plant overlaps the southwest portion of a large prehistoric village complex that extends along the banks of Toro Creek near its intersection with Highway 1. David White (1993b) described this site as follows:

> *This is a major Chumash village site, perhaps the northernmost of all coastal Chumash villages. This site has been extensively disturbed by construction of Highway 1 and other linear facilities, as well as by the construction of the EMT beginning in 1929. Nonetheless, significant portions of the site remain intact. Human burials have been exhumed on both the north and the south sides of Toro Creek.*

No historic period resources were recorded during earlier investigations, nor have any previous systematic historical studies been conducted within the Shore Plant. However, the literature refers to older structures as potential resources.

Human remains have been found throughout the Project vicinity at various times during more than 40 years of archaeological investigation at the terminal. In his documentation of the Project site in 1964, Ernest Dalidio notes the presence of six male burials. In 1979, Charles Dills noted that a "reliable informant reports burials encountered on both sides of [Toro] Creek during pipeline installation." David White (1993b) stated that a bone fragment was found a week prior to his survey in the area south of the Shore Plant tanks and within the boundaries of the village site. The bone, which was left in place after discovery, is referred to as a "human skull" in Whites site record. During monitoring for a berm/borrow construction Project in 1993, a human bone fragment was found near Tank 901, outside the boundaries of the village site. The fragment was re-interred in a hill east of the Project site.

Impact Discussion

As detailed in the PEP, Applied Earthworks concurs with the prior findings of White (1993b) and others that the prehistoric archaeological village site at the EMT and its associated features and deposits are eligible for listing in the California Register according to the criteria defined in PRC 5024.1. This is due to the fact that the site contains important archeological data regarding local and regional prehistory, cultural chronology, prehistoric economics, native technological and social development, and related questions. The site is also culturally significant to local Chumash and Salinan people because it is recognized as a major village location containing a known cemetery. Thus, the EMT site qualifies as a historical resource according to Section 15064.5 of the CEQA Guidelines.

The pipeline segment into the EMT site will pass through the recorded boundaries of archaeological site CA-SLO-879/H. The tie-in would occur in an area of known archaeological deposits along Highway 1 on Chevron and Caltrans land, however, this deposit has been studied in detail, including data recovery, and determined to be highly disturbed and therefore lacking the characteristics of a significant archaeological resource[7].

According to the Toro Creek Bridge Replacement Initial Study June 2018, Caltrans "In April 2017 archaeological testing (Phase II) was conducted on the portion of the prehistoric component of SLO-879/H that lies within the project's Area of Direct Impact (ADI) and found that it did not contributed to the site's significance. The portion of the site that lies outside of the ADI was not evaluated, but was considered eligible for the purposes of the project and avoided through the

identification of an Environmentally Sensitive Area (ESA). The project area sits mostly within the boundaries of an archaeological site, CA-SLO- 879/H. However, there would be no substantial adverse change to CA-SLO-879/H as the portion of the archaeological site located within the project ADI does not contribute to the qualities for which the site is considered eligible for the National Register/California Register. The portion of the site that lies outside of the ADI contributes to the qualities for which the site is considered eligible and will be protected by avoidance measures through the establishment of an Environmentally Sensitive Area."

Because the proposed pipeline trenching lies within the ADI addressed in the Caltrans CEQA document, the findings of that document are applicable to this project, and are incorporated herein by reference. The onsite connection point on the EMT property is immediately adjacent to the limit line of the Caltrans document ADI, and it can reasonably be inferred that due to the developed and disturbed nature of the tie-in site, that whatever resources might be present there also do not contribute to the qualities for which the site is considered eligible for the National Register/California Register. The work to replace the 30 degree pipe bend is immediately adjacent to the Caltrans ADI on the dune side of the Highway. The original pipeline installation and subsequent work documented in the PEP for maintenance of the pipeline in the dune and beach area likely disturbed any cultural resources that may have been present would not contribute to the qualities for which the site is considered eligible for the National Register/California Register.

The work proposed on the open sand area of the beach for the pipe bend replacement will consist of excavating the sand cover over the existing pipe. The beach sand in this area near the creek mouth is subject to significant tidal and storm influences that deposit and remove sand regularly. Cultural materials could be present in the sand due to transport from up the watershed and the fact that the shoreline was westward of the existing land in pre-historic times. Because of the likelihood that any such materials would be highly disturbed any cultural resources that may have been present would not contribute to the qualities for which the site is considered eligible for the National Register/California Register.

Impact CUL-1: The potential exists for inadvertent discovery of cultural and tribal cultural resources during pipeline construction. This impact is potentially significant (Class II).

Mitigation Measure CUL-1: To minimize potential impacts due to inadvertent discovery of cultural and tribal resources in site and pipeline areas with no evidence of resources, and consistent with Land Use Ordinance sections 22.05.140 and 23.10.040, the applicant shall prepare and implement a pre-construction Worker Education Program to train workers to recognize cultural resources and understand the procedures for stopping work and reporting the discovery.

A professional archaeologist and Chumash and Salinan Tribal representatives shall monitor all earth disturbances within CA-SLO-879's boundaries.

In the event that intact cultural deposits are exposed during earth disturbing activities, the archaeological monitor shall have the authority to temporarily halt all work within a 50-meter radius of the find. The find shall be evaluated and mitigated as warranted. After the find has been appropriately mitigated, work in the area may resume.

If human remains are found, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendant of the deceased Native American, who will then serve as consultant on how to proceed with the remains (i.e. avoidance, reburial).

The final disposition of archaeological, historical, and paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
6. GEOLOGY AND SOILS. Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				**X**	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	**1,2,3**				**X**
ii) Strong seismic ground shaking?	**1,2,3**			**X**	
iii) Seismic-related ground failure, including liquefaction?	**1,2,3**			**X**	
iv) Landslides?	**1,2,3**				**X**
b) Result in substantial soil erosion or the loss of topsoil?	**1,2,3**			**X**	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	**1,2,3**			**X**	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**1,2,3**			**X**	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	**1,2,3**				**X**

Setting and Impact Discussion

Onshore.

Surface Fault Rupture. The geologic and soils setting for the area on shore where the pipeline connection to LL2 will occur is detailed in the CSWP EIR. Briefly, geologic materials within the vicinity of the proposed Project site consist of alluvial sediments from Toro Creek and beach sand deposits. Extensive subsurface investigations were completed during the EMT site assessment activities. Geologic materials identified in the vicinity of the Project site included beach sand, artificial fill,

and alluvial deposits. The existing force main south of CSD Lift Station 5 is underlain by Pleistocene marine terrace deposits, a short section of Cretaceous sandstone, and alluvium. Permanent ground displacements caused by surface fault rupture can pose a major hazard to the safety and operation of pipelines. When ground displacements associated with fault rupture occur along a fault that intersects a pipeline, they may break or severely damage the pipeline or associated. CSWP project pipelines cross the mapped trace of the Cambria fault at two locations: 1) Toro Creek Road roughly midway between Toro Creek and the Proposed Project Site, and 2) the intersection of SR1 and Willow Creek Road. The pipe segment from the existing pipeline in the SR 1 Right of way to the EMT tie-in is not near this fault, therefore no impact related to surface fault rupture are identified.

Bluff Retreat

The Load Line 2 pipe has been documented to be occasionally exposed on the beach due to tidal action although the nominal depth is documented at about 6 feet and 2 to 3 feet in the surf zone as documented in the *Report on Onshore and Offshore Pipeline Location and Depth of Burial Survey, Geotechnical Investigation, and Pipeline Materials Sampling and Testing Program*, Padre Associates and Longitude 123, June 2014. The line between the highway and the beach traverses the dune and bluff. Based on testing and investigations performed as part of that study, depth of burial appears to be 6 feet.

The EIR for the Morro Bay to Cayucos EIR (2010) performed a bluff retreat study for the stretch of bluff that includes the LL2 area. The bluff is described as "a gently sloping westerly sloping wave cut terrace that is capped predominantly by marine terrace deposits". The bluff retreat was not analyzed in the stretch of bluff from Toro Creek Road to the old pier landing (bulkhead) due to historic grading, topographic modification, bulkheads and rip rap placement that modify natural bluff retreat processes. Other segments of the bluff area between Morro Bay and Studio Drive in Cayucos could experience up to 111 feet of retreat in 75 years based on the bluff study. The Morro Bay to Cayucos Connector EIR cites Caltrans as having no current plans for increasing shoreline protection or moving the highway. However, since the LL2 pipeline is buried through the bluff area and normally covered on the beach, no impact related to bluff retreat is identified.

Tsunmai The CSWP EIR identified certain pipeline sections will not be able to avoid portions of the tsunami inundation zone. Pipeline segments along SR1 and on the EMT tie-in site are located within the maximum tsunami inundation zone (i.e., less than 50 feet above mean sea level). Mitigation measures can be implemented to reduce the impact. However, the pipeline will be vulnerable to damage from wave erosion if a significant tsunami occurs at that location**.** The potential impact of tsunami inundation on the effluent pipeline components near the coast is a significant and unavoidable impact. The Final EIR for the CSWP adopted a statement of overriding considerations pursuant to the *CEQA Guidelines* section 15093 for CSWP pipelines in the tsunami zone.

> **Mitigation Measure GEO-1.** Mitigation strategies for infrastructure located within tsunami inundation zones shall be implemented and include, as determined applicable, measures such as flexible connections, double lined pipes, strengthened pipes, automatic shutoff valves and similar measures to prevent the release of treated water to the environment.

Responsible Agency Considerations: Climate Change and Sea-Level Rise

As noted in the General Environmental Setting section above, the central California coast could see up to 1 foot sea-level rise by the year 2030, 2 feet by 2050, and possibly 5 feet by 2100. Sea-level rise is driven by the melting of polar ice caps and land ice, as well as thermal expansion of sea water. Accelerating rates of sea-level rise are attributed to increasing global temperatures due to climate change. Estimates of projected sea-level rise vary regionally and are a function of different greenhouse gas emissions scenarios, rates of ice melt, and local vertical land movement. Along with higher sea levels, higher intensity and more frequent winter storms due to climate change will further impact coastal areas. The combination of these conditions will likely result in increased wave run up, storm surge, and flooding in coastal and near coastal areas. In creeks and tidally-influenced waterways, more frequent and powerful storms can result in increased flooding conditions and damage from storm created debris. Climate change and sea-level rise will also affect coastal stream areas by changing erosion and sedimentation rates. Beaches, coastal landscapes, and the Toro Creek mouth could be exposed to increased wave force, run up, and total water levels could potentially erode more quickly than before. However, as detailed in the Dynergy Initial Study for the Morro Bay Power Plant Marine Terminal Decommissioning project "creeks are also predicted to experience flashier sedimentation pulse events from strong winter storms, punctuated by periods of drought. Therefore, depending on precipitation patterns, sediment deposition and accretion may accelerate along some shorelines and coasts."

Because the pipeline is a buried facility, rising sea level would not directly impact the line. The pipeline traversing the beach is periodically exposed as sand is removed and deposited seasonally, with no adverse affect. The only component of the Project affected by inundation would be the air relief vault to be installed east of Highway 1 at the tie-in point. The lid can

be raised to accommodate future inundation. Measures identified in MM GEO-1 above to resist tsumani would serve to mitigate storm surge and wave action caused by sea-level rise.

The state highway and the existing gas lines running along the highway are likely more vulnerable to impacts from sea-level than the outfall pipe and any remedial and protective actions related to these facilities would be initiated by Caltrans (and the pipeline owners) as Lead Agency under CEQA, not the CSD.

Offshore.
The eastern shore of Estero Bay has a long arc-shaped beach made of sands derived from several coastal streams that drain into the bay, and from littoral drift of sediments from areas farther north along the coast. Sandy beaches are deeper and more stable further south along the bay at Morro Strand and immediately north of Morro Rock. A sand transport study by the United States Geologic Survey (USGS) indicates that the shoreline of Estero Bay is in equilibrium with the predominant wave pattern from the northwest. The sand moves on and off shore with a reversing longshore component that is dependent on shifts in prevailing winds. Sand is deposited onto the Morro Bay sand spit or into the Morro Bay harbor channel (Dingler et al., 1982).

The bathymetry of Estero Bay is relatively uniform, with depth contours roughly paralleling the coastline. Bathymetric slopes at the Project site are approximately one degree, sloping to the southwest. Scattered rocky outcrops protrude through the sandy bottom, usually less than 3.0 m (ten ft) in height, but a few rise as much as 10.7 m (35 ft) above the bottom.

Heavy storms and wave action can change the shoreline at the EMT dramatically during the winter season. The Toro Creek mouth will periodically shift and flow southward, occasionally exposing the loading lines within the beach area.

A diffuser scour analysis is not required for buoyant discharges under The Ocean Plan, but rather is a supplemental requirement of the California State Lands Commission. Two benthic sediment samples were collected at the termination of LL2 at depths of -51 ft. and -54 ft. Mean Lower Low Water (MLLW) by divers of Longitude 123, and shipped to Michael Baker International for grain size analysis. The samples were visually inspected and judged to be comprised of non-cohesive sediments and subsequently dried and subjected to a standard sieve analysis. The grain size distributions of the two benthic sediment samples indicate the samples were predominantly comprised of medium- fine sand.

Sedimentation and Erosion, Mudflow, Landslide and Expansive Soils
Short-term construction activities in the beach area for replacement of the pipe bend will increase the risk of sand displacement. The direction of sediment flow would be to the sea. However, since the material is beach sand that is highly dynamic and subject to regular removal and deposition by natural forces, this effect is not significant. With respect to the access route and construction staging area, implementation of standard grading and excavating measures required under the Building Code and applied to all projects that include Best Management Practice silt fences, fiber rolls, and an array of other measures to maintain water quality leaving the work area, will avoid significant impacts and no other mitigation is identified. Refer to the Biological Resource section for revegetation measures.

The CSWP EIR and PEP did not identify any risk of landslide of mudflow in this area.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
7. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**1,2,6**			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	**1,2,6**			**X**	

7a-b.

Environmental Setting: GHGs are global pollutants which are a regional and local concern. Global climate change is a cumulative impact. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

Regulatory setting and Impact thresholds: The San Luis Obispo Air Pollution Control District (APCD) has established stationary source thresholds based upon combustion-related CO2e emissions. The APCD CEQA Handbook identifies for stationary source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO2e. Furthermore to ensure new development provides fair share of GHG reductions needed to address cumulative environmental impacts from those emissions, it is recommended that a new stationary source capture at least 90% of the GHG emissions (SLO County APCD, GHG Thresholds and Supporting Evidence, 2012).

In 2011, the San Luis Obispo County Board of Supervisors adopted the EnergyWise Plan, which outlines the County's approach to reducing municipal and community-wide GHG emissions to 15% below baseline 2006 levels by establishing goals, measures, and actions (SLO County, 2011). This plan includes emissions from off-road equipment and transportation in its GHG inventories and reduction goals.

Impact analysis:

Would the proposed project:

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

Less Than Significant Impact. The proposed project's GHG emissions were estimated using the same methodology and assumptions as described in Section 3, Air Quality. Table 7-1 summarizes the project's potential construction-related GHG emissions. The project would not result in operational GHG emissions.

Table 7-1: Project Construction GHG Emissions

Phase	Project GHG Emissions (Metric Tons)			
	CO2	N_2O	CH_4	$MTCO_2e$[A]
Ocean Outfall Component				
Effluent Pipeline Tie-In	9.43	<0.00[B]	<0.00[B]	9.56
Pipe Replacement	21.99	<0.00[B]	<0.00[B]	22.22
Pipe Pull (non-marine)	62.46	<0.00[B]	0.01	63.20
Pipe Pull (marine) and diffuser	121.07	<0.00[B]	0.01	121.74
Subtotal	214.95	<0.00[B]	0.02	216.72
CSWP Final EIR Emissions[C]	378.49	<0.00[B]	0.07	389.32
Total Combined Emissions	593.44	<0.00[B]	0.09	606.04
SLOAPCD Threshold[D]	--	--	--	1,150
Exceeds Threshold?				No

Source: MIG 2018 (see Appendix); CSD, 2017

(A) $MTCO_2e$ based on GWP of 298 for N_2O and 25 for CH_4.

(B) "<0.00" indicates the emission is smaller than 0.005.

(C) CSWP Draft EIR emissions represent maximum mitigated emissions during the final year of construction (CSD, 2017). Listed values are from Draft EIR Technical Appendix Part 8, Air Quality Modeling, MIG, page 6 of 30 in the CalEEMod Winter output file. In actuality, emissions associated with CSWP activities would likely be substantially lower than presented here because the effluent pipeline was originally planned to be installed to Morro Bay.

(D) SLOAPCD, 2012b and 2017

As shown in Table 7-1, neither the proposed project's GHG emission nor the total potential combined GHG emissions from the original CSWP project and the new ocean outfall component would exceed SLOAPCD thresholds. The proposed project, therefore, would not result in a new or substantially more severe impact than previously identified for the CSWP project. The project would not result in additional operational emissions beyond that identified in the CSWP EIR as well.

In addition, construction activities would cease to emit GHGs upon completion, unlike operational emissions that would be continuous year after year. Accordingly, construction GHG emissions are usually averaged over a 25 or 30 year period. This normalizes construction emissions so that they can be compared to appropriate thresholds, plans, etc. When averaged over 25 or 30 years, the total combined GHG emissions from the original CSWP project including the new ocean outfall project would be approximately 20.2 to 24.2 MTCO2e per year. This level of GHG emissions is not considered 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?

No Impact. The proposed project would generate GHG emissions from temporary construction activities that are anticipated to last approximately 45 days in total. There are no applicable plans, policies, or regulations governing GHG emissions from construction sources that would directly apply to the project; however, on- and off-road vehicles would be subject to rules and regulations pertaining to vehicle emission standards, fuel standards, and regional transportation plans intended to reduce GHG emissions.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**1,2**			**X**	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**1,2**				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	**1,2**				**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**1,2**				**X**

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	**1,2**				**X**
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	**1,2**				**X**
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**1,2**			**X**	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	**1**			**X**	

Environmental and Regulatory Setting and Impact Discussion:

8a.-d

Risk of Accidental Explosion or Release of Contaminated Substances
Risk of Upset

This Project does not include the use of explosives or explosive materials other than fuels for equipment. Experienced professionals who understand and abide by the proper procedures for avoiding hazards will handle all equipment. Therefore, there is not a significant risk of accidental explosion.

Construction at the tie in site and on the beach for the pipe bend replacement will involve the use of vehicles using gasoline and diesel fuel. Other incidental construction materials may be present that could be classified as hazardous materials during the short construction duration. Implementation of Mitigation Measure BIO-3 presented in section 4 above would reduce potential impacts to less than significant.

LL2 will be flushed and pigged as part of routine maintenance activities prior to Project activities. As such, the potential for any release of contaminated substances during Project activities would be greatly minimized. Residual hydrocarbons contained within the pipeline could possibly become a public health hazard; however, in the unlikely event of a contaminated substance spill, emergency response equipment (sorbent pads, sorbent boom and containment boom) will be onsite at all times to facilitate initial response by the marine contractor.

Contaminated Material Release (see also the discussion under Biological Resources)

Project activities is unlikely to result in a release of contaminated material either onshore, or in nearshore or offshore waters because all activities related to the handling and disposition of these types of materials will be undertaken by Chevron as part of the decommissioning activities at the EMT. The impacts associated with the possible release of contaminated materials are discussed in PEP Appendix F - Oil Spill Response Plan and Appendix C - Contaminated Materials and Management Plan incorporated by reference into the Project Description. The CSD will prepare a Final Oil Spill Response Plan modeled on the PEP Preliminary Plan attached in the Appendix.

The LL2 pipeline currently contains freshwater. However, the pipeline will be pigged and flushed as part of routine maintenance activities by Chevron prior to the commencement of the outfall project activities. This procedure will remove any residual hydrocarbons that still may be present in the pipeline thereby further minimizing the potential for a release of

contaminated materials during proposed Project activities. Therefore, Project activities are not expected to result in a significant impact related to the exposure of people to contaminated materials.

Interference with an Emergency Response Plan or Emergency Evacuation Plan
The Project will occur in the fenced EMT area onshore and within offshore waters west of the EMT. Therefore, the proposed Project activities will not interfere with any EMT emergency response plans. In addition, all Project activities will be conducted in accordance with the selected contractor's standard health and safety protocols and procedures.

Creation of a Health Hazard or Potential Health Hazard, or Exposure of People to an Existing Health Hazard
This Project is not expected to create any health hazard or potential health hazard. Public safety will be taken into account during all phases of the Project for both the general public and project personnel. At the end of the Project period, all disturbed areas will be returned to their natural state, leaving no potential health hazard.

Increased Fire Hazard
Much of the Project activity will take place over water, and as such would not result in an increased fire hazard. The procedures that would be conducted on land are not expected to result in any increased fire hazards.

Contamination of a Public Water Supply
No contaminated materials are expected to be encountered based on the Chevron PEP. Therefore, the proposed Project will not result in contamination of a public water supply.

8e.-f. The site is not in proximity to an airport.

8.g.-h. The Project does not have the potential to impair implementation of or physically interfere with any adopted emergency response plan because there is not applicable plan for this site or use.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements?	**1,2,13**			**X**	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	**1,2**				**X**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	**1,2**				**X**
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	**1,2**			**X**	
e) 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?	**1**			**X**	
f) Otherwise substantially degrade water quality?	**1,14**			**X**	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	**1**				**X**
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	**1**				**X**
l) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	**1**				**X**

j) Inundation by seiche, tsunami, or mudflow?	**1, 2**		**X**		

9a-l

Environmental Setting

Wastewater Discharges

Regional Discharges. The major sources of pollution to surface water resources on the California coast are municipal outfalls, urban runoff through storm drains, and agricultural runoff. Additional sources include industrial facility discharges, dredging and dumping activities, atmospheric fallout, releases from vessels, runoff from old mines, and natural processes such as oil seeps. The following point sources discharge into Estero Bay; EMT wastewater outfall (currently inactive); the Morro Bay Power Plant cooling water outfall (inactive), the City of Morro Bay and Cayucos municipal sewage treatment plant outfall; discharges along Chorro and Los Osos creeks that drain into Morro Bay; and the California Men's Colony Wastewater Treatment Facility. Additionally, urban runoff from the cities of Los Osos, Morro Bay, and Cayucos drain into Estero Bay. Agricultural runoff also enters all of the small drainages that outlet to the bay

The existing Wastewater Treatment Plant in Morro Bay discharges secondary treated effluent via an outfall to the Pacific Ocean. The Proposed Project will no longer send secondary treatment level water to the outfall, but will blend daily discharge of reverse osmosis production water with tertiary treated effluent at about 49 acre feet per year. Discharge from the RO process is anticipated to meet future regulatory standards.

Onshore Setting

The following surface water resources are located nearest to the EMT: Estero Bay, onsite containment basins, Toro Creek, Yerba Buena Creek, Alva Paul Creek, and Willow Creek to the north. There is also a network of stormwater discharge drainage systems which carry local stormwater run-off to nearby public beaches in Morro Bay and Cayucos and ultimately the Pacific Ocean.

According to the evaluation of flood risk in the Toro Creek Bridge Replacement project immediately adjoining the on shore site, Flood Insurance Rate Maps (FIRM) maps designate this the tie in site area as Zone AE (Special Flood Hazard Area Subject to Inundation, or 100 year flood zone) and Zone X (Other Flood Areas, in this case the 500 year flood zone) for the area between the Chevron property where the tie will occur and the highway. The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year.

Offshore Setting

Estero Bay is a shallow, sandy bottom bay that lies between Estero Point to the north and Point Buchon to the south. The bay is a little over 29 km (18 mi) in length and arcs inland a distance of about 8.9 km (5.5 mi). The gently sloping bottom of the bay has a maximum depth of about 90 m (50 fathoms), and the 36 m (20 fathom) depth contour lies 1.6 to 4.8 km (one to three mi) offshore. The majority of the bay is characterized by a subtidal sandy bottom. The center of the bay's shoreline is a broad, sandy beach that decreases in width and transitions into a rocky intertidal zone as one approaches either of the points defining the northern and southern boundaries of the bay.

Water transport along the northern and central portions of the California coast, including Estero Bay, is primarily driven by the California Current. The California Current is generally characterized as a broad, shallow, slow-moving, southerly current. During the winter the California Current is occasionally displaced by the northerly moving Davidson Current. The near shore manifestations of the California Current can be quite variable in both speed and direction. Local conditions can be dramatically altered by a combination of winds, tides, and surf conditions. Winds along this section of the California coastline are predominately from the northwest, and tend to establish a counterclockwise gyre (circular current) within Estero Bay.

Nearshore ocean temperatures along the California coast north of Point Conception are largely regulated by the California and Davidson currents and the seasonal upwelling of deeper ocean water. Surface water temperatures within Estero Bay typically range from 48° F to 68° F with a mean value of 57° F. The winds promote the offshore movement of the surface water mass and its subsequent replacement by the upwelling of cold, nutrient rich water from deeper layers. Seasonal upwelling plays an important role in temperature and nutrient cycling within the bay and along the entire coast of California. Upwelling is not restricted temporally, and can occur at any time during the year when the necessary wind conditions persist.

Regulatory Setting
The existing WWTF outfall in Morro Bay operates under a NPDES permit originally issued for a five year term in 2009 (CRWQCB Central Coast Region order # R3-2008-0065, NPDES No. CA0047881). This permit expired in 2014 and the RWQCB has placed the renewal application for the permit on administrative hold while the City of Morro Bay and CSD pursue plans for new facilities.

Impact Discussion
Onshore
Changes in Absorption Rates, Drainage Patterns, or Amount of Surface Runoff. No significant changes to absorption rates, drainage patterns, or amount of surface runoff will result form the proposed project because the end-of construction conditions will be the same as the existing conditions on the site. Because the pipeline is underground, no flood risk or hazard is identified.

Refer to IS section 6 Geology and soils and Mitigation measure GEO-1 related to tsunami hazard.

Offshore
Construction Impacts
Discharge into Surface Waters or Alteration of Surface Water Quality Including, but Not Limited to, Temperature, Dissolved Oxygen, Turbidity, or pH: Seafloor sediments would be temporarily disturbed during the installation of the outfall diffuser. This activity may suspend sand and silt near the work area, thereby increasing local turbidity. Although the disturbance of sediments could disturb the ecological balance of some benthic communities (e.g., sand dollar beds, sand crabs, etc.), the short-term nature of the Project should preclude any long-term effects. Therefore the effects on ocean water quality at the diffuser site due to increased turbidity are less than signifcant.

In addition to the sand and silt that would be suspended, additional organic matter contained within the sand and sediments would be introduced into the water column. Large-scale increases of organic matter within a water column (e.g., ocean upwelling) can increase dissolved nutrient concentrations, resulting in increased algal blooms. However, the amount of organic matter that would be introduced into the water column as a result of this Project is expected to be minimal, and the associated water turbidity would not greatly inhibit photosynthesis by phytoplankton, therefore this effect is less than significant.

The computational fluid dynamics (CFD) modeling of ultimate maximum discharge from the proposed CSWP diffuser (1.2 mgd) determined that diffuser induced velocities on the seafloor are everywhere at least 5 times less than the threshold of motion speed of the seabed sediments found at the LL2 discharge site. Consequently, it was concluded that scour and re-suspension of benthic sediments by the CSWP diffuser will not occur.

The constituents of the wastewater discharge are detailed in the Project Description. The presence of suspended organic matter would result in increased organic decomposition within the water column. The expected minor decrease in photosynthesis and increased organic decomposition has the potential to result in slightly decreased dissolved oxygen levels for the area impacted by the Project. However, the Project would impact a small volume of water, and the resulting turbidity would persist for a very short period of time. In addition, the increased water turbidity and associated water quality issues that could result are expected to be less severe than commonly occur with winter storms. As such, disturbances to water quality (e.g., turbidity, decreased dissolved oxygen levels, etc.) are expected to be minor, and impacted communities are expected to recover quickly (refer to Biological Resources section).

Slip sleeve installation in the LL2 pipeline has a minor potential to result in the release of residual hydrocarbons and/or the aqueous solution within the pipeline. As discussed above under Biological Resources, to reduce the potential for these impacts, the pipeline will be flushed prior to the commencement of slip sleeve pipe installation. This flushing will be conducted as a maintenance activity by Chevron prior to the lease transfer and CDP issuance and not as part of the slip sleeve installation activity. Additional volumes of water will be flushed through the pipeline if necessary to achieve a proposed residual Total Petroleum Hydrocarbon (TPH) content of less than 15 ppm, therefore no significant impact is identified for slip sleeve installation.

The impacts to marine water quality after completion of construction and commencement of permitted discharge are calculated to be less than significant as described in the Project Description diffuser design analysis[8].

Operational Impacts

Long-Term Impacts on Water Quality and Benthic Communities. Based on the discharge water characteristics presented in the Project Description, the proposed new CSWP outfall discharges at the LL2 site will be a significant improvement over present ocean discharges from the MBCSD WWTP. As also presented in the Project Description, effluent mass loadings from the WWTF and subsequent dilution of effluent at the diffuser would result in an overall decrease of impacts on water quality associated with wastewater from CSD. However, use of a new outfall location for CSD effluent, has the potential to impact water quality and benthic communities and aquatic species in the new location. However, past monitoring results at the MBCSD WWTP outfall have indicated that effluent discharges have had a less than significant impact on benthic invertebrate communities and aquatic species. Furthermore, the benthic community around the proposed new outfall location has been previously disturbed by original installation of the EMT pipeline. Therefore, long-term discharges from the new outfall location are not anticipated to result in an adverse, long-term impact on water quality and impacts on the benthic community and aquatic species at the discharge location.

Mitigation Measures
All impacts will be less than significant; therefore, there are no proposed measures to reduce marine water quality and oceanography impacts. Measures to address tsunami impacts are identified in the Geology and Soils section above.

10. LAND USE AND PLANNING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?					
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	**2,9**				**X**
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	**2,9**				**X**

Impact Discussion:

10a. The small size and remote location of the site would not result in dividing the community.

10b. **California Coastal Act Policies**
The following is a discussion of the proposed Project's consistency with the California Coastal Act of 1977. As the property is located within the Coastal Zone, the CCC has the authority to enforce the California Coastal Act. Other discussion of Coastal Act and the County LCP and CZLUO are contained in other resource topics such as biological resources, visual resources (aesthetics) etc.

Article 2 - Public Access
Section 30211:
Development shall not interfere with the public's right of access to the sea where acquired through use or legislative

authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.
As the proposed Project is a construction procedure that will be short-term in duration, it will not interfere with the long-term recreational use of the beach and coastal waters near the beach. A small area of the beach will be temporarily closed for the pipe bend work. The Project does not include any new structures that would preclude or obstruct recreational activities.

Article 3 - Recreation
Section 30220:
Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.
Installation of the HDPE pipe and diffuser will require vessels to be present in the vicinity of the pipe end. However, this is not expected to significantly impact recreational activities due to the relatively small area influenced by Project work and the temporary nature of the Project.

Article 4 - Marine Environment
Section 30230:
Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species or marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Marine construction to pull the HDPE pipe and install the diffuser assembly will cause a temporary disturbance to the seafloor (see discussion in Biological Resources section above). Anchoring will cause minor disturbances to the seafloor but the anchor locations will be restricted to areas of sand bottom and impacts will be temporary. The seafloor is expected to recover quickly, as this is an area of strong currents and sand deposition. A small area of benthic organisms may be displaced temporarily, but should recover quickly once the Project is concluded. A Preliminary Marine Wildlife Contingency Plan (PEP Appendix E, attached) has been developed to address any marine mammals which wander into the Project site. Although hard bottom habitat areas do exist within the offshore work area, there are no especially sensitive communities such as kelp in the proposed Project area. Likewise, the soft bottom habitat of the area is not conducive to abundant marine life.

Although the seafloor will be temporarily disturbed, the long term health of the marine environment will be maintained.

Section 30231:
The biological productivity and the quality of coastal waters...appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...
As discussed above in Coastal Act Section 30230, marine organisms will be minimally disturbed for a temporary period. All habitats will be restored to their natural state.

Section 30232:
Protection against spillage of crude oil, gas, petroleum products or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.
A possibility for contamination of the environment exists during removal of submarine pipelines. Therefore, the Project plan includes guidelines for proper transport, storage, disposal, and management of all hazardous substances. An Oil Spill Response Plan (PEP Appendix F, attached) and Contaminated Materials and Management Plan (PEP Appendix C, attached) have been prepared to account for all handling of materials that are hazardous to the marine environment.

Section 30233:
(a) The diking, filling or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse effects...
No dredging, diking or fillingis proposed as part the outfall project.

Section 30234.5
The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

An assessment of potential effects on recreational and commercial fishing has been completed to identify and protect fishing activities (see Recreation section below). Because of the fragmented nature of hard bottom areas within the Project Site, commercial fishing is substantially limited. There are commercial fishing activities which take place in local areas of hard bottom habitat and kelp beds; however, this Project should not have any effect on those industries. Likewise, the soft bottom habitat of the pipeline corridors is not conducive to recreational fishing.

Article 5 - Land Resources
Section 30240:
(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.
The area has been cited as a potential habitat for several special status species, see Biological Resources section above.

Section 30244:
Where development would adversely impact archaeological or paleontological resources identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.
Archaeological sites have been identified on the onshore portion of the Project site, but not offshore. Refer to Section 5.13 - Cultural Resources, for a discussion of onshore resources.

Article 6 - Development
Section 30251:
The scenic and visual qualities of coastal areas shall be considered and protected as resources of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize alteration to natural land forms, to be visually compatible with the character of surrounding areas, and where feasible to restore and enhance visual quality in visually degraded areas...

Some short-term (temporary) visual impact is expected, and is mainly related to the equipment needed for the construction of the outfall diffuser. A work and materials barge, and tugboats, commonly seen in marine waters, will have a short-term visual impact on the near-shore coastal area. In addition, excavation of the beach will require conventional construction-type equipment. This equipment will be visible from nearby beaches, ocean vessels, and from Highway 1. However, this will only occur during the construction Project period so is not considered a major visual impact. There will be no alteration to natural landforms, nor will there be any permanent structures erected.

County of San Luis Obispo - Local Coastal Plan Land Use Element
The western portion of the proposed Project site is located within the Estero Planning Area of the Land Use Element of the Local Plan and is in the recreational land use category.

• Geologic Study Area. Although the Project does lie within a Geologic Study Area, the Project does not involve new construction resulting in earth-moving. Therefore, no Geologic Study is required.

• Coastal Streams. The proposed Project will not result in disturbance to Toro Creek. Therefore, the Project will not result in permanent impacts to the riparian corridor of the Toro Creek channel.

• Flood Hazard. Although the Project does involve work within the flood plain of Toro Creek, all impacts associated with the Project will be temporary. Therefore, the Project will not permanently impact the flood plain of Toro Creek.

County of San Luis Obispo Plans and Policies related to pipelines are as follows:
Coastal Zone Land Use Ordinance

Section 23.08.286 – Pipelines and Transmission Lines. This section provides planning area standards for the construction of pipelines and transmission lines. The level of permit required depends on the area of site disturbance as follows:

Permit Requirement	Area of Site Disturbance
Plot Plan	Less than 40,000 square feet
Minor Use Permit	40,000 or more square feet

Development Plan approval is required for all surface facilities, pumping or booster stations for pipelines. A route-specific geologic investigation, design and mitigation program is required as part of the land use permit application for proposed pipelines. Other requirements for the permit application include:

- Information on how construction at stream crossings will utilize low-flow periods, incorporate sediment retention devices and minimize time and area of disturbance.
- A restoration, erosion control and revegetation plan shall be included in the grading permit application.
  Where a pipeline is to be placed through a Sensitive Resource Area, the Development Plan application shall include a field survey by a qualified biologist to assess impacts to the important coastal resources.

Section 23.08.288: Public Utility Facilities. This section describes certain planning area standards applicable to the development of public utility facilities, including the contents of the required CUP / CDP application as well as development standards that will apply as conditions of approval.

1. **Environmental quality assurance.** An environmental quality assurance program covering all aspects of construction and operation shall be submitted prior to construction of any project component. This program will include a schedule and plan for monitoring and demonstrating compliance with all conditions required by the Development Plan. Specific requirements of this environmental quality assurance program will be determined during the environmental review process and Development Plan review and approval process.

Section 23.08.286: Pipelines and Transmission Lines. This section provides standards for pipeline and communications transmission lines and related facilities within the coastal zone, including permit requirements and permit application contents:

i. A route-specific geologic investigation, design and mitigation program will be submitted as part of the land use permit application for proposed pipelines. At minimum, this program shall contain:

a. A detailed geologic hazard investigation defining specific hazards;
b. An engineering design component showing plans for each hazard identified;
c. A geohazards mitigation component demonstrating how and to what extent each hazard is reduced; and
d. A program of trench inspection to identify any potential geologic hazard not previously noted with a mitigation measures program to be instigated prior to pipeline installation.

ii. Included in the land use permit application will be information on how construction at stream crossings will utilize low-flow periods, incorporate sediment retention devices and minimize time and area of disturbance.

iii. A restoration, erosion control and revegetation plan shall be included in the grading permit application.

iv. Where a pipeline is to be placed through a Sensitive Resource Area, the Development Plan application shall include a field survey by a qualified biologist to assess impacts to the important coastal resources identified in Energy and Industrial Development Policy 7 of the Local Coastal Program Policies Document.

Consistency Analysis:

The final project plans will comply with all the applicable requirements of the CZLUO for a Plot Plan submittal (Less than 40,000 square feet ground disturbance)

Section 23.07.065 and 23.07.066- General Hazard Avoidance and Construction Standards

Because the proposed onshore pipeline connection is below ground, no flood hazard or risk exists. The project will not raise the flood level in the AE zone in Toro Creek (see Hydrology and Water Quality section above).

10c. The project area is not subject to any habitat conservation plan or natural community conservation plan.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	**1**				**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	**1**				**X**

Impact Discussion:

11a.-b. No impact on mineral resources is identified because of the limited nature of proposed construction.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
12. NOISE. Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**1,2,7**			**X**	
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	**1,2**			**X**	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	**1,2**				**X**
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	**1,2,7**			**X**	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	**1**				**X**

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	**1**				**X**

12a-c

Environmental and Regulatory Setting:
Standards for Construction Noise. Section 22.10.120 of the County's Land Use Ordinance (Title 22 of the County Code) provides standards for acceptable interior and exterior noise levels and describes how noise shall be measured. The standards apply throughout the unincorporated County. Construction noise and noise associated with emergencies are excepted from the County's Noise Standards by Section 22.10.120(A):

A. Exceptions to noise standards. The standards of this Section are not applicable to noise from the following sources.

4. Noise sources associated with construction, provided such activities do not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday;

Impact Discussion

Onshore
Construction Noise at Pipeline Tie-in Site & Pipe bend Replacement Site
The construction of pipeline will be within the Highway 1 right-of-way outside the northbound travel lanes. Construction activities would be temporary, lasting a matter of days not weeks.

Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

Equipment present during pipeline construction in the right-of-way would generally consist of a backhoes, /excavator, two 10-wheel dump truck, one front loader, one compactor, a water truck and a pavement saw-cutter. During re-paving, an asphalt spreader and roller, plus delivery trucks would be present. Equipment present during the pipe bend replacement would generally consist of one tracked excavator, one dump truck and various flat bed vehicles and forklift or small crane to off load materials.

Construction activities were estimated in the CSWP EIR to create an average noise level of 85.5 Leq and a peak noise level of 87.0 dBA Lmax at a distance of 25 feet from the source. This would not exceed the County stationary noise standards of 50 dBA Leq and 70 dBA for noise sensitive land uses because the nearest sensitive receptor is approximately 2,300 ft to the north. Because noise levels decrease 3 dBA for each doubling of distance from the source, the noise generated by the construction activities would be sufficiently attenuated at that distance so as not to exceed community noise acceptance levels, and would be within the ambient noise contour derived from Highway 1 transportation sources. Therefore, noise impacts from onshore construction activities would be less than significant.

Offshore
Marine Noise Characteristics
According to the National Research Council of the Academies (2003), in the absence of shipping, natural forces are the dominant sources of long-term averaged noise at all frequencies in the ocean, and include: ocean surface waves generated by the wind acting on the sea surface, thermal agitation of the ocean medium itself, and biological sounds such as dolphin whistling and echolocation, whale calls and snapping shrimp make noticeable contributions to ocean noise at specific times. Elastic vibrations in the earth also contribute to ocean noise.

Man-caused noise in the marine environment is an important component of ocean noise and includes the following general categories of noise sources: shipping, seismic surveying, sonars, explosions, industrial activity, and miscellaneous sources. Vessel traffic is a major contributor to noise in the world's oceans.

Sound in the underwater environment is similar to sound in air. However, the medium 'water' supports the propagation of sound even better than the medium 'air'. In water, the attenuation is less than in air. This means that sound propagates

over longer distances underwater than in air. It also propagates much faster.

Effects of Noise on Marine Life
Marine animals rely on sound to acoustically sense their surroundings, communicate, locate food, and protect themselves underwater. The various animal species that live underwater each have their own specific hearing sensitivity and frequency range. A number of factors affect the response of marine mammals to sounds in their environment: the sound level and other properties of the sound, including its novelty; physical and behavioral state of the animal; and prevailing acoustic characteristics and ecological features of the environment in which the animal encounters the sound. Critical issues about what determines effects of and responses to intense transient sounds and what are the effects of long-term anthropogenic sound on marine individuals and populations remain unanswered (National Research Council, 2003). This subject is discussed under impacts to marine species in Biological Resources, section 4 of the IS.

Effects of Noise on Humans
The closest sensitive noise receptors are the residences located at Toro Lane and Studio Drive, which are approximately 4,000 ft to 3,600 ft, respectively, from where the work will be located offshore. For the PEP studies, noise levels at approximately 1,200 feet away were estimated to be 66.2 dBA Leq for offshore operations. These noise levels are below the California Office of Noise Control recommended CNEL guideline and also the County of San Luis Obispo maximum daytime level of 70 dBA. In addition, the nearest sensitive noise receptor for the offshore Project is approximately three times further away. The noise generated by the diffuser installation activities would be sufficiently attenuated at that distance so as not to exceed community noise acceptance levels; therefore, there would be less than significant impacts.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING. Would the project:					
a) Induce substantial 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)?	**1,2**				**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	**1,2**				**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	**1,2**				**X**

Impact Discussion:

13a-c. No population changes or displacements are proposed. The project will not induce new growth because the larger CSWP project will only serve population within its service boundaries.

14. PUBLIC SERVICES.

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	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, 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:					**X**
Fire protection?	**1.2**				**X**
Police protection?	**1,2**				**X**
Schools?	**1,2**				**X**
Parks?	**1,2**				**X**
Other public facilities?	**1,2**				**X**

Environmental and Regulatory Setting:
14a. Fire protection / first response service is provided by San Luis Obispo County Fire-Calfire from the station at 108 Chaney about 2 miles from the Proposed Project. As discussed in Recreation, the Project site is located within a coastal area frequented by recreational users. Morro Strand State Beach and the adjacent coastal shoreline are used recreationally for fishing, walking, swimming, surfing, and kayaking. Sport and commercial fishermen use the offshore area. Onshore operations will not involve the operation of heavy machinery in areas frequented by Chevron employees as well as the public. Offshore operations will include a 200 ton work barge, two tug boats, and commercial divers.

Impact Discussion
Contaminated Material Release (see section 8 Hazards and section 4 Biologic Resources above)

Onshore
Die to the limited extent and duration of the underground pipeline connection construction activities, no significant public safety risks are identified. Therefore, there would be less than significant impacts on police or fire protection services. There would be no impacts on other public services.

Offshore
The potential exists for Project-related marine vessels to interfere with public marine vessel traffic during outfall diffuser installation due to the close proximity of Morro Bay and associated marine/harbor facilities. However, as discussed in Transportation/Circulation, the contractor will file a local Notice to Mariners with the USCG to inform the local mariners of the project.

The Proposed Project would not add population that would affect schools, parks or other public facilities.

15. RECREATION:

	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	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?	**1,2**				**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	**1,2**				**X**

Impact Discussion:

15a. The project would not add population that would impact recreational facilities.

15b. The project contains no recreational facilities and would require no facilities to be built.

Other impacts to Recreation
Environmental and Regulatory Setting

The Project site is located within a coastal area frequented by recreational users. Although the one-mile stretch of beach area located directly west of the EMT is owned by Chevron, public beach areas exist both north and south and are used recreationally for both onshore and offshore activities. Onshore activities include: surf fishing, dog walking, beach combing, walking, jogging, and sunbathing. Nearshore and offshore activities include: surfing, swimming, spear fishing, scuba diving, kayaking, boat fishing, pleasure boating, jet skiing, kayaking, and sailing. The public formally accesses this beach area via State Park units north and south of the Chevron property. The nearest formal vertical access way to the south is through the North Point subdivision into the northern unit of Morro Strand State Beach, approximately 0.8 km (0.5 mi) south of Toro Creek. The nearest formal vertical access way to the north is at Cody Drive in Cayucos, approximately 0.5 mile north of Toro Creek.

Although there are no formal vertical access ways from Highway 1 directly across from the onshore marine terminal, recreational users access Chevron property to the beach through several informal parking areas and vertical access ways along Highway 1. Beachgoers most frequently use the area across from Toro Creek Road and the area near the bluff (old pier landing site). Chevron facilities do not obstruct informal access, but the Caltrans fence along Highway 1 does impede access; people access the beach through holes in the fence (Ecology and Environment, Inc., 1999).

Impact Discussion
Onshore
Proposed pipeline work and connection to LL2 will occur within Caltrans right of way and Chevron property and will not conflict with or impede any recreational use of the coast open to public access. The replacement of the pipe bend on the open sandy beach will require the use of the old pier landing area along Highway 1 currently used by the public for informal beach access parking as a construction staging and access point. According to the Morro Bay to Cayucos Connector EIR (SWCA 2010), the area along the west side of Highway is used for public parking with about 8 spaces available at the pier landing site and about 25 spaces available at the area opposite Toro Creek Road. As depicted on Figure 4, staging of materials will occur on the Chevron property side of the Caltrans highway fence. This will preclude public use of the eight spaces in that location during construction. Access for equipment is shown on Figure 4 as having three options. The use of option 1 in the right-of-way opposite Toro Creek Road would preclude public parking at the existing gate, but a substantial amount of the available parking would be available to the public during non-construction work hours. Due to the temporary nature of the informal parking area closures the impacts to public beach access are less

than significant.

Offshore
The installation of the diffuser apparatus to the pipeline will result in short-term impacts to offshore recreational activities. It is expected that offshore construction activities would take four weeks. Vessels associated with proposed offshore work activities will preclude recreational boating from the immediate area (approximately 100-yard radius) surrounding the work area. However, the work area is very small compared to the total area available for boating and would not result in a substantial preemption of recreational boating. Any activities such as scuba diving or spear fishing would also be preempted in the immediate area of the Project site for the period of time that offshore activities would occur. However, the limited presence of hard-bottom habitat within the immediate Project site limits the quantity of marine biological resources. As such, the Project site is not frequented by scuba divers or snorkelers and the Project is not expected to result in a significant impact to these activities. Additionally, a Local Notice to Mariners will be filed with the United States Coast Guard no less than 15 days prior to initiating offshore activities and all marine operations will be conducted in accordance with the required Marine Safety and Anchoring Plan. Considering the above, impacts of the Project to offshore recreational activities are expected to be less than significant.

Substantial Impact on the Quality or Quantity of Existing Recreational Opportunities
All impacts to onsite recreational opportunities would be short-term in nature. It is expected that nearby locations would provide similar opportunities for any recreational activities that would be temporarily precluded by the Project. Therefore, impacts to recreational resources due to Project implementation are considered insignificant.

COMMERCIAL AND RECREATIONAL FISHING

Environmental Setting
Commercial Fishing
The Project site is located within Estero Bay, directly north of the Morro Bay. The commercial fishing industry conducted from Morro Bay harbor has played a significant role in Morro Bay's history and development, as well as providing an economic base for the community, serving as an important tourist attraction and historic resource.

The variety of marine habitats in the Estero Bay region support diverse and valuable harvests for commercial fishing. The majority of boats in Morro Bay fish for cold-water species such as rockfish, salmon, and albacore. Other species commonly caught include Cabazon squid, halibut, and lingcod.

Many fishers in the region do not fish for just one species, but switch fisheries during any given year depending on market demand, prices, harvest, regulations, weather conditions, and fish availability. Principal gear employed by commercial fishermen in the region includes: purse seine, trawl, trap, diving, and hook and line.

Recreational Fishing
Recreational fishing in the Project site primarily occurs from charter or privately owned vessels and shore fishermen. Locally, charter vessels operate from Morro Bay and Port San Luis. Through the years, six to ten charter vessels have operated out of both ports.

The majority of recreational fishing from offshore vessels is accomplished by "jigging" baited hooks or lure. Typically, offshore commercial and individual fishing vessels focus on known areas of hard-bottom habitat and kelp beds, where habitat complexity and the presence of fish is typically the greatest. Fish species taken by recreational anglers include lingcod, rockfish, cabezon, king salmon, albacore, and halibut. Several hooks or lures often occur on a single weighted line. For bottom fish, baited hooks often rest on the seafloor and for pelagic fish such as salmon, trolling methods are also used. Boats can either drift with the currents, anchor, or live-boat to remain on a specific spot.

Individual sport fishermen also utilize the coastline of Morro Bay, including the shoreline area of the Project site. The most common species caught by surf fisherman include surfperch, which is caught by surf fishermen who frequent the region near Toro Creek.

Regulatory Setting
Several federal and state laws and regulations apply to Projects on the California coastline. The relevancy of the statues to the Project and related compliance requirements as they relate to commercial and recreational fishing or fish resources are described below:

California Coastal Act of 1976, Public Resources Code Section 3000 et seq. The California Coastal Act (Division 20 of the

Public Resources Code, Section 30000, et seq.) became law in 1976 as a means of providing a comprehensive framework for the protection and management of coastal resources. The main goals of the Act are to protect and restore coastal zone resources; assure balanced and orderly utilization of such resources; maximize public access to and along the coast; assure priority for coastal dependent and coastal-related development; and encourage cooperation between state and local agencies toward achieving the Act's objectives.

In addition to establishing a state-wide Coastal Commission to oversee the implementation of the Act's goals and objectives, the Coastal Act contains policies to guide local and state decision-makers in the management of coastal and marine resources. The policies are organized into chapters by topics relating to public access; recreation; marine environment; land resources; and development. The Act also contains provisions for development controls and land use entitlements for certain types of new development in the coastal zone.

The California Coastal Act which is administered by the CCC also identified protective measures for nearshore marine resources. For example, the Coastal Act section 30230 states:
"*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes*."
Coastal Act sections 30231 30234.5 state:
"*The biological productivity and the quality of coastal waters, streams, wetland, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams*."
"*The economic, commercial, and recreational importance of fishing activities shall be recognized and protected*."

California Regional Water Quality Control Board (RWQCB). The RWQCB determines permit requirements on a case-by-case basis. The duration and size of a Project are important factors and concerns may include the amount of water quality degradation.
The Water Quality Control Plan developed by the RWQCB, Central Coast Division established water quality standards for the region. The plan incorporates the California Ocean Plan that establishes standards to protect the quality of ocean waters for use and enjoyment by the people of California. The Ocean Plan is administered by the RWQCB and is reviewed periodically to guarantee that the current standards are adequate and are not allowing degradation to marine species or posing a threat to public health (State Water Resources Control Board, 1990). In general, Chapters I, II, and III establish discharge standards for non- point discharges to marine water.

Any Project requiring a federal permit (e.g., ACOE permit) is required to complete and submit an Essential Fish Habitat Assessment (EFHA) with the application, and ensure that no significant impacts to the essential habitat of a managed species commercially caught in the area are occurring due to Project implementation, refer to section 4 Biological Resources.

Impact Discussion
Commercial Fishing
Although there are hard-bottom features (i.e., isolated pinnacles) present within the Project site, there is limited hard-bottom habitat within the immediate vicinity of the proposed work areas, which limits the abundance and diversity of fish. Therefore, commercial fishing is limited within the offshore Project site. Commercial fishing which may potentially occur within the vicinity of the pipeline corridor would be limited to purse seining for baitfish or squid, and trap fishing for crab. Hook-and-line fishing for species such as salmon, halibut, and albacore are unlikely to occur within the immediate vicinity of the pipeline. Other species of fish (e.g., rockfish, dover, etc.) typically sought by commercial hook-and-line fishing vessels occur in waters deeper than those of the pipeline corridor (57 ft. water depth).

Project activities will be conducted nearshore and in water depths shallower than those identified above as active commercial fishing depths. In addition, the nearest kelp beds are located near Cayucos in the north and Montana de Oro to the south. Due to these habitat limitations, the only commercial fishing that is likely to occur at the Project site would be purse seining. The small area that would be occupied by Project related vessels would not result in a significant impact to the purse seine fishery. For the reasons discussed above, proposed short- term diffuser installation activities are not expected to significantly impact commercial fishing activities in the area.

Recreational Fishing
Onshore activities will not preclude a small area of beach from public use.

Offshore recreational fishing typically takes place in areas of hard-bottom habitat and kelp beds. The Project site is located in a sedimentary area and is comprised entirely of a sandy seafloor. The lack of substantial hard-bottom habitat and kelp beds in close proximity to the Project site greatly reduces the amount of suitable fish habitat in the area. The lack of resources substantially limits the amount of offshore recreational fishermen that currently utilize the Project site. Therefore, the proposed project is not expected to impact offshore recreational fishing near the Project site.

Mitigation Measures
All impacts will be less than significant; therefore, there are no proposed measures to reduce commercial and recreational fishing impacts.

16. TRANSPORTATION/TRAFFIC: Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	**1,2**	**X**			
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	**1,2**			**X**	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	**1,2**				**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**1,2**			**X**	
e) Result in inadequate emergency access?	**1,2**			**X**	
f) Result in inadequate parking capacity?	**1,2**			**X**	
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	**1,2**			**X**	

16a.
Onshore
Highway 1 in south Cayucos is a four-lane highway. According to the Regional Transportation Plan (2014) "Highway 1 is the primary north/south arterial through the North Coast. The highway is specifically restricted to be maintained as

a two-lane highway north of Cayucos by the California Coastal Act (limited distance passing lanes and channelization are allowable). Based on traffic counts obtained from the California Department of Transportation, District #5, the portion of Highway 1 located adjacent to the proposed Project site generated approximately 15,000 Annual ADTs in each direction in 2013 (Caltrans, 2013).

Currently, there is one primary driveway providing access into the existing EMT Facility. This driveway is utilized for two-way internal movements and is sufficiently designed on the approach to Highway 1 for simultaneous entry and exit movements. Additionally, there are adequate parking areas located throughout the marine terminal facility.

As discussed above under Recreation, informal parking along the west side of the highway occurs in two locations comprising about 33 car spaces. This parking is not a designated parking area and access to the beach is via holes in the right of way fence across Chevron land.

Sight distances and exit visibility along Highway 1 for the marine terminal access driveway and Toro Creek Road are not restricted. Sufficient visibility of northbound and southbound traffic allows for safe access onto Highway 1 during peak hour traffic.

Offshore
Morro Bay Harbor is designated as a navigational waterway of the United States and is considered by the USCG as a Safe Harbor during inclement weather. It is the only fully protected harbor between Monterey and Santa Barbara. The City of Morro Bay has primary responsibility for the enforcement of boating laws in the harbor while the USCG provides assistance and is primarily responsible for vessel inspections, oil spill response, commerce activities, and offshore search and rescue operations. The ACOE is responsible for maintaining the harbor entrance, breakwaters and the federal navigation channels (Entrance Channel, Navy Channel and Morro Channel) to channel marker 20 (Fairbanks Point). The City of Morro Bay is responsible for the mooring areas, navigation channel past channel marker 20 and the revetments along the waterfront.

The harbor has vessel size limitations due to sandbars and other obstructions in the channel, mooring, and slip areas. Presently, the harbor can accommodate a maximum 3.0 m (ten ft) draft vessel in most slip and mooring areas. Other mooring areas are restricted to a maximum 2.4 m (eight ft) draft and 13.7 m (45 ft) vessel length. Two City operated T-Piers are available for tie-up for large vessels and transient mariners. Furthermore, any vessel over 39.6 m (130 ft) in length can not travel beyond the first T-pier.

Between San Francisco Bay and the Port of Los Angeles (POLA) and Port of Long Beach (POLB), large vessels make an estimated 4,000 coastal transits per year (approximately 11 per day). About 20 percent of these transits are crude oil tankers. Most of the remainder is large commercial vessels greater than 300 gross tons, including container ships and bulk carriers (USCG and NOAA, 1998). These vessels generally follow the transit routes described below.

Coastwise Shipping Lanes. Shipping lanes along the California coast are generally 7.4 to 37.0 km (four to 20 nautical miles [nm]) offshore. Members of the Western States Petroleum Association; however, voluntarily keep laden vessels a minimum of 92.6 km (50 nm) from the central coast's shoreline.

Estero Bay is used for recreational boating and commercial fishing. Commercial fishing vessels also pass through Estero Bay on the way to open water. The Oil Service Vessel Traffic Corridor Program in place for the Santa Barbara Channel and Santa Maria Basin covers Estero Bay. This program involves a designated corridor for oil service vessels and is about 1.9 km (one nm) wide. The purpose of the designated corridors is to minimize the risk of interactions between vessels servicing the offshore oil industry and commercial fishing gear, especially crab traps set in nearshore waters.

Impact Discussion

Increased Vehicle Trips or Traffic Congestion
Implementation of the proposed Project has the potential to result in short-term traffic impacts to existing roadways. The following represents the general breakdown of the short- term and long-term activities proposed and the various potential onshore traffic impacts that are expected to occur.

Workers will utilize Highway 1 and the EMT access driveway on a daily basis during construction. The EMT site will be used for parking and staging. Construction vehicles will access the beach and encumber the area used by the public for parking on the west side at the old pier landing for a matter of weeks during pipe bend replacement. Some workers

may travel from the City of Morro Bay. Due to the limited amount of equipment and workers required as well as the short construction duration no significant impacts to traffic or traffic safety are identified.

It is currently anticipated that the marine construction operation base could be located within an existing office and dockside facility located in Morro Bay. These facilities provide ample dock space for loading and offloading equipment for the marine operation and contain offices that will be used to provide administrative support for the operations.

Increased Offshore Traffic May Impact Traffic and Circulation
Installation of the outfall diffuser and pulling the HDPE through the LL2 pipe could affect marine vessel traffic. During the construction process, a barge crew boat, and two tug boats would be utilized to move and place materials. Crews will be shuttled to the work site as necessary via a typical crew boat or the anchor assist vessel. It is anticipated that the offshore crew will convene in Morro Bay and will be shuttled to the barge each morning that offshore activities take place. At the end of the workday, the crew will be transported back to Morro Bay. As such, crew transport will be limited to one round trip each workday. All vessel operations will be conducted in accordance with a required Marine Safety and Anchor Plan and are not expected to result in impacts to existing vessel traffic or circulation patterns. A Notice to Mariners will also be filed with the USCG to inform local mariners of the construction activities.

Emergency Access or Access to Nearby Uses
Primary access to the site will be accomplished from two locations: 1) from Highway 1 and the EMT access driveway and 2) from Morro Bay harbor for the offshore activities.

Parking Considerations
All Project-related parking can be accommodated onsite without the addition of new parking facilities.

Hazards or Barriers to Pedestrians or Bicyclists
As bicyclists are not common on the beach, the Project is not anticipated to result in the creation of hazards or barriers that would impact bicyclists.

Rail, Water, or Air Traffic Impacts
There are no railway lines on site, and the Project will not affect air traffic. During excavation activities and removal of the offshore pipeline sections, the immediate area around the Project will be closed to all non-Project related water traffic. However, the offshore Project site is not an area with considerable water traffic, and the area impacted would be small compared to the remaining area available for boating. As such, the Project is expected to result in only short-term, insignificant impacts to water traffic.

16c. The project is not near any airport.

16d. The Proposed Project would not create any horizontal or vertical changes to public streets.

16e. The Project site is accessed from Highway 1 at the main entry to the EMT. This access provides safe access for emergency vehicles. Construction work in the right of way will not impede emergency vehicle on Highway 1 because it is off the road in the shoulder. Construction work on the beach will not impede the safe movement of vehicles on Highway 1.

16f. The Proposed Project site can accommodate the minimal number of vehicles required for construction, i.e. about five spaces.

16g. The Proposed Project does not create the number of jobs, travel demands, or is in land use location that would be subject to, or meaningfully contribute to, implementation of any regional transportation plan.

17. UTILITIES AND SERVICE SYSTEMS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	1				**X**
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	1				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	1				**X**
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	1				**X**
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	1				**X**
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	1				**X**
g) Comply with federal, state, and local statutes and regulations related to solid waste?	1				**X**

Impact Discussion:

17a. The Proposed Project is intended to meet all regulatory requirements.

17b. The Proposed Project does not add population that would demand services.

17c. No storm drainage improvements are proposed or required.

17d-g. These topics are not applicable.

Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
18. MANDATORY FINDINGS OF SIGNIFICANCE. a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		**X**		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			**X**	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

Impact Discussion:

18a. Effects that could cumulatively impact terrestrial and freshwater wildlife movement and sensitive species habitat have been adequately analyzed in a previous environmental document and mitigation is included in this Proposed Project.

18b. Potential for cumulative impacts has been adequately addressed in a previous environmental document and mitigation has been incorporated into the Proposed Project or required in the IS.

18c. Potential for adverse effects on people has been adequately addressed in a previous environmental document and mitigation has been incorporated into the Proposed Project or required in the IS.

19. EARLIER ANALYSES.

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, one of more effects have been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063 (c) (3) (D0). In this case a discussion should identify the following items:

a) Earlier analysis used. *Final EIR for the Cayucos Sustainable Water Project, January 2017,* and *Initial Study and Mitigated Negative Declaration for the Toro Creek Bridge Replacement, June 2018,* Caltrans

b) Impacts adequately addressed. (Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.)

• Impacts and Mitigation to riparian and ESHA, with related mitigation measures repeated herein.

- Impacts, and related findings, for tsunami hazard, with related mitigation measures repeated herein.
- Impacts and mitigation related to cultural resources, repeated herein.
- Impacts related to naturally occurring asbestos, repeated herein.

c) Mitigation measures. (For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions of the project.)

- Measure BIO-1
- Measure BIO-2
- Measure BIO-3
- Measure CUL-1
- Measure GEO-1
- Measure AQ-1, AQ-2

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5.	Althouse and Meade, *Biological Assessment for Cayucos Sustainable Water Project*, December 2016
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7.	San Luis Obispo County General Plan: *Estero Area Plan 2009, Noise Element, Open Space and Conservation Element*
8.	Applied Earthworks, *Summary of Phase 2 Testing at CA-SLO-879/H*, January 30, 2017
9.	San Luis Obispo County Land Use Ordinance – Inland (Title 22 of the County Code)
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13.	Cayucos Sustainable Water Project Water Resource Recovery Facility Basis of Design Report, WSC, July 2018
14.	Hydrodynamic Analysis of a Diffuser Retrofit to the Estero Marine Terminal Pipeline for the Cayucos Sustainable Water Project, Michael Baker International / Dr. Scott Jenkins, July 2018
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