APPENDIX A. INVESTMENT ANALYSIS TECHNICAL MEMORANDUM

Technical Memorandum

WATER SYSTEMS CONSULTING, INC.

Date: 11/2/2015

To: John Clemons **Phone:** (805) 489-6666
South San Luis Obispo County Sanitation District
1600 Aloha Pl
Oceano, CA 93475

Prepared by: Kaylie Ashton, E.I.T, Jeanine Genchanok, E.I.T.

Reviewed by: Dan Heimel, P.E., Jeffery Szytel, P.E.

Project: Satellite Water Resource Recovery Facilities Planning Study

SUBJECT: **INVESTMENT ANALYSIS**

The South San Luis Obispo County Sanitation District (District) is interested in evaluating the feasibility of constructing a satellite water resource recovery facility (SWRRF) to produce high quality recycled water by treating flows from a portion of their service area. The District contracted with Water Systems Consulting, Inc. (WSC) to prepare an application for a facilities planning grant under the state of California's Water Recycling Funding Program and to complete a Recycled Water Facilities Planning Study (RWFPS) for the project. Included as the first task of the RWFPS, is an Investment Analysis, intended to determine the economic feasibility of the proposed SWRRF.

This Investment Analysis Technical Memorandum (TM) identifies possible SWWRF treatment and beneficial reuse alternatives. Cost estimates for the SWWRF alternatives and potential costs savings for the District's Wastewater Treatment Plant (WWTP) Redundancy Project were developed and then compared against other potential supplemental water supply alternatives. The TM is organized into the following main sections:

1. Executive Summary
2. Background
3. Investment Analysis Assumptions
4. Potential Recycled Water Alternatives
5. Investment Analysis
6. Implementation Considerations
7. Conclusions and Recommendations

1 Executive Summary

To assist the District in evaluating the feasibility of constructing a SWRRF, WSC is preparing a RWFPS, which includes as the first task an Investment Analysis. The Investment Analysis is intended to be a higher level preliminary evaluation of the economic feasibility of the proposed SWRRF and includes the development of comparative cost estimates for five (5) potential Recycled Water (RW) conceptual alternatives. The conceptual alternatives include diverting flow at three different locations along the District's trunk lines and use of recycled water for agriculture (Ag) irrigation and groundwater recharge. The alternatives analyzed are outlined in Table ES 1. The Investment Analysis also included an evaluation of potential savings that could be achieved in the District's proposed Redundancy Project through the construction of a SWRRF.

Table ES 1. SWRRF Conceptual Alternatives Summary

	Approximate Plant Location	Average Annual Flow (MGD)	Treatment Level	RW Beneficial Use	Average Annual Supply Available for Beneficial Use(AFY)	Distribution System Requirements	
						Pipeline (Miles)	Pump Station (HP)
Alternative 1	Arroyo Grande Creek and Leanna Dr	0.63	Disinfected Tertiary	Agriculture Irrigation	704	1.9	40
Alternative 2	HWY 1 and 22nd ST	1.5	Disinfected Tertiary	Agriculture Irrigation	1,677	4.1	20
Alternative 3	Arroyo Grande High School	0.48	FAT	GWR through Percolation	322	0.2	2
Alternative 4	Arroyo Grande Creek and Leanna Dr	0.63	FAT	GWR through Injection Wells(1)	423	1.5	5
Alternative 5	HWY 1 and 22nd ST	1.5	FAT	GWR through Injection Wells(2)	1,006	3.4	12

Comparative Capital and Operations & Maintenance (O&M) cost estimates for each of the alternatives were developed to create estimates of Unit Cost (i.e. $/AF) for each of the alternatives. For the cost estimates, a 30-year life was assumed with an annual inflation rate of 3% and an interest rate on 100% debt of 5%. However, if the projects were to be funded through Clean Water State Revolving Fund (CWSRF) program the interest rate and associated unit costs could be much lower. The estimated costs for each of the alternatives are shown in Table ES 2.

Table ES 2. Unit Cost Estimates w/o Redundancy Project Cost Savings

Alternative	Capital Cost ($M)	Annual Debt Service Payment ($M)	Annual O&M Cost ($M)	Total Annualized Cost ($M)	Approximate Yield (AF)	Unit Cost ($/AF)
1 Ag Irrigation	$38.2	$1.7	$0.3	$2.0	704	$2,800
2 Ag Irrigation	$63.0	$2.8	$0.7	$3.4	1,677	$2,100
3 Percolation	$39.1	$1.7	$0.3	$2.0	322	$6,800
4 GW Injection	$55.8	$2.5	$0.7	$3.1	423	$7,400
5 GW Injection	$99.6	$4.4	$1.5	$5.9	1,006	$5,800

To estimate the potential savings that could be achieved in the Redundancy Project, it was assumed that a SWRRF could divert a portion of the collection system flow and proportionally reduce the total flow at the District's current WWTP and therefore the size of the Redundancy Project. These savings were then applied to the unit cost estimates for each of the RW alternatives and the results are shown in Table ES 3. The RW unit cost estimates were then compared to cost estimates for other potential supplemental supplies available in region, which ranged from $1,300 to $3,000/AF.

Table ES 3. Unit Cost Estimates w/ Redundancy Project Savings

Alternative	Capital Cost ($M)	Capital Cost w/ Redundancy Savings ($M)	Annual Capital Payment ($M)	Annual O&M Cost ($M)	Total Annual Cost ($M)	Yield (AF)	Unit Cost ($/AF)
1 Ag Irrigation	$38.2	$36.2	$1.6	$0.3	$1.9	704	$2,700
2 Ag Irrigation	$63.0	$58.0	$2.6	$0.7	$3.2	1,677	$1,900
3 Percolation	$39.1	$37.8	$1.7	$0.3	$2.0	322	$6,600
4 GW Injection	$55.8	$54.2	$2.4	$0.7	$3.1	423	$7,200
5 GW Injection	$99.6	$95.7	$4.2	$1.5	$5.7	1,006	$5,700

The Investment Analysis determined that the unit cost of the water from each SWRRF alternative could vary significantly depending upon the volume and type of beneficial reuse. Of the different SWRRF options, Alternative 2, which included 1,677 AFY of Ag Irrigation, appeared to have the lowest unit cost. The Investment Analysis additionally identified that a SWRRF could potentially reduce the capacity of the Redundancy Project by reducing the average annual flow to the WWTP. This reduction in capacity could result in a cost savings ranging from $1.2 to $5 M. When applying this potential cost savings to each of the SWRRF alternatives, it reduced the unit costs by approximately $100-200 per AF.

Based on the results of the Investment Analysis and the competiveness of the SWRRF alternatives with other potential supplemental supplies, it is recommended that the SWRRF concept be carried forward for further analysis and completion of the RWFPS. It is additionally recommended that the RWFPS include a supplementary alternative that evaluates the construction of an offsite tertiary or advanced water treatment facility that could treat effluent from the WWTP for use as agriculture irrigation or groundwater recharge. This facility could be

located outside of the Coastal Zone, Tsunami Inundation Zone and the Arroyo Grande Creek 100-YR Flood Plain, but could take advantage of the existing primary and secondary treatment facilities at the WWTP. Additionally, this facility could be potentially expanded to receive effluent from the Pismo Beach WWTP and realize potential unit costs savings associated with larger capacity facilities.

2 Background

The District's WWTP currently lacks sufficient redundancy for its secondary treatment system to allow the existing trickling filter to be taken out of service for extended maintenance or in the event of a process upset. To provide the necessary redundancy, the District is currently planning the construction of a parallel secondary treatment train or Redundancy Project, which would include an activated sludge aeration tank, a secondary clarifier and sludge thickening/dewatering equipment. To help offset the costs of developing a recycled water system, it was envisioned that the construction of a SWRRF could provide increased upstream treatment capacity and reduce average flow rates at the existing WWTP. Consequently, the required capacity and cost of the Redundancy Project could be reduced. The recycled water from the SWRRF could provide the local water supply agencies and/or farms with access to a supplemental water supply that could be used to offset groundwater pumping or recharge the groundwater basin and improve water supply reliability for Southern San Luis Obispo County.

Figure 1 illustrates the proposed SWRRF trunk Line connection locations evaluated as part of the Investment Analysis. The potential locations are sited along the Arroyo Grande trunk line in the southern portion of the District's service area near the Cities of Arroyo Grande and Grover Beach. These sites were evaluated due to their proximity to the agriculture fields and the City of Arroyo Grande. WSC performed an Investment Analysis to develop the planning level cost estimates for a potential SWRRF. Several different site locations and beneficial use alternatives were evaluated to provide a range of potential costs. The cost analysis considered capital and O&M costs for each alternative and accounted for additional cost savings for reducing the current Redundancy Project at the WWTP.

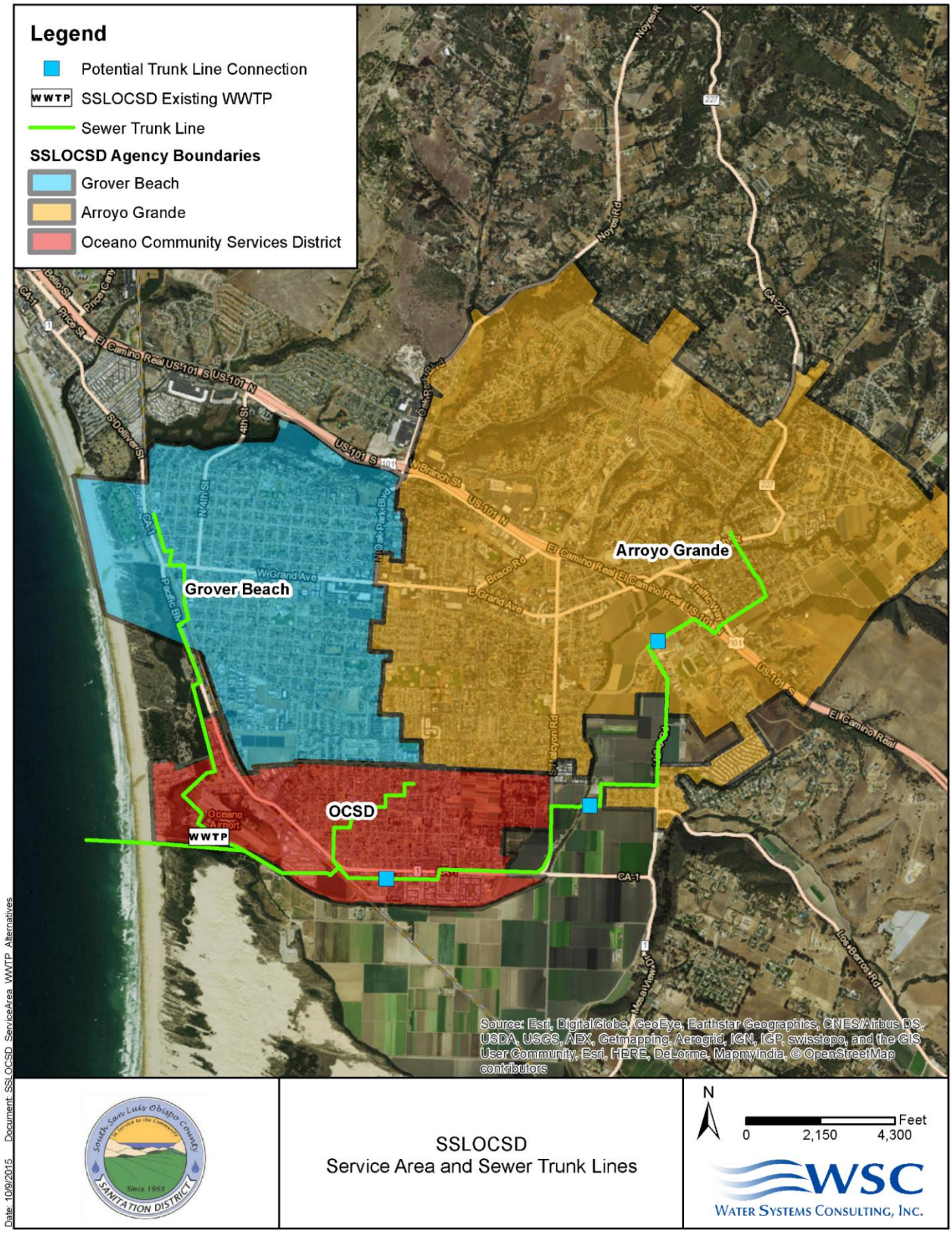

Figure 1. SSLOCSD Service Area and Proposed Trunk Line Connections

3 Investment Analysis Assumptions

The following section describes the sources of data and assumptions used in the Investment Analysis TM.

3.1 Wastewater Supply

WSC obtained estimates of the potential wastewater quantities that could be diverted at different locations along the Arroyo Grande trunk Line from the 2011 Arroyo Grande Collection System hydraulic model. It was determined from the City of Arroyo Grande Wastewater Master Plan (WSC 2012) that significant growth is not anticipated in the upstream portion of the collection system nor significant increase in future flow rates; therefore the current average annual demands were used for this analysis. It was assumed that the SWWRF would have capacity to treat current Average Annual Flow (AAF) at the Trunk Line connection point, which for the connection points evaluated in the Investment Analysis ranged from 0.48 Million Gallons/Day (MGD) to 1.5 MGD. The SWRRF was assumed to have sufficient redundancy capacity to allow for full time operations.

3.2 Redundancy Project

The Redundancy Project was assumed to have a capacity of 4.2 MGD (Kennedy/Jenks Consultants 2008) and a total project cost of $19 million (MKN & Associates 2015) For the Investment Analysis, it was assumed that a SWRRF would allow for a reduction in the sizing of the Redundancy Project.

3.3 Beneficial Use of Recycled Water

For this Investment Analysis, the types of reuse considered include:

- Agricultural Irrigation - Disinfected tertiary Recycled Water (RW).
- Indirect Potable Reuse (IPR) - Full Advanced Treatment (FAT) with groundwater recharge and extraction through surface spreading and/or direct injection.

RW must meet the State Water Resource Control Board Division of Drinking Water's California Code of Regulations (CCR), Title 22. Title 22 defines four types of RW based on the treatment process used and water quality produced. The four types are disinfected secondary RW, disinfected secondary – 23 RW, disinfected secondary – 2.2 RW and disinfected tertiary RW. Groundwater Recharge Regulations were adopted into Title 22 on June 18th, 2014 due to the current drought conditions. These regulations discuss the following types of recharge:

- Surface spreading without FAT
- Subsurface application by direct injection (FAT required for the entire flow)
- Surface spreading with FAT

The types of beneficial use and wastewater treatment requirements for each type of reuse are described further in Sections 3.3.1 and 3.3.2.

3.3.1 Agriculture Irrigation

3.3.1.1 Potential RW Demand

To estimate potential RW demand for agriculture irrigation, WSC assumed that the crops being irrigated would be truck crops (vegetables and fruits) and used a demand factor of 1.4 AFY/acre, based on the Gross Irrigation Requirement Water Planning Area 5 (Fugro 2014). This demand factor was used to calculate the amount of acreage that could be irrigated depending on the range of RW supply available at the point of connection.

3.3.1.2 Wastewater Treatment Requirements

For unrestricted agricultural irrigation, RW must be treated to disinfected tertiary standards. Disinfected tertiary is defined by Title 22 as filtered and subsequently 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 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 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

For this study it was assumed that RW was treated to disinfected tertiary standards for the agriculture irrigation alternatives, and that reverse osmosis was not required for TDS reduction.

3.3.2 Groundwater Recharge

Two sub alternatives were considered for the case of indirect potable reuse through groundwater recharge: surface spreading basins and injection wells.

3.3.2.1 Surface Spreading Basin Locations

The San Luis Obispo County Regional Recycled Water Strategic Plan (RRWSP) has identified the agriculture fields to the north of Arroyo Grande High School as a site for potential surface spreading (Cannon 2014). A percolation rate of 1 foot per day was assumed for the Investment Analysis, consistent with the RRWSP.

3.3.2.2 Injection Well Locations

The City of Pismo Beach Recycled Water Facilities Planning Study (Pismo RWFPS) identified that inland injection wells required a 200-foot setback from any water supply wells to meet the minimum 8 month retention time within the groundwater basin before extraction per CCR Title 22 regulations (WSC 2015). For this alternative, consistent with the Pismo RWFPS, each well was assumed to be capable of injecting 200-300 AFY based on the transmissivity of the aquifers (WSC 2015).

3.3.2.3 Wastewater Treatment Requirements

Table 1 summarizes the required level of treatment for groundwater recharge through surface recharge and subsurface injection assumed for this analysis. According to CCR Title 22, FAT is required for groundwater augmentation using direct injection, unless an alternative treatment has been demonstrated to the Division of Drinking Water (DDW) as providing equal or better protection of public health and has received written approval from DDW. CCR Title 22, Section 60320.201 defines FAT as "the treatment of an oxidized wastewater . . . using a reverse osmosis (RO) and an oxidation treatment process (AOP)". Groundwater augmentation using surface spreading requires disinfected tertiary as a minimum level of treatment. For this Investment Analysis, FAT was assumed for both surface spreading and subsurface injection.

Table 1. Summary of Assumptions for Surface and Subsurface Groundwater Recharge Alternatives

Element	Surface and Subsurface Recharge
Minimum Required Treatment Level	100% RO and AOP[3] treatment for the entire waste stream
Retention time[1]	Minimum 2 months
Total Nitrogen	Average <10 mg/L
Total Organic Carbon	< 0.5 mg/L
Dilution water compliance calculation	Based on 120-month running average
Pathogen Reduction[2]	12-log enteric virus reduction, 10-log Giardia cyst reduction, 10-log Cryptosporidium oocyst

Notes:
1. Must be verified by a tracer study. An 8 month minimum is required for planning level estimates based on numerical modeling.
2. Minimum of 3 barriers and each barrier must achieve a minimum of 1-log reduction. No barrier can achieve more than 6-log.
3. FAT requires Reverse Osmosis (RO) and advanced oxidation treatment (AOP).

3.3.3 Solids Conveyance

This analysis assumes that residuals from the SWRRF, including biosolids and RO concentrate, would be discharged to the existing trunk lines and conveyed by gravity to the existing WWTP for treatment.

3.4 Financing

For the planning level cost estimate, a 30-year life was assumed with an annual inflation rate of 3% and an interest rate on 100% debt of 5%. Should the project be funded through a State Revolving Fund (SRF) loan, the interest rate will be half of the General Obligation bond rate at the time of funding approval. Interest rates would therefore be substantially lower than 5% (most recently 1.6%). Grant funding was not considered for the purpose of this analysis. All costs were annualized and brought back to present value for relative comparison.

4 Potential RW Alternatives

4.1 Alternative Description

To obtain a range of costs for a potential SWRRF, WSC identified and evaluated five (5) conceptual alternatives. Each conceptual alternative was identified by a specific location of the SWRRF and type of beneficial use of the RW. Table 2 summarizes the conceptual alternatives. Figure 2 illustrates the locations for conceptual Alternatives 1 and 2 and the corresponding irrigation areas. Figure 3 illustrates the potential locations for conceptual Alternatives 3, 4, and 5, including potential groundwater injection points for Alternatives 4 and 5. The potential locations of the SWRRF were limited to outside of the Coastal Zone to limit permitting requirements. Appendix A provides additional information on design criteria for distribution and treatment.

Table 2. SWRRF Conceptual Alternatives Summary

	Approximate Plant Location	Average Annual Flow (MGD)	Treatment Level	RW Beneficial Use	Average Annual Supply Available for Beneficial Use(AFY)	Distribution System Requirements	
						Pipeline (Miles)	Pump Station (HP)
Alternative 1	Arroyo Grande Creek and Leanna Dr	0.63	Disinfected Tertiary	Agriculture Irrigation	704	1.9	40
Alternative 2	HWY 1 and 22nd ST	1.5	Disinfected Tertiary	Agriculture Irrigation	1,677	4.1	20
Alternative 3	Arroyo Grande High School	0.48	FAT	GWR through Percolation	322	0.2	2
Alternative 4	Arroyo Grande Creek and Leanna Dr	0.63	FAT	GWR through Injection Wells(1)	423	1.5	5
Alternative 5	HWY 1 and 22nd ST	1.5	FAT	GWR through Injection Wells(2)	1,006	3.4	12

Notes:
1. Alternative 4 used three injection wells, each with a capacity of approximately 190 AFY.
2. Alternative 5 used six injection wells, each with a capacity of approximately 230 AFY.

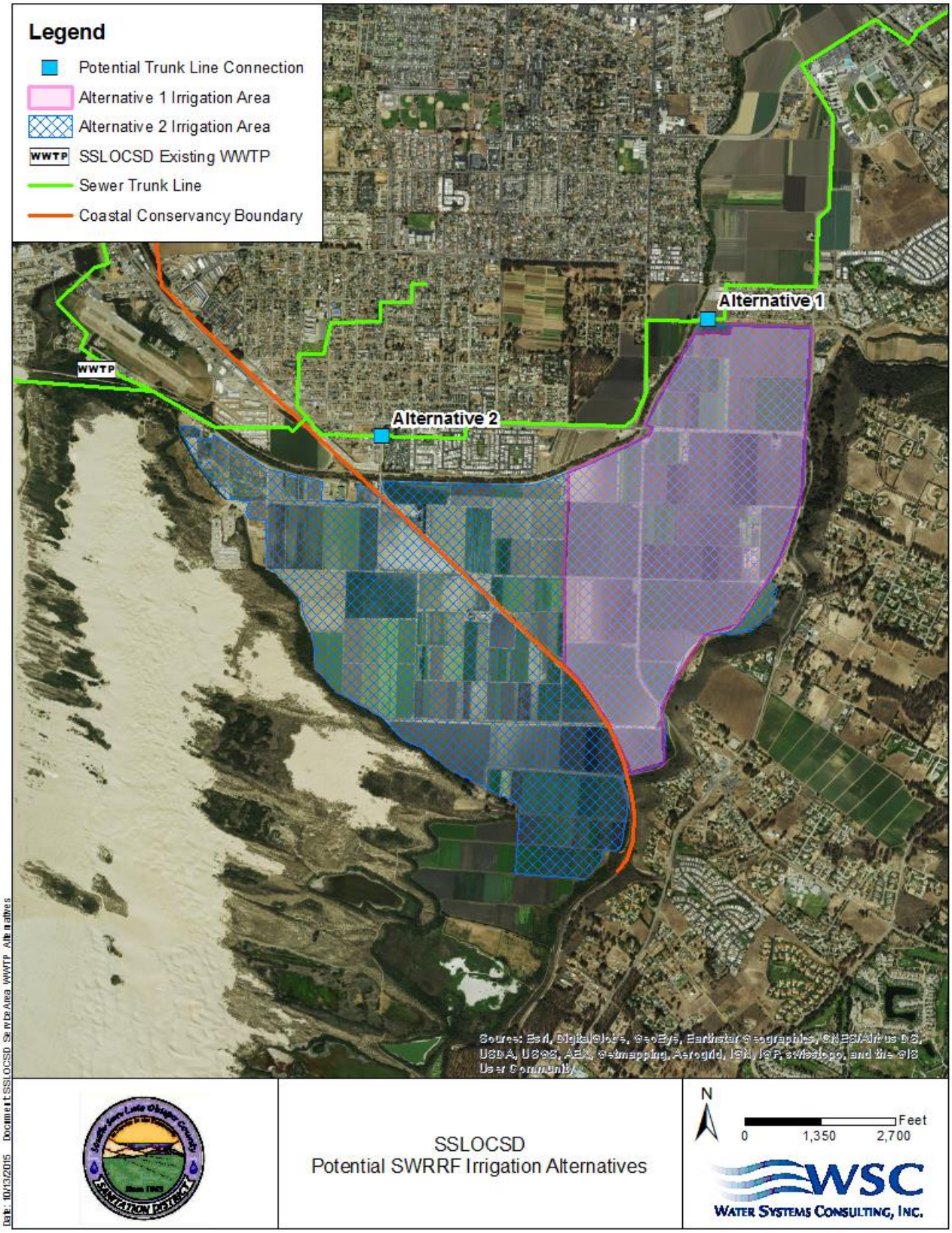

Figure 2. Potential SWRRF Irrigation Alternatives

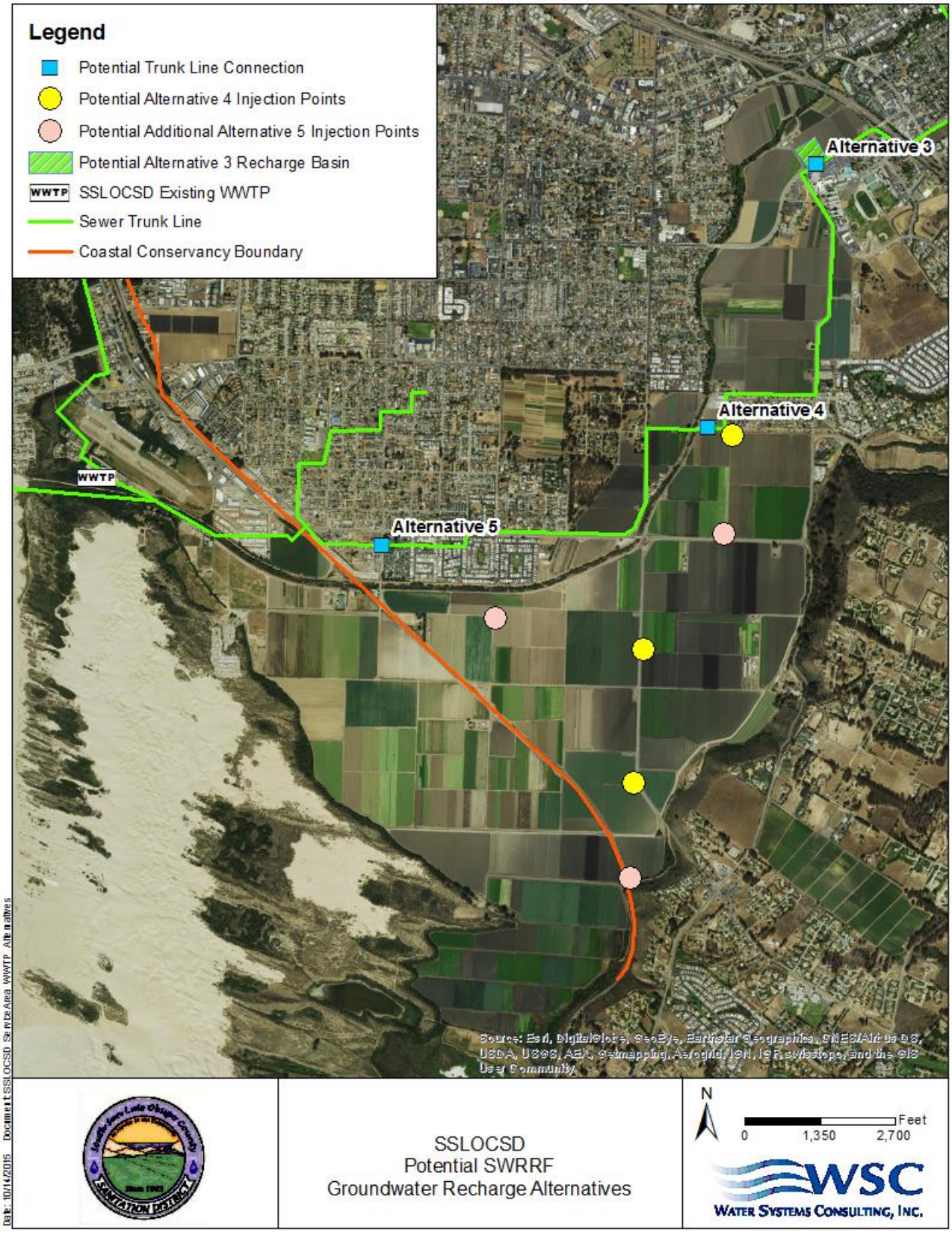

Figure 3. Potential SWRRF Groundwater Recharge Locations

5 Investment Analysis

For the Investment Analysis, estimates of the unit cost (i.e. $/AF) for each of the SWRRF alternatives were developed. These estimates are shown Table 3. The cost estimates include cost for the treatment facility, pipelines, pump stations, customer conversions and annual O&M costs. These planning level costs were based on cost estimate assumptions from the RRWSP (Cannon 2014) and other sources. Additional details on each of the cost estimates for each alternative are provided in Appendix C. The cost estimates are for comparison purpose and should be considered order of magnitude or planning level costs only.

Table 3. Unit Cost Estimates w/o Redundancy Project Cost Savings

Alternative	Capital Cost ($M)	Annual Debt Service Payment ($M)	Annual O&M Cost ($M)	Total Annualized Cost ($M)	Approximate Yield (AF)	Unit Cost ($/AF)
1 Ag Irrigation	$38.2	$1.7	$0.3	$2.0	704	$2,800
2 Ag Irrigation	$63.0	$2.8	$0.7	$3.4	1,677	$2,100
3 Percolation	$39.1	$1.7	$0.3	$2.0	322	$6,800
4 GW Injection	$55.8	$2.5	$0.7	$3.1	423	$7,400
5 GW Injection	$99.6	$4.4	$1.5	$5.9	1,006	$5,800

To account for potential Redundancy Project cost savings, which may be achieved through construction of a SWRRF, additional unit cost estimates were developed for each of the SWRRF alternatives. It was assumed that a SWRRF could divert a portion of the collection system flow and proportionally reduce the total flow at the District's current WWTP and therefore the size and cost of the Redundancy Project. This is a simplification assumed for the purposes of the Investment Analysis, however, additional evaluation of the possible reductions in the sizing of the Redundancy Project will need to be performed in latter phases of the study. It was assumed that the reduced capital costs for the Redundancy Project could then be applied to the unit costs (i.e. $/AF) for the recycled water produced at the SWRRF. Estimates of the potential reduction in Redundancy Project capital costs were calculated using the activated sludge with complex solids handling cost curve from the Construction Costs for Municipal Wastewater Treatment Plants: 1973-1982 (EPA 1983). The cost curve data were adjusted to 2015 dollars and to match the latest capital cost estimates for the Redundancy Project and used to establish a relationship between the capacity of the Redundancy Project and total project cost. For this level of analysis, it was assumed that O&M cost estimates for the Redundancy Project would not change. Estimates of the potential reductions in capital costs for the Redundancy Project are shown Table 4.

Table 4. Potential Redundancy Project Cost Savings[1]

Alternative	SWRRF Capacity (MGD)	Diverted Flow (MGD)	Required Redundancy Project Capacity (MGD)	Estimated Redundancy Cost Estimated ($M)	Estimated Redundancy Cost Savings ($M)[1]
1 Ag Irrigation	0.63	0.63	3.57	$16.9	$2.0
2 Ag Irrigation	1.50	1.50	2.70	$13.9	$5.0
3 Percolation	0.48	0.38	3.82	$17.7	$1.2
4 GW Injection	0.63	0.50	3.70	$17.3	$1.6
5 GW Injection	1.50	1.20	3.00	$15.0	$4.0

Accounting for the potential cost savings that could be achieved in the Redundancy Project through development of a SWRRF, updated unit cost estimates for the each of the SWRRF alternatives were developed and shown in Table 5.

Table 5. Unit Cost Estimates w/ Redundancy Project Savings[1]

Alternative	Capital Cost ($M)	Capital Cost w/ Redundancy Savings ($M)	Annual Capital Payment ($M)	Annual O&M Cost ($M)	Total Annual Cost ($M)	Yield (AF)	Unit Cost ($/AF)
1 Ag Irrigation	$38.2	$36.2	$1.6	$0.3	$1.9	704	$2,700
2 Ag Irrigation	$63.0	$58.0	$2.6	$0.7	$3.2	1,677	$1,900
3 Percolation	$39.1	$37.8	$1.7	$0.3	$2.0	322	$6,400
4 GW Injection	$55.8	$54.2	$2.4	$0.7	$3.1	423	$7,200
5 GW Injection	$99.6	$95.7	$4.2	$1.5	$5.7	1,006	$5,700

5.1 Supplemental Supply Alternatives

To provide a comparison of the estimated unit costs for recycled water produced by the SWRRF, cost estimates for several other potential supplemental supply sources were compiled and shown in Table 6. All unit costs were escalated to July 2015 dollars using the ENR Construction Cost Index.

[1] These estimated cost savings are planning level only, and represent order of magnitude estimates. Additional evaluation to further refine the estimated cost savings will be completed in the RWFPS.

Table 6. Supplemental Water Supply Costs

Supply	Supplemental Source	Unit Cost ($/AF)	Reference
Recycled Water - Ag Irrigation	Upgrade to existing SSLOCSD WWTP	$1,003 to $1,986	Cannon 2014
Recycled Water - GW Recharge	Upgrade to existing SSLOCSD WWTP	$1,361 to $ 2,098	Cannon 2014
Surface Water	Lopez Lake Spillway Raise Project (Stetson 2012)	$1,300	WSC 2015
Ocean Water	South San Luis Obispo County Desalination Funding Study (Wallace 2008)	$3,000	WSC 2015
State Water	Nipomo Community Services District SWP Supply Analysis (Boyle 2007)	$2,000 to $2,600	WSC 2015

Note: Unit cost from each reference are escalated to July 2015 based on ENR Construction Cost Index. Financing assumptions applied by each study are not reconciled.

6 Conclusions and Recommendations

The Investment Analysis determined that the unit cost of the water from each SWRRF alternative could vary significantly depending upon the volume and type of beneficial reuse. The agriculture irrigation alternatives showed a significantly lower unit cost than the groundwater recharge alternatives, primarily related to the increased treatment costs and reduced efficiencies associated with FAT. Of the different SWRRF options, Alternative 2, which included 1,677 AFY of agricultural irrigation, appeared to have the lowest unit cost.

The Investment Analysis additionally identified that a SWRRF could potentially reduce the capacity of the Redundancy Project by reducing the average annual flow to the WWTP. This reduction in capacity could result in a cost savings ranging from $1.2 to $5 M. When applying this potential cost savings to each of the SWRRF alternatives, it reduced the unit costs by approximately $100-200 per AF.

Based on the results of the Investment Analysis, it is recommended that the SWRRF concept be carried forward for further analysis. The estimated unit costs for the agriculture irrigation SWRRF alternatives appear to be cost competitive with the other identified supplemental supply alternatives. Additional analysis through development of the RWFPS will help further refine these cost estimates.

One conceptual alternative that was not considered in this Investment Analysis is the construction of an offsite tertiary or advanced water treatment facility that could treat effluent from the WWTP for use as agriculture irrigation or groundwater recharge. This facility could be located outside of the Coastal Zone, Tsunami Inundation Zone and the Arroyo Grande Creek 100-YR Flood Plain, but could take advantage of the existing primary and secondary treatment facilities at the WWTP. Additionally, this facility could be potentially expanded to receive effluent from the Pismo Beach WWTP and realize potential unit costs savings associated with larger capacity facilities. Considering the potential benefits and cost efficiencies of this conceptual alternative, it is recommended that it be carried forward in the RWFPS as well.

Appendix A. DESIGN CRITERIA FOR DISTRIBUTION AND TREATMENT

The RW systems consist of three primary sets of facilities:

- SWRRF plant facilities (treatment, storage / equalization and product water pump station)
- Distribution system facilities (pipelines, storage and booster pump station)
- Customer facilities or recharge facilities (pipeline, recharge basins, and injection wells)

Facilities	Design Criteria
SWRRF Plant Facilities	
Tertiary Satellite Plant	Plant will include headworks, Membrane Bioreactor and disinfection to Title 22 Standards
Full Advance Treatment Satellite Plant	Plant will include headworks, Membrane Bioreactor, UV disinfection and disinfection to Title 22 Standards
Distribution System Facilities	
Pipelines	Sized to maintain a headloss gradient of less than 10 ft of headloss per 1000 ft of pipeline during peak hour
Booster Pump Stations	Capacity based on peak hour demand (assumes no gravity system storage) Station efficiency is assumed to be 75% All pumps will have Variable Frequency Drives (VFDs) Irrigation system booster stations will be equipped with a hydropneumatic tank to control pressure variations
System Storage	Capacity based on average daily flow
Injection Well Site Size	50' x 50' permanent site; additional construction easements based on site specific requirements
Customer or Recharge Facilities	
Main Irrigation Customer Services	Sized to maintain a headloss gradient of less than 10 ft of headloss per 1000 ft of pipeline during peak hour
Recharge Basin	Recharge rate 1ft/day[1]

1. Recharge rate was identified from the RRWSP.

Customer Conversion Cost

For this investment Analysis, the cost to convert existing agriculture irrigation to include RW services was estimated based on either 1) storage tank and pump or 2) flow control valve with backflow prevention depending on existing customer irrigation system.

1) RW would be pumped to the agriculture customer where it would be stored in an onsite storage tank along with potable or non-potable water necessary to mean either peak demands or water quality specific to the crop. From there a pump would be required to irrigation the crops.
2) RW would be pumped to the agriculture customer where it go through a flow control valve and be combined with potable or non-potable water necessary to mean either peak demands or water quality specific to the crop. The potable or non-potable line would be fitted with backflow prevention to assure no cross contamination. It is assumed that both options will cost approximately $50,000 for the conversion and testing to assure no cross contamination.

Appendix B. IMPLEMENTATION CONSIDERATIONS

There are many factors that will go into implementing a RW System. The first step will be to prepare and complete a RWFPS. On behalf of the District, WSC has prepared and submitted the grant application for the RWFPS which has been accepted. In preparing the RWFPS, variety of SWRRF locations, sizes and treatment will be analyzed along with reuse alternatives. Through this process, a recommended alternative will be identified and refined. Implementing the preferred RW alternative will consist of the following components:

- Preliminary and Final Design
- Permitting
- Environmental Documents
- Coordination and Public Outreach
- Implementation Schedule

Preliminary and Final Design

Depending on the preferred RW alternative, Preliminary and Final Design can include groundwater modeling, test injection well, water quality sampling and design of the SWRRF.

Permitting

The permitting process can include obtaining the Water Recycling Requirement and updating the District's Water Discharge Requirement permit through Central Coast Regional Water Quality Control Board; infrastructure permits; and obtain approval from the State Water Resource Control Board in accordance with California Water Code sections 1210-1212 addressing water rights before changing the purpose of use of treated water. A Salt and Management Plan will need to be developed by the Northern Cities Management Area agencies, which would identify the groundwater quality, implementation plan and monitoring program. If groundwater recharge is the preferred alternative, the implementation plan and monitoring program will need to be updated to the preferred alternative.

Environmental Documents

In accordance with the California Environmental Quality Act, it is anticipated the District will need to prepare an Initial Study followed by an Environmental Impact Report for the recommended project. To apply for federal funding sources, the District may also need to prepare an Environmental Assessment and an Environmental Impact Statement to comply with the National Environmental Policy Act.

Coordination and Public Outreach

The development of SWRRF would benefit the water purveyors/users in and around the District's service area by providing a supplemental drought resilient water supply. Since the District does not currently supply potable water, the District would need to developed partnerships with interested water agencies and/or agricultural farmers. The District may also need to focus on public outreach to obtain public acceptance. The public outreach program can vary depending on the preferred alternative.

Implementation Schedule

An implementation schedule will need to be develop to identify and schedule funding opportunities, permitting requirements, design and construction.

Appendix C. DETAILS OF RW COST ESTIMATE

Planning level cost estimates for each potential alternative were developed. Assumptions used as the basis of these cost estimates are discussed in this section.

Scope and Accuracy

The cost estimates included in this Investment Analysis are based upon the Class 4 Conceptual Report Classification of Opinion of Probable Construction Cost as developed by the Association for the Advancement of Cost Engineering Cost Estimate Classification System. The purpose of a Class 4 Estimate is to provide a conceptual level effort that has an expected accuracy range from -30% to +50% and the inclusion of an appropriate contingency for planning and feasibility studies. The conceptual nature of the design concepts and associated costs presented in this Investment Analysis are based upon limited design information available at this stage of the projects.

These cost estimates have been developed using a combination of data from RS Means CostWorks®, recent bids, experience with similar projects, current and foreseeable regulatory requirements and an understanding of the necessary project components. As the projects progress, the design and associated costs could vary significantly from the project components identified in this Investment Analysis.

For projects where applicable cost data is available in RS Means CostWorks® (e.g. pipeline installation), cost data released in Quarter 2 of 2015, adjusted for San Luis Obispo, California, is used. Material prices were adjusted in some cases to provide estimates that align closer with actual local bid results.

For projects where RS Means CostWorks® data is not available, cost opinions are generally derived from bid prices from similar projects, vendor quotes, material prices, and labor estimates, with adjustments for inflation, size, complexity and location.

Cost opinions are in 2015 dollars (ENR 20 City Average Construction Cost Index of: 10,037 for July 2015). When budgeting for future years, appropriate escalation factors should be applied.

Cost opinions are “planning-level” and may not fully account for site-specific conditions that will affect the actual costs, such as soils conditions and utility conflicts.

Markups and Contingencies

For the development of the planning level cost estimates, several markups and contingencies are applied to the estimated construction costs to obtain the total estimated project costs. The markups are intended to account for costs of engineering, design, administration, and legal efforts associated with implementing the project (collectively, Implementation Markup). For the Investment Analysis, two different Implementation Markups are used depending on the type of project. Irrigation projects have a 30% markup, while groundwater recharge projects have a 40% markup. This difference is to account for the greater number of studies required and the extended implementation schedule of a groundwater recharge project.

Unaccounted-for Items and Contingency account for additional construction costs that could not be anticipated at the time of this analysis. A summary of the markups and contingencies applied in this Investment Analysis are presented in the table below.

	Estimated Construction Cost
+	20% of Construction Subtotal for Contingency
+	20% of Construction Cost for Unaccounted-for items
=	**Subtotal 1**
+	30% of Subtotal 1 for Irrigation (or 40% of Subtotal 1 for GRRP) for Implementation Cost
=	**Total Capital Cost**

Excluded Costs

- Overall Program Management. If the magnitude of the capital program exceeds the capacity of City staff to manage all of the work, then the services of a program management team may be required.
- Public Information Program. Depending on the relative public acceptability of a major RW facility or a group of facilities, there may be a need for a public information program, which could take many different forms. It is recommended that the City engage in a proactive public outreach program in coordination with other existing or planned outreach programs.

Unit Cost for Potential Alternatives

Unit costs of the various alternatives are compared using the annual payment method. The unit cost is calculated with this method by adding the annual payment for borrowed capital costs to the annual O&M cost and dividing by the annual project yield. This method provides a simple comparison between potential alternatives in this Investment Analysis. The factors described below are used to calculate the unit cost with the annual payment method.

The economic factors used to analyze the estimated costs for each of the project concepts are:

- Inflation: Escalation of capital and O&M costs is assumed to be 3.0% based on a combination of California CCI and Western Region Consumer Price Index (CPI) for the past 10 years (June 2004 to June 2014). The average annual escalation rate for California CCI is 3.6%, while the average annual inflation rate for CPI is 2.3%.
- Project Financing: Interest Rate & Payback Period: 5% over 30 years. Note that State Revolving Fund (SRF) loans are at a lower rate and potentially shorter payback period.
- Useful Life of Facilities: The useful life of facilities will vary based on several factors, including type of facility, operating conditions, design life, and maintenance upkeep. Structural components of most facilities are typically designed to last 50 years or longer. However, mechanical and electrical components tend to have a much shorter lifespan and typically require replacement or rehabilitation at regular intervals. To simplify the lifecycle evaluation, this Investment Analysis assumes that all facilities have a useful life matching the financing payback period of 30 years.

APPENDIX B. THE DISTRICT NPDES PERMIT

California Regional Water Quality Control Board
Central Coast Region

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
(805) 549-3147 • Fax (805) 543-0397
http://www.waterboards.ca.gov/centralcoast

Linda S. Adams.
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

October 28, 2009

John Wallace, District Administrator
South San Luis Obispo County Sanitation District
P. O. Box 339
Oceano, CA 93445

Dear Mr. Wallace:

RENEWED NPDES PERMIT FOR SOUTH SAN LUIS OBISPO COUNTY SANITATION DISTRICT WASTEWATER TREATMENT FACILITY

At its public meeting on October 23, 2009, the Central Coast Water Board adopted Order No. R3-2009-0046, Waste Discharge Requirements for the South San Luis Obispo County Sanitation District Wastewater Treatment Facility (reissued NPDES Permit No. CA0048003). Please review the requirements carefully and note that some modifications to previous monitoring requirements are specified. The permit will also be posted online at: http://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/index.shtml

If you have any questions, please call **Sorrel Marks at 805/549-3695** or Burton Chadwick at 805/542-4786.

Sincerely,

Roger W. Briggs
Executive Officer

Attachment: WDR Order No. R3-2009-0046 with Standard Provisions, MRP & Fact Sheet

S:\NPDES\NPDES Facilities\San Luis Obispo Co\South SLO Co\current permit\09-0046 adopted.ltr.doc

See next page for list of cc's

cc: (without attachments)

Vicki Finn
U. S. Fish & Wildlife Service
2493 Portola Rd, Suite B
Ventura, CA 93003

Dept. of Fish & Game
20 Lower Ragsdale Dr. Suite 100
Monterey, CA 93940-5729

Victor Holanda
SLO Co. Planning
County Government Center
San Luis Obispo, CA 93401

Dr. Greg Thomas
SLO Co. Environmental Health
P.O. Box 1489
San Luis Obispo, CA 93401

Melissa Guise
Air Pollution Control District
3433 Roberto Ct,
San Luis Obispo, CA 93401

Don Spagnolo
City of Arroyo Grande
208 East Brach St.,
Arroyo Grande, CA 93420

Kevin Walsh
Oceano CSD
P. O. Box 599
Oceano, CA 93445

Robert Perrault
City of Grover Beach
154 So. 8th St.
Grover Beach, CA 93433

Dwayne Chisam
City of Pismo Beach
760 Mattie Road
Pismo Beach, CA 93449

cc (with electronic attachment):

jae.kim@tetratech-ffx.com
smith.davidw@epa.gov
NPDES_wastewater@waterboards.ca.gov
dmr@waterboards.ca.gov

California Regional Water Quality Control Board
Central Coast Region

Linda S. Adams
Secretary for
Environmental Protection

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
(805) 549-3147 • Fax (805) 543-0397
http://www.waterboards.ca.gov/centralcoast/

Arnold Schwarzenegger
Governor

ORDER NO. R3-2009-0046
NPDES NO. CA0048003

WASTE DISCHARGE REQUIREMENTS
FOR THE SOUTH SAN LUIS OBISPO COUNTY SANITATION DISTRICT
WASTEWATER TREATMENT FACILITY

The following Discharger is subject to waste discharge requirements as set forth in this Order.

Table 1. Discharger Information

Discharger	South San Luis Obispo County Sanitation District
Name of Facility	Wastewater Treatment Facility
Facility Address	1600 Aloha Place
	Oceano, CA 93445-9735
	San Luis Obispo County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **major** discharge.	

Discharges by the South San Luis Obispo County Sanitation District from the discharge point identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary Treated Municipal Wastewater and Brine Wastes	35° 06' 04" N	120° 38' 46" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**October 23, 2009**
This Order shall become effective on:	**October 23, 2009**
This Order shall expire on:	**October 23, 2014**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. R3-2004-0050 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Roger Briggs Executive Officer, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coastal Region, on October 23, 2009.

Roger W. Briggs, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order.

Table 4. Facility Information

Discharger	South San Luis Obispo County Sanitation District
Name of Facility	Wastewater Treatment Facility
Facility Address	1600 Aloha Place
	Oceano, CA 93445-9735
	San Luis Obispo County
Facility Contact, Title, and Phone	Jeff Appleton, Superintendent, 805-489-6666
Mailing Address	1600 Aloha Place, PO Box 339, Oceano, CA 93475
Type of Facility	POTW
Facility Design Flow	5.0 million gallons per day (MGD) (dry weather monthly average) 9.0 MGD (peak wet weather)

II. FINDINGS

The California Water Resources Control Board, Central Coast Region (hereinafter the Central Coast Water Board), finds:

A. Background. The South San Luis Obispo County Sanitation District (hereinafter the Discharger) is currently discharging pursuant to Order No. R3-2004-0050 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0048003. The Discharger submitted a complete Report of Waste Discharge, dated April 10, 2009, and applied for an NPDES permit renewal to discharge up to 5.0 MGD of treated wastewater from the District's Wastewater Treatment Facility.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger operates a wastewater collection, treatment, and disposal facility, which provides service to the Cities of Arroyo Grande and Grover Beach and the Oceano Community Services District. The Cities of Arroyo Grande and Grover Beach and the Oceano Community Services District retain ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge into interceptors owned and operated by the Discharger. The treatment facility currently serves a population of approximately 37,648 people.

The Wastewater Treatment Facility consists of primary clarification, trickling filters, secondary clarification, disinfection using chlorine, and dechlorination. The design capacity of the treatment facility is 5.0 MGD. Treated wastewater is discharged to the Pacific Ocean at a depth of approximately 55 feet through a 4,400 foot outfall/diffuser system, jointly owned by the Discharger and the City of Pismo Beach. Up to 5.0 MGD of secondary treated wastewater is discharged by the South San Luis Obispo County Sanitation District, which is combined with up to 1.9 MGD of effluent from the City of Pismo Beach through the outfall/diffuser system. The diffuser provides a minimum initial dilution

of approximately 165 to 1 (ocean water to effluent). The City of Pismo Beach discharge is regulated under NPDES Permit No. CA0048151. The facility also accepts brine wastes from water softener regeneration companies, which is mixed with the final treated wastewater prior to discharge. In 2008, approximately 325,000 gallons of brine waste were discharged at this facility.

C. **Legal Authorities.** This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). This Order shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).

D. **Background and Rationale for Requirements**. The Central Coast Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** Pursuant to Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the CEQA, Public Resources Code sections 21100-21177.

F. **Technology-Based Effluent Limitations.** CWA Section 301(b) and USEPA's NPDES regulations at 40 CFR 122.44 require that permits include, at a minimum, conditions meeting applicable technology-based requirements and any more stringent effluent limitations necessary to meet applicable water quality standards. Discharges authorized by this Order must meet minimum federal technology-based requirements based on Treatment Equivalent to Secondary Treatment Standards established at 40 CFR Part 133, which describe the minimum level of effluent quality attainable by facilities eligible for treatment equivalent to secondary treatment, and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of development of technology-based effluent limitations is included in the Fact Sheet (Attachment F).

G. **Water Quality-Based Effluent Limitations.** CWA Section 301(b) and NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential is established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy

interpreting the state's narrative criterion, supplemented with other relevant information, as provided at 40 CFR 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Central Coast Water Board has adopted a *Water Quality Control Plan for the Central Coast Region* (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. To address ocean waters, the Basin Plan incorporates by reference the *Water Quality Control Plan for Ocean Waters of California* (the Ocean Plan).

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because TDS levels of marine waters exceed 3000 mg/L, such waters are not considered suitable for municipal or domestic supply and therefore meet an exception to Resolution No. 88-63. Beneficial uses established by the Basin Plan for coastal waters between Point San Luis and Point Sal are presented in Table 5, below.

Table 5. Basin Plan Beneficial Uses for the Pacific Ocean

Discharge Point	Receiving Water	Beneficial Use(s)
001	Pacific Ocean (Pt San Luis to Pt Sal)	• Water Contact and Non-Contact Recreation • Industrial Service Supply • Navigation • Commercial and Sport Fishing • Marine Habitat • Shellfish Harvesting • Rare, Threatened, or Endangered Species • Wildlife Habitat

I. **California Ocean Plan.** The State Water Board adopted the *Ocean Plan* in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The *Ocean Plan* is applicable to point source discharges to the Ocean, and it identifies the following beneficial uses of ocean waters.

Table 6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	• Industrial Water Supply • Water Contact and Non-Contact Recreation, including Aesthetic Enjoyment • Navigation • Commercial and Sport Fishing • Mariculture • Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS) • Rare and Endangered Species • Marine Habitat • Fish Migration • Fish Spawning and Shellfish Harvesting

In order to protect beneficial uses, the *Ocean Plan* establishes water quality objectives and programs of implementation to achieve and maintain those objectives. Requirements of this Order implement the *Ocean Plan*.

J. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

K. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. As discussed in section IV.B of the Fact Sheet, the Order establishes technology-based effluent limitations for biochemical oxygen demand (BOD_5), total suspended solids (TSS), settleable solids, oil and grease, turbidity, and pH for Discharge Point 001. These technology-based limitations implement the minimum, applicable federal technology-based requirements. The Order also contains effluent limitations in addition to the minimum, federal technology-based requirements, necessary to meet applicable water quality standards. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. Procedures for calculating individual WQBELs are based on the *Ocean Plan*, as approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the *Ocean Plan* were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Central Coast Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

M. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As

discussed in the Fact Sheet, effluent limitations and other requirements established by this Order satisfy applicable anti-backsliding provisions of the CWA and NPDES regulations.

N. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered specie or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of State and federal law regarding threatened and endangered species.

O. **Monitoring and Reporting.** NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize the Central Coast Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

P. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with NPDES regulations at 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Central Coast Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

Q. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.C, and V.B of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

R. **Notification of Interested Parties.** The Central Coast Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet accompanying this Order.

S. **Consideration of Public Comment.** The Central Coast Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge to the Pacific Ocean at a location other than as described by this Order at 35° 06' 04" N. Latitude, 120° 38' 46" W. Longitude is prohibited.

B. Discharges of any waste in any manner other than as described by this Order are prohibited.

C. The dry weather average monthly rate of discharge to the Pacific Ocean shall not exceed 5.0 MGD.

D. Wastes shall not be discharged to State Water Quality Protection Areas, described as Areas of Special Biological Significance by the Ocean Plan (2005), except in accordance with Chapter III.E of the Ocean Plan.

E. The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the Ocean is prohibited.

F. Federal law prohibits the discharge of sludge by pipeline to the Ocean. The discharge of municipal or industrial waste sludge directly to the Ocean or into a waste stream that discharges to the Ocean is prohibited. The discharge of sludge or digester supernatant, without further treatment, directly to the Ocean or to a waste stream that discharges to the Ocean, is prohibited.

G. The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited. This prohibition does not apply to brine discharges authorized herein.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. **Conventional Pollutants.** The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP.

Table 7. Effluent Limitations for Conventional Pollutants

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
BOD_5	mg/L	40	60	90
	lbs/day	1668	2502	3753
TSS	mg/L	40	60	90
	lbs/day	1668	2502	3753
Settleable Solids	mL/L/hr	1.0	1.5	3.0
Turbidity	NTUs	75	100	225
Oil & Grease	mg/L	25	40	75
	lbs/day	1042	1668	3127
Fecal Coliform Bacteria	MPN/100 mL		200[1]	2,000
pH	pH units	6.0 – 9.0 at all times		

[1] 7-sample median

2. **Toxic Pollutants.** The Discharger shall maintain compliance with the following effluent limitations for toxic pollutants at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP.

Table 8. Effluent Limitations for Toxic Pollutants

Pollutant	Unit	6-Month Median[1]	Daily Maximum[2]	Instantaneous Maximum[3]
Ammonia (as N)	mg/L	99.6	398.4	996
	lbs/day	4153	16613	41533
Arsenic	mg/L	0.83	4.82	12.79
	lbs/day	35	201	533
Cadmium	mg/L	0.17	0.66	1.66
	lbs/day	6.9	28	69
Chromium^{+6}[4]	mg/L	0.33	1.33	3.32
	lbs/day	14	55	138
Copper	mg/L	0.17	1.66	4.65
	lbs/day	7.0	69	194
Lead	mg/L	0.33	1.33	3.32
	lbs/day	14	55	138
Mercury	µg/L	6.56	26.48	66.32
	lbs/day	0.27	1.1	2.8
Nickel	mg/L	0.83	3.32	8.30
	lbs/day	35	138	346
Selenium	mg/L	2.49	9.96	24.90
	lbs/day	104	415	1038
Silver	mg/L	0.090	0.44	1.14
	lbs/day	3.7	18	47
Zinc	mg/L	2.00	11.96	31.88
	lbs/day	83	499	1329
Cyanide[5]	mg/L	0.17	0.66	1.66
	lbs/day	6.9	28	69
Total Chlorine Residual	mg/L	0.33	1.33	9.96
	lbs/day	14	55	415
Acute Toxicity[6],[7]	TUa	---	5.25	---
Chronic Toxicity[8]	TUc	---	166	---
Non-chlorinated Phenolics	mg/L	4.98	19.92	49.80
	lbs/day	208	831	2177
Chlorinated Phenolics	mg/L	0.17	0.66	1.66
	lbs/day	6.9	28	69
Endosulfan[9]	µg/L	1.49	2.99	4.48
	lbs/day	0.062	0.12	0.19
Endrin	µg/L	0.33	0.66	1.00
	lbs/day	0.014	0.028	0.042
HCH[10]	µg/L	0.66	1.33	1.99
	lbs/day	0.028	0.055	0.083
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

[1] The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).

[2] The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).

[3] The instantaneous maximum shall apply to grab sample determinations.

[4] The Discharger may, at its option, meet this limitation as total chromium.

[5] If a Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136, as revised May 14, 1999.

[6] The mixing zone for the Ocean Plan's Table B acute toxicity objective shall be ten percent (10%) of the distance from the edge of the outfall structure to the edge of the chronic mixing zone (zone of initial dilution). There is no vertical limitation on this zone. This acute toxicity effluent limitation takes this requirement into consideration and was derived using Equation No. 2 of the Ocean Plan.

[7] Acute Toxicity - Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC 50\%}}$$

Lethal Concentration 50% (LC 50) - LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in the Ocean Plan, Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where: S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

[8] This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

Chronic Toxicity - Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

No Observed Effect Level (NOEL) - The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix III.

[9] Endosulfan shall mean the sum of endosulfan-alpha and –beta and endosulfan sulfate.

[10] HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Table 9. Effluent Limitations for the Protection of Human Health, Non-Carcinogens

Pollutant	Units	30-Day Average
Acrolein	mg/L	36.52
	lbs/day	1523
Antimony	mg/L	199.2
	lbs/day	8307
Bis(2-Chloroethoxy)Methane	mg/L	0.730
	lbs/day	30
Bis(2-Chloroisopropyl)ether	mg/L	199.2
	lbs/day	8307
Chlorobenzene	mg/L	94.62
	lbs/day	3946
Chromium^{+3}	g/L	31.54
	lbs/day	1315218
Di-n-Butyl Phthalate	mg/L	581
	lbs/day	24228
Dichlorobenzenes[1]	mg/L	846.6
	lbs/day	35303
Diethyl Phthalate	g/L	5.478
	lbs/day	228433
Dimethyl Phthalate	g/L	136.12
	lbs/day	5676204
2-Methyl-4,6-Dinitrophenol	mg/L	36.52
	lbs/day	1523
2,4-Dinitrophenol	mg/L	0.664
	lbs/day	28
Ethylbenzene	mg/L	680.6
	lbs/day	28381
Fluoranthene	mg/L	2.49
	lbs/day	104
Hexachlorocyclopentadiene	mg/L	9.628
	lbs/day	401
Nitrobenzene	mg/L	0.813
	lbs/day	34
Thallium	mg/L	0.332
	lbs/day	14
Toluene	g/L	14.11
	lbs/day	588387
Tributyltin	ng/L	232
	lbs/day	0.0097
1,1,1-Trichloroethane	g/L	89.64
	lbs/day	3737988

[1] Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Table 10. Effluent Limitations for the Protection of Human Health, Carcinogens

Pollutant	Unit	30-Day Average
Acrylonitrile	µg/L	16.6
	lbs/day	0.69
Aldrin	ng/L	3.652
	lbs/day	0.00015
Benzene	µg/L	979.4
	lbs/day	41
Benzidine	ng/L	11.454
	lbs/day	0.00048
Beryllium	µg/L	5.478
	lbs/day	0.23
Bis(2-chloroethyl) ether	µg/L	7.47
	lbs/day	0.31
Bis(2-ethylhexyl) phthalate	µg/L	581
	lbs/day	24
Carbon Tetrachloride	µg/L	149.4
	lbs/day	6.2
Chlordane[1]	ng/L	3.818
	lbs/day	0.00016
Chlorodibromomethane	mg/L	1.428
	lbs/day	60
Chloroform	mg/L	21.580
	lbs/day	900
DDT[2]	ng/L	28.22
	lbs/day	0.0012
1,4-Dichlorobenzene	mg/L	2.988
	lbs/day	125
3,3-Dichlorobenzidine	µg/L	1.345
	lbs/day	0.056
1,2-Dichloroethane	mg/L	4.648
	lbs/day	194
1,1-Dichloroethylene	µg/L	149.4
	lbs/day	6.2
Dichlorobromomethane	mg/L	1.029
	lbs/day	43
Dichloromethane	mg/L	74.7
	lbs/day	3115
1,3-Dichloropropene	mg/L	1.477
	lbs/day	62
Dieldrin	ng/L	6.64
	lbs/day	0.00028
2,4-Dinitrotoluene	µg/L	431.6
	lbs/day	18
1,2-Diphenylhydrazine	µg/L	26.56

Pollutant	Unit	30-Day Average
	lbs/day	1.1
Halomethanes[3]	mg/L	21.58
	lbs/day	900
Heptachlor	ng/L	8.3
	lbs/day	0.00035
Heptachlor Epoxide	ng/L	3.32
	lbs/day	0.00014
Hexachlorobenzene	ng/L	34.86
	lbs/day	0.0015
Hexachlorobutadiene	mg/L	2.324
	lbs/day	97
Hexachloroethane	µg/L	415
	lbs/day	17
Isophorone	mg/L	121.18
	lbs/day	5053
N-nitrosodimethylamine	mg/L	1.212
	lbs/day	51
N-nitrosdi-N-propylamine	µg/L	63.08
	lbs/day	2.6
N-nitrosodiphenylamine	µg/L	415
	lbs/day	17
PAHs[4]	µg/L	1.461
	lbs/day	0.061
PCBs[5]	ng/L	3.154
	lbs/day	0.00013
TCDD Equivalents[6]	pg/L	0.6474
	lbs/day	0.000000027
1,1,2,2-Tetrachloroethane	µg/L	381.8
	lbs/day	16
Tetrachloroethylene	µg/L	332
	lbs/day	14
Toxaphene	ng/L	34.86
	lbs/day	0.0015
Trichloroethylene	mg/L	4.482
	lbs/day	187
1,1,2-Trichloroethane	mg/L	1.56
	lbs/day	65
2,4,6-Trichlorophenol	µg/L	48.14
	lbs/day	2.01
Vinyl Chloride	mg/L	5.976
	lbs/day	249

[1] Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

[2] DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

[3] Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

[4] PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

[5] PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

[6] TCDD equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

3. **Percent Removal.** The average monthly percent removal of BOD_5 and TSS shall not be less than 80 percent.

4. **Initial Dilution.** The minimum initial dilution of treated effluent at the point of discharge to the Pacific Ocean shall not be less than 165 to 1 (seawater to effluent) at any time.

5. Effluent shall be essentially free of materials and substances that:
   a. Float or become floatable upon discharge;
   b. May form sediments that degrade benthic communities or other aquatic life;
   c. Accumulate to toxic levels in marine waters, sediments, or biota;
   d. Decrease the natural light to benthic communities and other marine life; and
   e. Result in aesthetically undesirable discoloration of the ocean surface.

B. Land Discharge Specifications. This section of the standardized permit is not applicable to the South San Luis Obispo County Sanitation District.

C. Reclamation Specifications. If applicable, the Discharger shall comply with applicable State and local requirements regarding the production and use of reclaimed wastewater, including requirements established by the Department of Health Services at title 22, sections 60301 - 60357 of the California Code of Regulations, Water Recycling Criteria.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations. The following receiving water limitations are based on water quality objectives contained in the Ocean Plan and are a required part of this

Order. Compliance shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

1. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone designated for water contact recreation use by the Central Coast Water Board (i.e., waters designated as REC-1), but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column.

   30-Day Geometric Mean: The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location:

   a. Total coliform density shall not exceed 1,000 per 100 mL;
   b. Fecal coliform density shall not exceed 200 per 100 mL; and
   c. Enterococcus density shall not exceed 35 per 100 mL.

   Single Sample maximum:

   a. Total coliform density shall not exceed 10,000 per 100 mL;
   b. Fecal coliform density shall not exceed 400 per 100 mL; and
   c. Enterococcus density shall not exceed 104 per 100 mL.
   d. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1

2. At all areas where shellfish may be harvested for human consumption, as determined by the Central Coast Water Board, the following bacteriological objectives shall be maintained throughout the water column:

   a. The median total coliform density shall not exceed 70 organisms per 100 mL, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mL.

3. Floating particulates and grease and oil shall not be visible.

4. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

5. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

6. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

7. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally as a result of the discharge of oxygen demanding waste material.

8. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

9. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

10. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan in marine sediments shall not be increased to levels that would degrade indigenous biota.

11. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

12. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.

13. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table B of the Ocean Plan.

14. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.

15. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

16. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

17. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations. Activities at the facility shall not cause exceedance/deviation from the following water quality objectives for groundwater established by the Basin Plan.

1. Groundwater shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.

2. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. **Central Coast Water Board Standard Provisions.** The Discharger shall comply with all Central Coast Water Board Standard Provisions included in Attachment D-1 of this Order.

B. Monitoring and Reporting Program (MRP) Requirements. The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 CFR Part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*.

C. Special Provisions

1. **Reopener Provisions.** This permit may be reopened and modified in accordance with NPDES regulations at 40 CFR 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any USEPA approved, new, State water quality objective. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations. This provision contemplates, without limitation, effluent limitations that are necessary because monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a water quality objective in Table B of the Ocean Plan.

2. **Special Studies, Technical Reports and Additional Monitoring Requirements**

   a. **Toxicity Reduction Requirements.** If the discharge consistently exceeds an effluent limitation for toxicity specified by Section IV of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan.

   A TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TOXICITY IDENTIFICATION EVALUATION (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases - characterization, identification, and confirmation using aquatic organism toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

   The Discharger shall maintain a Toxicity Reduction Evaluation (TRE) Workplan, which describes steps that the Discharger intends to follow in the event that a toxicity effluent limitation established by this Order is exceeded in the discharge. The workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88-070 (for industrial discharges) or EPA/600/2-88/062 (for municipal discharges), and shall include, at a minimum:

   (1) Actions that will be taken to investigate/identify the causes/sources of toxicity,

(2) Actions that will be evaluated to mitigate the impact of the discharge, to correct the non-compliance, and/or to prevent the recurrence of acute or chronic toxicity (this list of action steps may be expanded, if a TRE is undertaken), and

(3) A schedule under which these actions will be implemented.

When monitoring measures toxicity in the effluent above a limitation established by this Order, the Discharger shall resample immediately, if the discharge is continuing, and retest for whole effluent toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Central Coast Water Board Executive Officer (EO) as soon as possible following receipt of monitoring results. The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement a Toxicity Reduction Evaluation, or to implement other measures. The Discharger shall conduct a TRE giving due consideration to guidance provided by the U.S. EPA's Toxicity Reduction Evaluation Procedures, Phases 1, 2, and 3 (EPA document nos. EPA 600/3-88/034, 600/3-88/035, and 600/3-88/036, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule.

Table 11. Toxicity Reduction Evaluation Schedule

Action Step	When Required
Take all reasonable measures to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate the TRE in accordance to the Workplan.	Within 7 days of notification by the EO
Conduct the TRE following the procedures in the Workplan.	Within the period specified in the Workplan (not to exceed one year, without an approved Workplan)
Submit results of the TRE, including summary of findings, corrective action, and all results and data.	Within 60 days of completion of the TRE
Implement corrective actions to meet Permit limits and conditions.	To be determined by the EO

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Goal. The goal of the Pollutant Minimization Program is to reduce potential sources of Ocean Plan Table B toxic pollutants through pollutant minimization (control) strategies, including pollution prevention measures, to maintain effluent concentrations at or below the effluent limitation.

b. Determining the Need for a Pollutant Minimization Program

(1) The Discharger shall develop and implement a Pollutant Minimization Program if:

(i) A calculated effluent limitation is less than the reported Minimum Level,

(ii) The concentration of the pollutant is reported as DNQ, and

(iii) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

(2) Alternatively, the Discharger shall develop and implement a Pollutant Minimization Program if:

(i) A calculated effluent limitation is less than the Method Detection Limit (MDL),

(ii) The concentration of the pollutant is reported as ND, and

(iii) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

c. Elements of a Pollutant Minimization Program. A Pollutant Minimization Program shall include actions and submittals acceptable to the Central Coast Water Board including, but not limited to, the following.

(1) An annual review and semiannual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;

(2) Quarterly monitoring for the reportable pollutant in influent to the wastewater treatment system;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant in the effluent at or below the calculated effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy;

(5) An annual status report that shall be sent to the Executive Officer that includes:

(i) All Pollutant Minimization Program monitoring results for the previous year;

(ii) A list of potential sources of the reportable pollutant;

(iii) A summary of all actions taken in accordance with the control strategy; and

(iv) A description of actions to be taken in the following year.

4. **Construction, Operation and Maintenance Specifications.** This section of the standardized permit is not applicable to the South San Luis Obispo County Sanitation District.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

   a. **Biosolids Management**. The handling, management, and disposal of sludge and solids derived from wastewater treatment must comply with applicable provisions of U.S. EPA regulations at 40 CFR 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements.

      Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination. Sites for solids and sludge treatment and storage shall have adequate facilities to divert surface water runoff from adjacent areas to protect the boundaries of such sites from erosion, and to prevent drainage from treatment and storage sites.

      The treatment, storage, disposal, or reuse of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited into waters of the State. The Discharger is responsible for assuring that all biosolids produced at its facility are used or disposed of in accordance with the above rules, whether the Discharger uses or disposes of the biosolids itself, or transfers them to another party for further treatment, use, or disposal. The Discharger is responsible for informing subsequent preparers, appliers, and disposers of the requirements that they must adhere to under these rules.

   b. **Pretreatment.** A Pretreatment Program is a regulatory program administered by the Discharger that implements National Pretreatment Standards. These standards are promulgated by the USEPA in accordance with Section 307(b) and (c) of the Federal Clean Water Act (CWA). This permit implements General Pretreatment Regulations of 40 CFR 403, latest revision.

      The objective of the pretreatment program is to prevent the introduction of pollutants into the POTW which will interfere with the operation of the treatment works, pass through the treatment facility, reduce opportunities to recycle and reuse municipal wastewater and sludge, or expose POTW employees to hazardous chemicals.

      In order to provide adequate legal authority for the Discharger to protect its POTW, and to evaluate sources of industrial discharges, the Discharger must perform the following pretreatment activities:

(1) Maintain a sewer use ordinance to provide all of the legal authorities described in 40 CFR 403.8(f)(1).

(2) By February 1, 2013, submit to this office the results of an updated industrial waste survey as described in 40 CFR 403.8(f)(2)(i)-(ii), and a report summarizing potential impacts of industrial discharges upon the POTW. The report must include an evaluation of the need for regulation of industrial discharges to implement the objectives of the federal pretreatment program.

(3) If, in the evaluation of b.2. above, the Executive Officer determines that a formal pretreatment program is necessary to adequately meet program objectives, then the Discharger shall develop such a program in accordance with 40 CFR 403.9(b).

(4) The Discharger shall comply, and ensure affected "indirect dischargers" comply, with Paragraph D.1. of "Standard Provisions and Reporting Requirements."

6. Other Special Provisions

a. Discharges of Storm Water. For the control of storm water discharged from the site of the wastewater treatment and disposal facilities, if necessary, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*.

Storm water flows from the wastewater treatment process areas are directed to the headworks and discharged with treated wastewater. These storm water flows constitute all industrial storm water at this facility and, consequently, this permit regulates all industrial storm water discharges at this facility along with wastewater discharges.

b. Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ). This General Permit, adopted on May 2, 2006, is applicable to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California. The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows. The Discharger is enrolled under the General Permit.

7. **Compliance Schedules.** This section of the standardized permit template is not applicable.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. **General.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Acute Toxicity:

a. Acute Toxicity expressed in Toxic Units Acute (TUa) $TUa = \frac{100}{96\text{-hr } 50\%LC}$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where: S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Areas of Special Biological Significance (ASBS): are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges **measured during that week.**

Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity expressed as Toxic Units Chronic (TUc) $TUc = \frac{100}{NOEL}$

b. No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ) are those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters shall mean waters downstream with respect to ocean currents.

Dredged Material: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

Enclosed Bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that

are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Central Coast Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds, for purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water columnn.

Mariculture is the culture of plants and animals in marine waters independent of any pollution source.

Material: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or

description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

Natural Light: Reduction of natural light may be determined by the Central Coast Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Central Coast Water Board.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Coast Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result selected by the Central Coast Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Shellfish are organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs) are non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

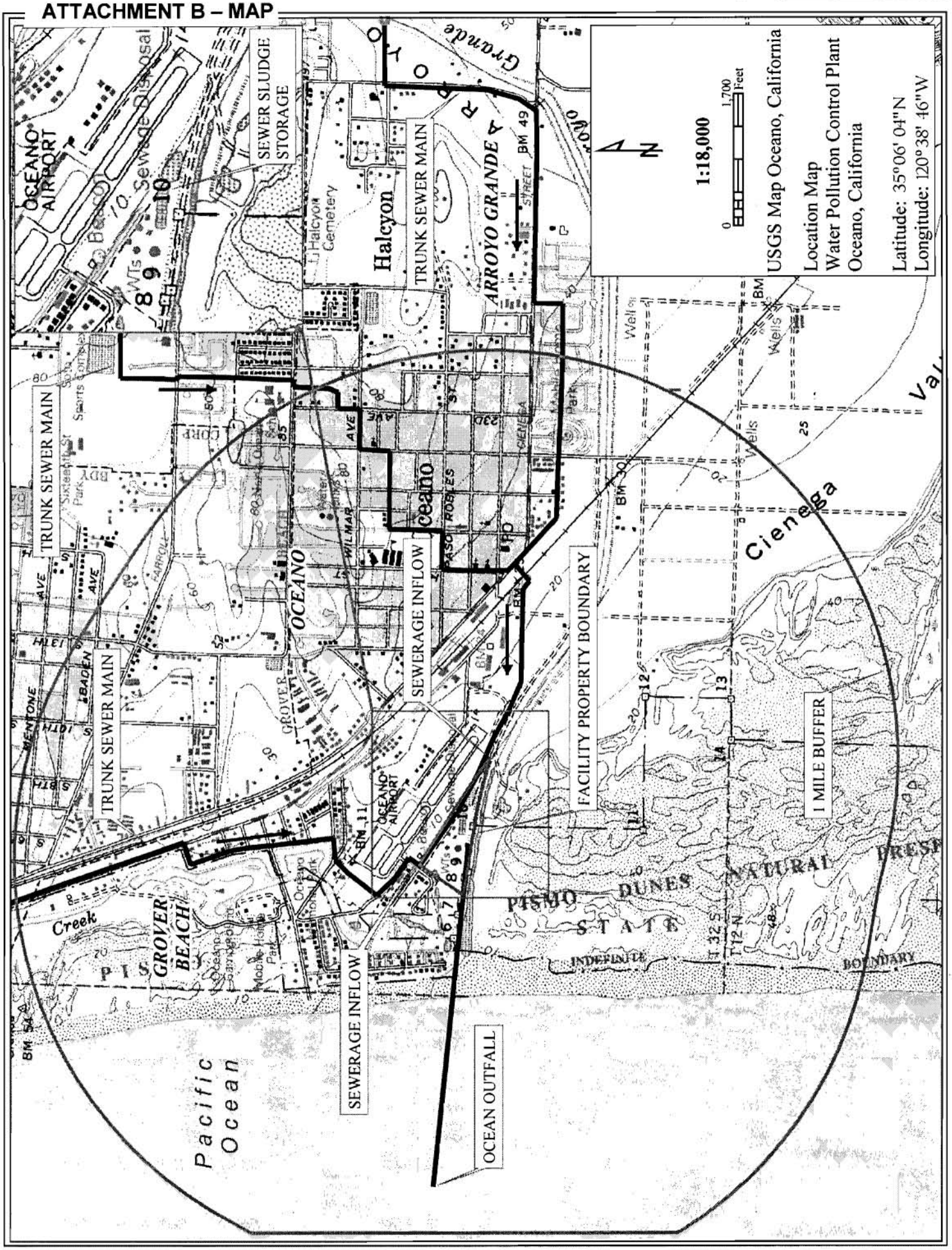
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TOXICITY IDENTIFICATION EVALUATION (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

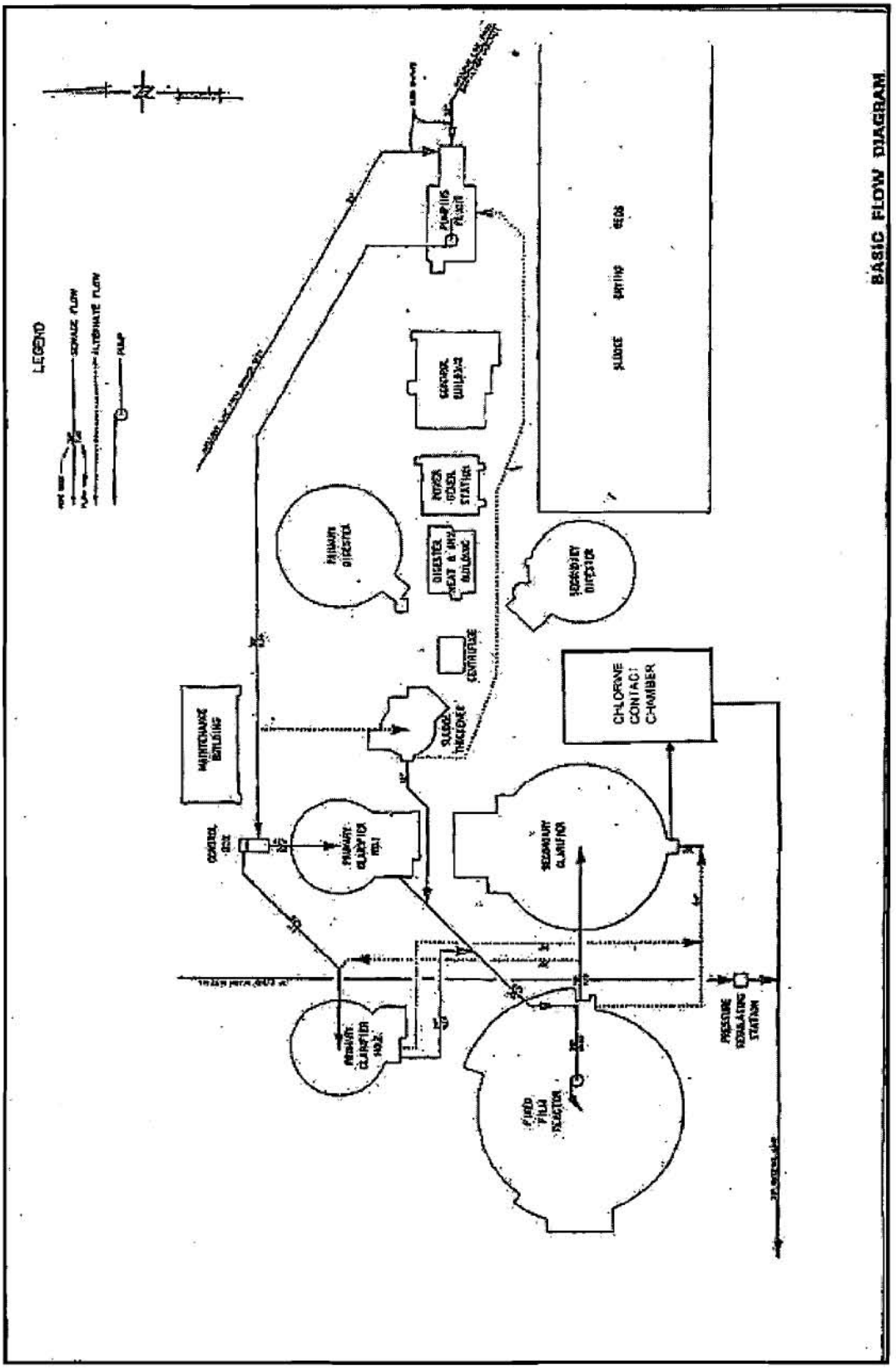
Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin (i.e., gross, not net, discharge.)

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [40 CFR § 122.41(a)]

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 CFR § 122.41(a)(1)]

B. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 CFR § 122.41(c)]

C. Duty to Mitigate. The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR § 122.41(d)]

D. Proper Operation and Maintenance. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. [40 CFR § 122.41(e)]

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. [40 CFR § 122.41(g)]

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. [40 CFR § 122.5(c)]

F. Inspection and Entry. The Discharger shall allow the Central Coast Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [40 CFR § 122.41(i); Water Code, § 13383]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR § 122.41(i)(1)];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR § 122.41(i)(2)];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR § 122.41(i)(3)]; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. [40 CFR § 122.41(i)(4)]

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR § 122.41(m)(1)(i)]

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. [40 CFR § 122.41(m)(1)(ii)]

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. [40 CFR § 122.41(m)(2)]

3. Prohibition of bypass. Bypass is prohibited, and the Central Coast Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR § 122.41(m)(4)(i)]:

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR § 122.41(m)(4)(i)(A)];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR § 122.41(m)(4)(i)(B)]; and

c. The Discharger submitted notice to the Central Coast Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. [40 CFR § 122.41(m)(4)(i)(C)]

4. The Central Coast Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Coast Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. [40 CFR § 122.41(m)(4)(ii)]

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. [40 CFR § 122.41(m)(3)(i)]

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). [40 CFR § 122.41(m)(3)(ii)]

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. [40 CFR § 122.41(n)(1)]

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. [40 CFR § 122.41(n)(2)]

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR § 122.41(n)(3)]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR § 122.41(n)(3)(i)];

b. The permitted facility was, at the time, being properly operated [40 CFR § 122.41(n)(3)(ii)];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) [40 CFR § 122.41(n)(3)(iii)]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. [40 CFR § 122.41(n)(3)(iv)]

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. [40 CFR § 122.41(n)(4)]

II. STANDARD PROVISIONS – PERMIT ACTION

A. General. This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. [40 CFR § 122.41(f)]

B. Duty to Reapply. If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. [40 CFR § 122.41(b)]

C. Transfers. This Order is not transferable to any person except after notice to the Central Coast Water Board. The Central Coast Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. [40 CFR § 122.41(l)(3); § 122.61]

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR § 122.41(j)(1)]

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. [40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv)]

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance

records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Coast Water Board Executive Officer at any time. [40 CFR § 122.41(j)(2)]

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [40 CFR § 122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [40 CFR § 122.41(j)(3)(ii)];
3. The date(s) analyses were performed [40 CFR § 122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [40 CFR § 122.41(j)(3)(iv)];
5. The analytical techniques or methods used [40 CFR § 122.41(j)(3)(v)]; and
6. The results of such analyses. [40 CFR § 122.41(j)(3)(vi)]

C. Claims of confidentiality for the following information will be denied [40 CFR § 122.7(b)]:

1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. [40 CFR § 122.7(b)(2)]

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information. The Discharger shall furnish to the Central Coast Water Board, State Water Board, or USEPA within a reasonable time, any information which the Central Coast Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Coast Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. [40 CFR § 122.41(h); Water. Code, § 13267]

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Coast Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. [40 CFR § 122.41(k)]

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). [40 CFR § 122.22(a)(3)]

3. All reports required by this Order and other information requested by the Central Coast Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above [40 CFR § 122.22(b)(1)];

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) [40 CFR § 122.22(b)(2)]; and

   c. The written authorization is submitted to the Central Coast Water Board and State Water Board. [40 CFR § 122.22(b)(3)]

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Coast Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40 CFR § 122.22(d)]

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. [40 CFR § 122.41(l)(4)]

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Coast Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. [40 CFR § 122.41(l)(4)(i)]

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Coast Water Board. [40 CFR § 122.41(l)(4)(ii)]

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. [40 CFR § 122.41(l)(4)(iii)]

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. [40 CFR § 122.41(l)(5)]

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR § 122.41(l)(6)(i)]

2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR § 122.41(l)(6)(ii)]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. [40 CFR § 122.41(l)(6)(ii)(A)]

   b. Any upset that exceeds any effluent limitation in this Order. [40 CFR § 122.41(l)(6)(ii)(B)]

3. The Central Coast Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. [40 CFR § 122.41(l)(6)(iii)]

F. **Planned Changes.** The Discharger shall give notice to the Central Coast Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [40 CFR § 122.41(l)(1)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) [40 CFR § 122.41(l)(1)(i)]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. [40 CFR § 122.41(l)(1)(ii).]

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. [40 CFR § 122.41(l)(1)(iii)]

G. **Anticipated Noncompliance.** The Discharger shall give advance notice to the Central Coast Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. [40 CFR § 122.41(l)(2)]

H. **Other Noncompliance.** The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. [40 CFR § 122.41(l)(7)]

I. **Other Information.** When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Coast Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. [40 CFR § 122.41(l)(8)]

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Coast Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Central Coast Water Board of the following [40 CFR § 122.42(b)]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants [40 CFR § 122.42(b)(1)]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. [40 CFR § 122.42(b)(2)]

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. [40 CFR § 122.42(b)(3)]

ATTACHMENT D-1 - CENTRAL COAST REGIONAL WATER BOARD STANDARD PROVISIONS (JANUARY 1985)

I. Central Coast General Permit Conditions

A. Central Coast Standard Provisions – Prohibitions

1. Introduction of "incompatible wastes" to the treatment system is prohibited.
2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.
3. Discharge of "toxic pollutants" in violation of effluent standards and prohibitions established under Section 307(a) of the Clean Water Act is prohibited.
4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.
5. Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that:
   a. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or,
   b. Flow through the system to the receiving water untreated; and,
   c. Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.
6. Introduction of "pollutant free" wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this order is prohibited.

B. Central Coast Standard Provisions – Provisions

1. Collection, treatment, and discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.
2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.
3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.
4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed in a manner approved by the Executive Officer.
5. Publicly owned wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Administrative Code.

6. After notice and opportunity for a hearing, this order may be terminated for cause, including, but not limited to:

   a. violation of any term or condition contained in this order;

   b. obtaining this order by misrepresentation, or by failure to disclose fully all relevant facts;

   c. a change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge; and,

   d. a substantial change in character, location, or volume of the discharge.

7. Provisions of this permit are severable. If any provision of the permit is found invalid, the remainder of the permit shall not be affected.

8. After notice and opportunity for hearing, this order may be modified or revoked and reissued for cause, including:

   a. Promulgation of a new or revised effluent standard or limitation;

   b. A material change in character, location, or volume of the discharge;

   c. Access to new information that affects the terms of the permit, including applicable schedules;

   d. Correction of technical mistakes or mistaken interpretations of law; and,

   e. Other causes set forth under Sub-part D of 40 CFR Part 122.

9. Safeguards shall be provided to assure maximal compliance with all terms and conditions of this permit. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. Preventative and contingency plans for controlling and minimizing the affect of accidental discharges shall:

   a. identify possible situations that could cause "upset", "overflow" or "bypass", or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.)

   b. evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the permit.

10. Physical Facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full compliance with this order when properly operated and maintained. Proper operation and maintenance shall be

described in an Operation and Maintenance Manual. Facilities shall be accessible during the wet-weather season.

11. Production and use of reclaimed water is subject to the approval of the Central Coast Water Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Water Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Water Board.

C. Central Coast Standard Provisions – General Monitoring Requirements

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Executive Officer agrees the original monitoring frequency may be resumed.

   For example, if copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.)

2. Water quality analyses performed in order to monitor compliance with this permit shall be by a laboratory certified by the State Department of Public Health for the constituent(s) being analyzed. Bioassay(s) performed in order to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Board and the State Department of Fish and Game. If the laboratory used or proposed for use by the discharger is not certified by the California Department of Public Health or, where appropriate, the Department of Fish and Game due to restrictions in the State's laboratory certification program, the discharger shall be considered in compliance with this provision provided:

   a. Data results remain consistent with results of samples analyzed by the Central Coast Water Board;

   b. A quality assurance program is used at the laboratory, including a manual containing steps followed in this program that is available for inspections by the staff of the Central Coast Water Board; and,

   c. Certification is pursued in good faith and obtained as soon as possible after the program is reinstated.

3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions. Influent samples shall be samples collected from the combined flows of all incoming wastes, excluding recycled wastes. Effluent samples shall be samples collected downstream of the last treatment unit and tributary flow and upstream of any mixing with receiving waters.

4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

D. Central Coast Standard Provisions – General Pretreatment Provisions

1. Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (appendix C, 40 CFR Part 403), where categorical pretreatment standards have been established, or are to be established, (according to 40 CFR Chapter 1, Subchapter N), shall comply with the appropriate pretreatment standards:

   a. By the date specified therein;

   b. Within three (3) years of the effective date specified therein, but in no case later than July 1, 1984; or,

   c. If a new indirect discharger, upon commencement of discharge.

E. Central Coast Standard Provisions – General Reporting Requirements

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

   b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).

   c. A description of the sampling procedures and preservation sequence used in the survey.

   d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.

e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.

2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within the permit. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.

3. The "Discharger" shall file a report of waste discharge or secure a waiver from the Executive Officer at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.

4. Within 120 days after the discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within four (4) years, the discharger shall file a written report with the Central Coast Water Board. The report shall include:

   a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,

   b. a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

   In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

5. All "Dischargers" shall submit reports to the:

   California Regional Water Quality Control Board
   Central Coast Region
   895 Aerovista Place, Suite 101
   San Luis Obispo, CA 93401-7906

   In addition, "Dischargers" with designated major discharges shall submit a copy of each document to:

   Regional Administrator
   US Environmental Protection Agency, Region 9
   Attention: CWA Standards and Permits Office (WTR-5)
   75 Hawthorne Street
   San Francisco, California 94105

6. Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing "Discharger" and proposed "Discharger" containing specific date for transfer of responsibility, coverage, and liability between them. Whether a permit may be transferred without modification or revocation and reissuance is at the discretion of the Water Board. If permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete permit application. Please also see Federal Standard Provision – Permit Action II.C.

7. Except for data determined to be confidential under Section 308 of the Clean Water Act (excludes effluent data and permit applications), all reports prepared in accordance with this permit shall be available for public inspection at the office of the Central Coast Water Board or Regional Administrator of USEPA. Please also see Federal Standard Provision – Records IV.C.

8. By January 30th of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. The discharger shall discuss the compliance record and corrective actions taken, or which may be needed, to bring the discharge into full compliance. The report shall address operator certification and provide a list of current operating personnel and their grade of certification. The report shall inform the Board of the date of the Facility's Operation and Maintenance Manual (including contingency plans as described Central Coast Standard Provision – Provision B.9., above), of the date the manual was last reviewed, and whether the manual is complete and valid for the current facility. The report shall restate, for the record, the laboratories used by the discharger to monitor compliance with effluent limits and provide a summary of performance relative to Section C above, General Monitoring Requirements.

   If the facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.

   If applicable, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Programs."

F. Central Coast Standard Provisions – Enforcement

1. Any person failing to file a report of waste discharge or other report as required by this permit shall be subject to a civil penalty not to exceed $5,000 per day.

2. Upon reduction, loss, or failure of the treatment facility, the "Discharger" shall, to the extent necessary to maintain compliance with this permit, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

G. Central Coast Standard Provisions – Definitions

(Not otherwise included in Attachment A to this Order)

1. A "composite sample" is a combination of no fewer than eight (8) individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.

2. "Daily Maximum" limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on "composite samples" except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a "grab sample."

3. "Discharger" as used herein, means, as appropriate: (1) the Discharger, (2) the local sewering entity (when the collection system is not owned and operated by the Discharger), or (3) "indirect discharger" (where "Discharger" appears in the same paragraph as "indirect discharger" it refers to the discharger.)

4. "Duly Authorized Representative" is one where:

   a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;

   b. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,

   c. the written authorization was submitted to the Central Coast Water Board.

5. A "grab sample" is defined as any individual sample collected in less than 15 minutes. "Grab samples" shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.

6. "Hazardous substance" means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

7. "Incompatible wastes" are:

   a. Wastes which create a fire or explosion hazard in the treatment works;

b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes;

c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;

d. Any waste, including oxygen demanding pollutants (BOD, etc), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency; and,

e. Heat in amounts that inhibit or disrupt biological activity in the treatment works or that raise influent temperatures above 40°C (104°F) unless the treatment works is designed to accommodate such heat.

8. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

9. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C1 \times C2 \times ... \times Cn)1/n,$$

in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

10. "Mass emission rate" is a daily rate defined by the following equations:

$$\text{mass emission rate (lbs/day)} = 8.34 \times Q \times C; \text{ and,}$$

$$\text{mass emission rate (kg/day)} = 3.79 \times Q \times C,$$

where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in MGD) is the measured daily flow rate or the average of measured daily flow rates over the period of interest.

11. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.

12. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month Median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.

13. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.

14. "Monthly Average" (or "Weekly Average", as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X1 + X2 + \ldots + Xn) / n$$

in which "n" is the number of days samples were analyzed during the period and "X" is either the constituent concentration (mg/L) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

15. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial waste, or other waste.

16. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.

17. "Pollutant-free wastewater" means inflow and infiltration, storm waters, and cooling waters and condensates which are essentially free of pollutants.

18. "Primary Industry Category" means any industry category listed in 40 CFR Part 122, Appendix A.

19. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/L) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$C_{Effluent}\ \text{Removal Efficiency (\%)} = 100 \times (1 - C_{effluent} / C_{influent})$$

20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss to natural resources which can reasonably be expected to occur in the absence of a "bypass." It does not mean economic loss caused by delays in production.

21. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.

22. To "significantly contribute" to a permit violation means an "indirect discharger" must:

    a. Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by Federal, State, or Local law;

b. Discharge wastewater which substantially differs in nature or constituents from its average discharge;

c. Discharge pollutants, either alone or in conjunction with discharges from other sources, which results in a permit violation or prevents sewage sludge use or disposal; or

d. Discharge pollutants, either alone or in conjunction with pollutants from other sources that increase the magnitude or duration of permit violations.

23. "Toxic Pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR Part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.)

24. "Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Resources Control Board.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Coast Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with Water Code section 13176, and must include quality assurance/quality control data with their reports.

B. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and approval of the Central Coast Water Board.

C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references.

1. *A Guide to Methods and Standards for the Measurement of Water Flow*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)

2. *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)

3. *Flow Measurement in Open Channels and Closed Conduits*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

4. NPDES Compliance Sampling Manual, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the

General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.

F. Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 CFR 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule shall also adhere to guidance and requirements contained in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005). Analyses for toxics listed in Table B of the California Ocean Plan (2005) shall adhere to guidance and requirements contained in that document.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	Influent wastewater, prior to treatment and following all significant inputs to the collection system or to the headworks of untreated wastewater and inflow and infiltration
001	EFF-001	Location where representative sample of effluent, excluding brine waste, discharged through the ocean outfall can be collected, after treatment and chlorination/dechlorination and before mixing with brine waste and the City of Pismo Beach effluent and prior to contact with receiving water.
---	SRF-A	At a location along the shoreline 300 meters south of the outfall in the surf zone. Formerly shoreline station A.
---	SRF-B	At a location along the shoreline adjacent to the outfall in the surf zone. Formerly shoreline station B.
---	SRF-C	At a location along the shoreline 300 meters north of the outfall in the surf zone. Formerly shoreline station C.
---	SRF-D	At a location near the shoreline at the mouth of Arroyo Grande Creek. Formerly shoreline station D.
---	RSW-001	At a location in the receiving water 300 meters north of outfall at mid-depth of diffuser. Formerly ocean station 1.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	RSW-002N	At a location in the receiving water 20 meters north of outfall at mid-depth of diffuser. Formerly ocean station 2N.
---	RSW-002S	At a location in the receiving water 20 meters south of outfall at mid-depth of diffuser. Formerly ocean station 2S.
---	RSW-003	At a location in the receiving water 300 meters south of outfall at mid-depth of diffuser. Formerly ocean station 3.
---	RSW-004	At a location in the receiving water 1000 meters south of outfall at mid-depth of diffuser. Formerly ocean station 4.
---	BRN-001	At location where a representative sample of brine waste can be collected prior to discharge to the outfall line.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the treatment facility at Monitoring Location INF-001 in accordance with the following schedule.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Daily Flow	MG	Metered	Daily
Maximum Daily Flow	MGD	Metered	Daily
Mean Daily Flow	MGD	Calculated	Monthly
BOD_5 (20°C)	mg/L	24 Hr Composite	Weekly
TSS	mg/L	24 Hr Composite	Weekly

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at Monitoring Location EFF-001 in accordance with the following schedule.

Table E-3. Effluent Monitoring at EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
BOD_5	mg/L	24-hr composite	Weekly
TSS	mg/L	24-hr composite	Weekly
Settleable Solids	mL/L/hr	Grab	Monthly
Turbidity	NTUs	Grab	Weekly
Oil and Grease	mg/L	Grab	Monthly
Chlorine Residual	mg/L	Grab	Daily
Chlorine Used	lbs/day	Recorded	Daily
Total Coliform Organisms	MPN/100 mL	Grab	Weekly
Fecal Coliform Organisms	MPN/100 mL	Grab	5 Days/Week
pH	pH units	Grab	Monthly

Temperature	° F	Grab	Monthly
Ammonia	mg/L	Grab	Annually (April)
Acute Toxicity [1]	TUa	Grab	Once in life of permit
Chronic Toxicity [1]	TUc	24-hr composite	Annually (April)
Ocean Plan Table B Metals [2]	µg/L	24-hr composite	Annually (April)
Remaining Ocean Plan Table B Pollutants [3]	µg/L	24-hr composite	Annually (April)

[1] Whole effluent, acute and chronic toxicity monitoring shall be conducted according to the requirements established in section V of this Monitoring and Reporting Plan.

[2] Those twelve metals (Sb, As, Cd, Cr^{+3}, Cr^{+6}, Cu, Pb, Hg, Ni, Se, Ag, and Zn) with applicable water quality objectives established by Table B of the Ocean Plan. Analysis shall be for total recoverable metals.

[3] Those pollutants identified in Table B of the Ocean Plan (2005). Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML. Monitoring for the Table B pollutants shall occur one time per year. Analysis for all Table B pollutants can coincide with monitoring for the Table B metals so that analysis for metals is not duplicated.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity. Compliance with the acute toxicity objective shall be determined using USEPA approved method protocol as provided in 40 CFR 136 (*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, USEPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition).

Acute Toxicity (TUa) = 100/96-hr LC 50.

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by 96-hour static or continuous flow bioassay techniques using standard marine test species as specified in EPA-821-R-02-012 and as noted in the following table.

Table E-4. Approved Tests - Acute Toxicity

Species	Scientific Name	Effect	Test Duration
shrimp	*Holmesimysis costata*	survival	48 or 96 hours
shrimp	*Mysidopsis bahia*	survival	48 or 96 hours
silversides	*Menidia beryllina*	survival	48 or 96 hours
sheepshead minnow	*Cyprinodon variegatus*	survival	48 or 96 hours

If the effluent is to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

Reference toxicant test results shall be submitted with the effluent sample test results. Both tests must satisfy the test acceptability criteria specified in EPA-821-R-02-012. If

the test acceptability criteria are not achieved or if toxicity is detected, the sample shall be retaken and retested within 5 days of the failed sampling event. The retest results shall be reported in accordance with EPA-821-R-02-012 (chapter on report preparation) and the results shall be attached to the next monitoring report.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$TUa = [\log(100 - S)]/1.7$ Where S = percentage survival in 100% waste.
If S > 99 then TUa shall be reported as zero.

When toxicity monitoring finds acute toxicity in the effluent above the limitation established by the Order, the Discharger shall immediately resample the effluent and retest for acute toxicity. Results of the initial failed test and any toxicity monitoring results subsequent to the failed test shall be reported as soon as reasonable to the Water Board Executive Officer (EO). The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements (section VI.C.2.a of the Order), or to implement other measures.

B. Chronic Toxicity. The presence of chronic toxicity shall be estimated as specified in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA-821/600/R-95/136; Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, EPA-600-4-91-003; Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project, SWRCB 1996, 96-1WQ; and/or Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, EPA/600/4-87-028 or subsequent editions.

Chronic toxicity measures a sub lethal effect (e.g., reduced growth or reproduction) to experimental test organisms exposed to an effluent compared to that of the control organisms.

Chronic Toxicity (TUc) = 100/NOEL

The no observed effect concentration (NOEC) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question (i.e. the highest effluent concentration to which organisms are exposed in a chronic test that causes no observable adverse effects on the test organisms; (e.g., the highest concentration of a toxicant to which the values for the observed responses are not statistically significantly different from the controls). Examples of chronic toxicity include but are not limited to measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects.

In accordance with the 2005 Ocean Plan, Appendix III, *Standard Monitoring Procedures*, the Discharger shall use the critical life stage toxicity tests specified in the table below to

measure TUc. Other species or protocols will be added to the list after State Water Board review and approval.

A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity limitation. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period of no fewer than three tests, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Note: If the Discharger has already performed the screening described above, then the Discharger may continue using the identified most sensitive species for chronic toxicity testing without re-screening of three species. If an alternative species is proposed to be used for chronic toxicity testing, the Discharger shall perform the screening and include the proposed test species as one of those species screened.

Table E-5. Approved Tests – Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
Giant Kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
Red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
Oyster, *Crassostrea gigas*; mussels, *Mytilus spp.*	abnormal sell development; percent survival	1	a, c
Urchin, *Strongylocentrotus purpuratus;* sand dollar, *Dendraster excentricus*	percent normal development; percent fertilization	1	a, c
Shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
Shrimp, *Menidia beryllina*	percent survival; fecundity	2	b, d
Topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silverside, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Central Coast Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Webber, C.I., W.B. Horning II, D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA/600/4-87/028.

Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Central Coast Water Board. If the dilution water used in testing is different from the water in which the

test organisms were cultured, a second control sample using culture water shall be tested.

If the effluent to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

For this discharge, the presence of chronic toxicity at more than 166 TUc shall trigger the Toxicity Reduction Evaluation (TRE) requirement of this Order (Section VI.C.2.a).

C. Toxicity Reporting

1. The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information.

   a. toxicity test results,

   b. dates of sample collection and initiation of each toxicity test, and

   c. and/or chronic toxicity discharge limitations (or value).

2. Toxicity test results shall be reported according to the appropriate guidance - *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, U.S. EPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition, or, EPA-821-R-02-012 (2002) or subsequent editions.

3. If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.

4. Within 14 days of receipt of test results exceeding the chronic toxicity discharge limitation, the Discharger shall provide written notification to the Executive Officer of:

   a. Findings of the TRE or other investigation to identify the cause(s) of toxicity,

   b. Actions the Discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity. When corrective actions, including TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken.

   When corrective actions, including a TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken, will be completed.

VI. RECLAMATION MONITORING REQUIREMENTS

If applicable, the Discharger shall comply with applicable State and local monitoring requirements regarding the production and use of reclaimed wastewater, including requirements established by the Department of Health Services at title 22, sections 60301 - 60357 of the California Code of Regulations, Water Recycling Criteria.

VII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Receiving Water Monitoring. The following receiving water monitoring shall be performed if operational changes, plant upsets, or effluent violations occur that are likely to increase bacterial concentrations in the surf zone.

Table E-6. Receiving Water Monitoring Requirements

Monitoring Location	Parameters Sampled at Each Location	Units	Minimum Frequency of Sampling
SRF-A, SRF-B, SRF-C, SRF-D	Total and Fecal Coliform Organisms	MPN/100 mL	Monthly and immediately in the event of plant upset, operational changes, or effluent violations
SRF-A, SRF-B, SRF-C, SRF-D	Surf conditions (narrative)	Narrative	Monthly and immediately in the event of plant upset, operational changes, or effluent violations
SRF-D	Current direction, if discernible	Narrative	Monthly and immediately in the event of plant upset, operational changes, or effluent violations
SRF-D	If Arroyo Grande Creek is Flowing to Ocean	Narrative	Monthly and immediately in the event of plant upset, operational changes, or effluent violations
SRF-A, SRF-B, SRF-C	Shellfish Tissue Fecal Coliform Organisms	MPN/100 g	Annually

B. Benthic Sediment Monitoring. Benthic monitoring shall assess the temporal and spatial occurrence of pollutants in local marine sediments and evaluate the physical and chemical quality of the sediments in relation to the outfall. At all benthic monitoring stations, one grab sediment sample shall be collected using a 0.1 m^3 Van Veen grab sampler.

Sediment samples shall be analyzed according to *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004, 1987) and *Analytical Methods for EPA Priority Pollutants and 301(h) Pesticides in Estuarine and Marine Sediments* (EPA 503-6-90-004, 1986). When processing samples for analysis, macrofauna and large remnants greater than 0.25 inches (0.64 cm) should be removed, taking care to avoid contamination.

All sediment results shall be reported in the raw form and expressed on a dry weight basis. For all non-detect results, parameter detection limits shall be reported. Dry weight concentration target detection levels are indicated for National Oceanic and Atmospheric Administration (NOAA) National Status and Trends Program analyses.

Benthic monitoring results shall be included in the Annual Report with a complete discussion of benthic sediment survey results and (possible) influence of the discharge on sediment conditions in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns observed for raw sediment parameters. The Annual Report should also present an analysis of natural variation in sediment conditions, etc., which could influence the validity of study results. The Discharger's sediment results may also be compared with the results of other applicable studies, numerical protective levels, etc., as appropriate. Survey results shall be compared to pre-discharge and/or historical data using appropriate statistical methods.

Sampling specified in the following table shall occur in the period from July through October at the ocean bottom directly below stations RSW-001, RSW-002N, RSW-002S, RSW-003, and RSW-004.

Table E-7. Benthic Sediment Monitoring Requirements

Parameter	Units	Minimum Frequency of Sampling
Particle Size	Phi (% volume)	Once every three years (2010 and 2013)
Sediment Sulfides at pH 7	mg/kg	" "
BOD	mg/kg	" "
Arsenic	mg/kg	" "
Cadmium	mg/kg	" "
Total Chromium	mg/kg	" "
Chromium^{+6}	mg/kg	" "
Copper	mg/kg	" "
Lead	mg/kg	" "
Nickel	mg/kg	" "
Mercury	mg/kg	" "
Silver	mg/kg	" "
Zinc	mg/kg	" "
Total Kjeldahl Nitrogen	mg/kg	" "
Ammonia	mg/kg	" "
Nitrate	mg/kg	" "
TOC	mg/kg	" "

C. **Benthic Biota Monitoring.** Benthic infaunal monitoring shall assess the temporal and spatial status of local benthic communities in relation to the outfall. Sampling shall be conducted as follows:

1. At least five benthic samples shall be taken at each of the five ocean monitoring stations (RSW-001, RSW-002N, RSW-002S, RSW-003, and RSW-004) using a 0.1 m^3 Van Veen grab sampler.

2. For benthic infauna analyses, each replicate sample shall be passed through a 1 mm screen, and the organisms retained and preserved as appropriate for subsequent identification. It is recommended that sample preservation, sample processing, and data analyses be conducted according to *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004, 1987).

3. Benthic infauna from each replicate sample shall be counted and identified to the lowest possible taxon. For each replicate sample, number of individuals, number of species, and number of individuals per species, and within each major taxonomic group (polychaetes, mollusks, crustaceans, echinoderms, and all other macroinvertebrates) shall be recorded.

4. The Annual Report shall include a complete discussion of benthic infaunal survey results and (possible) influence of the outfall on benthic infaunal communities in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns. Temporal trends in the number of individuals, number of species, number of individuals per species, and community structure indices, species richness (S), Margalef index (d), Shannon-Wiener index (H'), Brillouin index (h), Simpson's index (SI), Swartz's dominance, and Infaunal Trophic Index (ITI) shall be reported. Statistical analyses shall include multivariate techniques consisting of classification and ordination analysis. The Annual Report should also present an analysis of natural community variation including the effects of different sediment conditions, oceanic seasons, and water temperatures, etc., that could influence the validity of study results. Survey results shall be compared to pre-discharge and/or historical data using appropriate statistical methods.

VIII. OTHER MONITORING REQUIREMENTS

A. Biosolids Monitoring

1. The following information shall be submitted with the Annual Report required by Central Coast Water Board Standard Provision E-8. Adequate detail shall be included to characterize biosolids in accordance with 40 CFR Part 503.

   a. Annual biosolids production in dry tons and percent solids.

   b. A schematic drawing showing biosolids handling facilities (e.g., digesters, lagoons, drying beds, incinerators) and a solids flow diagram.

   c. A narrative description of biosolids dewatering and other treatment processes, including process parameters. For example, if biosolids are digested, report average temperature and retention time of the digesters. If drying beds are used, report depth of application and drying time. If composting is used, report the temperature achieved and duration.

   d. A description of disposal methods, including the following information as applicable related to the disposal methods used at the facility. If more than one method is used, include the percentage and tonnage of annual biosolids production disposed by each method.

      (1) For landfill disposal include: 1) the Central Coast Water Board WDR numbers that regulate the landfills used, 2) the present classifications of the landfills used, and 3) the names and locations of the facilities receiving biosolids.

(2) For land application include: 1) the location of the site(s), 2) the Central Coast Water Board's WDR numbers that regulate the site(s), 3) the application rate in lbs/acre/year (specify wet or dry), and 4) subsequent uses of the land.

(3) For offsite application by a licensed hauler and composter include: 1) the name, address and USEPA license number of the hauler and composter.

e. Copies of analytical data required by other agencies (i.e., USEPA or County Health Department) and licensed disposal facilities (i.e., landfill, land application, or composting facility) for the previous year.

2. A representative sample of residual solids (biosolids) shall be obtained from the last point in the handling process (i.e., in the drying beds just prior to removal) and shall be analyzed for total concentrations for comparison with TTLC criteria. The Waste Extraction Test shall be performed on any constituent when the total concentration of the waste exceeds ten times the STLC limit for that substance.

Table E-8. Biosolids Monitoring Requirements

Parameter	Units	Sample Type	Minimum Frequency of Sampling
Quantity	Tons or Yards	Measured	During Removal
Location of Disposal	Site	---	" "
Moisture Content	Percent	Grab	Annually
Total Kjeldahl Nitrogen	mg/kg	Grab	" "
Ammonia (as N)	mg/kg	Grab	" "
Nitrate (as N)	mg/kg	Grab	" "
Total Phosphorus	mg/kg	Grab	" "
pH	Standard Units	Grab	" "
Oil & Grease	mg/kg	Grab	" "
Arsenic	mg/kg	Grab	" "
Boron	mg/kg	Grab	" "
Cadmium	mg/kg	Grab	" "
Copper	mg/kg	Grab	" "
Chromium	mg/kg	Grab	" "
Lead	mg/kg	Grab	" "
Nickel	mg/kg	Grab	" "
Mercury	mg/kg	Grab	" "
Molybdenum	mg/kg	Grab	" "
Selenium	mg/kg	Grab	" "
Zinc	mg/kg	Grab	" "

B. Pretreatment Monitoring. At least once per year, influent, effluent, and biosolids shall be sampled and analyzed for the priority pollutants identified under Section 307(a) of the Clean Water Act. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the plant's influent and effluent for those pollutants EPA has identified under Section 307(a) of the Act which are known or are suspected to be discharged by industrial users. The Discharger is not required to sample and analyze for asbestos until EPA promulgates an applicable analytical technique under 40 CFR Part 136. Biosolids shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent samples.

Wastewater and biosolids sampling and analysis shall be performed a minimum of annually and not less than the frequency specified in the required monitoring program for the plant. The Discharger shall also provide any influent, effluent, or biosolids monitoring data for non-priority pollutants for which the Discharger believes may be causing or contributing to interference, pass-through, or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. Biosolids samples shall be collected from the last point in solids handling before disposal. If biosolids are dried on-site, samples shall be composited from at least twelve discrete samples from twelve representative locations. Pretreatment monitoring may be coordinated with other required monitoring to minimize duplicate effort and expense.

C. Outfall Inspection. Every three years (in 2010 and 2013), the Discharger shall conduct an inspection of the outfall pipe/diffuser system to ensure the proper operation and structural integrity of the system. This inspection shall include general observations and video records of the outfall pipe/diffuser system and the surrounding ocean bottom in the vicinity of the outfall/diffuser. The inspection shall note leaks and potential leaks using dye studies, if necessary. The inspection shall be collected along the outfall pipe/diffuser system from landfall to its ocean terminus. A report detailing inspection results shall be submitted to the Water Board and USEPA with the Annual Report required by Central Coast Regional Water Board Standard Provision E-8.

D. Brine Monitoring. Monitoring of brine wastes accepted for discharge by the District shall include the following components. Log reports shall be maintained by the District and shall be submitted to the Central Coast Water Board as required below.

1. Brine wastes shall be characterized as follows. Results of chemical monitoring shall be reported to the Regional Water Board on Discharge Monitoring Reports. Any significant changes in brine characteristics (from those presented in the Discharger's brine management plan) or potential impacts to combined effluent quality shall be summarized.

Table E-9. Brine Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Electrical Conductivity	µmhos/cm	Grab	Weekly
pH	s.u	Grab	Weekly
Ocean Plan Metals[1]	µg/L	Grab	Yearly[2]

[1] Those twelve metals(Sb, As, Cd, Cr^{+3}, Cr^{+6}, Cu, Pb, Hg, Ni, Se, Ag, and Zn) with applicable water quality objectives established by Table B of the Ocean Plan. Analysis shall be for total recoverable metals.

[2] Metals analysis shall be conducted on one representative sample per hauler per year.

2. The Discharger shall maintain logs that describe and document brine wastes accepted by the treatment plant. Logs shall record, at a minimum, the following information and copies of logs shall be submitted to the Regional Water Board with the appropriate Annual Report.

   a. Date and time of receipt of each truckload;

   b. Initials of District personnel present at the time of receipt of each truckload;

   c. Volume of brine waste on each truckload, owner of each truckload, and a brief description of each truckload (e.g., potable water softener regeneration waste, industrial process demineralizer regeneration waste, reverse osmosis brine, etc.)

IX. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through V and VIII through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-10. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On ...	Monitoring Period	SMR Due Date
Continuous	October 23, 2009	All	Submit with monthly SMR
Hourly	October 23, 2009	Hourly	Submit with monthly SMR
Daily	October 23, 2009	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	Submit with monthly SMR (May 1st, August 1st, November 1st, February 1st)
Semiannually	Closest of April 1 or October 1 following (or on) permit effective date	October 1 through March 31, April 1 through September 31	Submit with monthly SMR (May 1st,and November 1st,
Annually	April 1 following (or on) permit effective date	April 1 through March 31	Submit with Annual Report February 1st
Triennially (2010 and 2013)	October 23, 2009	Any date during the period of July through October, 2010, July through October 2013	Submit with Annual Report February 1st

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated

Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

d. An Annual Report shall be due on February 1 following each calendar year and shall include:

- All data required by this MRP for the corresponding monitoring period, including appropriate calculations to verify compliance with effluent limitations.

- A discussion of any incident of non-compliance and corrective actions taken.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below.

Standard Mail	Fedex/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports. The Discharger shall report the results of any special monitoring, TREs, or other data or information that results from the Special Provisions, section VI.C, of the Order. The Discharger shall submit such reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

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List of Tables

ATTACHMENT F – FACT SHEET

As described in section II of the Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	3 400111001
Discharger	South San Luis Obispo County Sanitation District
Name of Facility	Wastewater Treatment Facility
Facility Address	1600 Aloha Place Oceano, CA 93445-9735 San Luis Obispo County
Facility Contact, Title and Phone	Jeff Appleton, Superintendent, 805-489-6666
Authorized Person to Sign and Submit Reports	Thomas K. Zehnder, Wallace Group, 805-544-4011
Mailing Address	PO Box 339, Oceano, CA 93445
Billing Address	Wallace Group, 612 Clarion Court, San Luis Obispo, CA 93401
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	II
Complexity	A
Pretreatment Program	N
Reclamation Requirements	NA
Facility Permitted Flow	5.0 MGD
Facility Design Flow	5.0 MGD
Watershed	Arroyo Grande Creek
Receiving Waters	Pacific Ocean
Receiving Water Type	Ocean Water

A. The South San Luis Obispo County Sanitation District operates a wastewater collection, treatment, and disposal facility, which provides service to the Cities of Arroyo Grande and Grover Beach, and the Oceano Community Services District. The Cities of Arroyo Grande and Grover Beach, and the Oceano Community Services District retain ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge into interceptors owned and operated by the Discharger.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger, South San Luis Obispo County Sanitation District.

B. The facility discharges wastewater to the Pacific Ocean, waters of the United States, and is currently regulated by Order No. R3-2004-0050, which was adopted on September 10, 2004, and expires on September 10, 2009. The terms and conditions of the current Order will be automatically continued and remain in effect until new Waste Discharge Requirements and a National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on April 10, 2009. A site visit was conducted on April 24, 2009, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The District's wastewater treatment system currently serves a population of approximately 37,648 from the Cities of Arroyo Grande and Grover Beach and the Oceano Community Services District (2007 census). Residential, commercial, and industrial wastewater is conveyed to the South San Luis Obispo County Sanitation District wastewater treatment facility, which has a design dry weather treatment capacity of 5.0 MGD (monthly average flow) and a peak wet weather treatment capacity of 9.0 MGD.

Influent flow, measured by Parshall flume, averages 2.88 MGD as an average annual daily flow, with a peak hourly wet weather flow of 8.03 MGD (source: Discharger's website at http://sslocsd.org). Wastewater is mechanically screened and pumped to two identical primary clarifiers – one constructed in 1965 and the other in 1990. Each primary clarifier is 55 feet in diameter with a side wall depth of 9 feet, thereby providing a combined volume of 320,625 gallons. At average flow rates, the combined overflow rate from the clarifiers is 610 gallons per day per square foot (GPD/SF) with a detention time of 2.65 hours.

Secondary treatment is achieved via a single, fixed film reactor which was constructed in 1986. The reactor is 117 feet in diameter with a plastic media depth of 12 feet. In the late 1990s, the District determined that proliferation of snails and filter flies within the media was causing a significant decline in reactor performance. This situation has been addressed by altering (slowing) the speed of the wastewater distribution arm above the reactor media as needed. The change in distribution of wastewater causes a slight flushing effect. Two to three times per year, pH of wastewater entering the reactor is also elevated, causing some direct toxicity to snails and filter flies and their larval stages and causing an increase in ammonia present in the more toxic unionized form. pH is subsequently lowered using citric acid following the reactor.

The secondary clarifier, which follows the fixed film reactor in the treatment scheme, was constructed in 1986 and is 97 feet in diameter with a side wall depth of 12 feet,

thereby providing a total volume of 665,000 gallons. At average flows, the overflow rate from the clarifier is approximately 393 GPD/SF with a detention time of 5.5 hours. Secondary treated wastewater is chlorinated within a chlorine contact chamber and subsequently dechlorinated prior to discharge through the ocean outfall line, which is a joint outfall also accommodating discharges from the municipal wastewater treatment plant of the City of Pismo Beach. The combined discharge occurs approximately 4,400 feet offshore at a depth of 55 feet. The wastewater treatment plant accepts small volumes of brines, which are introduced to the plant outfall following chlorination/ dechlorination steps. In 2008, the facility accepted approximately 325,000 gallons of water softener regenerant brine waste from one hauler. Sludge/biosolids are anaerobically digested, dewatered via a centrifuge and/or drying beds, and hauled off-site to a composting facility.

B. Discharge Points and Receiving Waters

Discharge from the Wastewater Treatment Facility at Discharge Point 001 occurs through a 4400-foot outfall/diffuser system that terminates at a depth of approximately 55 feet in the Pacific Ocean at 35º 06' 04" N. latitude and 120º 38' 46" W. longitude.

Discharges through Discharge Point 001 consist of secondary treated wastewater and/or brine wastes, as described above. The minimum probable initial dilution for Discharge Point 001 is 165 to 1, a figure that has been used by Central Coast Water Board staff to determine the need for water quality based effluent limitations, and, if necessary, to calculate those limitations.

C. Summary of Existing Requirements and Effluent Characterization

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 and representative monitoring data for Monitoring Location EFF-001, for the term of the previous Order, are presented in the following tables.

Table F-2. Historic Effluent Limitations, Discharge Point 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Daily Maximum
BOD_5	mg/L	40	60	90
TSS	mg/L	40	60	90
BOD_5 and TSS	percent	Removal by treatment shall not be less than 80 percent		
Oil & Grease	mg/L	25	40	75
Settleable Solids	mL/L/hr	1.0	1.5	3.0
Turbidity	NTUs	75	100	225
pH	pH Units	6.0 – 9.0		
Fecal Coliform	MPN/100 mL		(7-sample median) 200	2000
Flow	MGD	Daily dry weather flow shall not exceed a monthly average of 5.0 MGD		
Ocean Plan Table B Pollutants	varies	Effluent limitations were established for Table B pollutants based upon water quality objectives established in the Ocean Plan (2001) and a minimum initial dilution of 165:1.		

Table F-3. Effluent Characterization – 2006-2008

Parameter	Units	Monthly Average	Daily Maximum
Effluent Flow	MGD	2.70	6.1
BOD_5	mg/L	22.25	51.5
TSS	mg/L	19.95	43.10
Oil & Grease	mg/L	0.71	18
Temperature	° F	69-75	76 - 78
pH	pH units	--	7.3 - 7.4
Fecal Coliform	MPN/100 mL	4.5	102.5
Settleable Solids	mLs/L/Hr	0.11	0.2
Ammonia	mg/L N	7.3	8.8
Turbidity	NTU	13.57	37
Total Residual Chlorine	mg/L	0.16	1.31

D. **Compliance Summary.** During the existing permit period, the Discharger has maintained an excellent compliance record, with the following exceptions.

April 7, 2004 - Effluent monitoring detected mercury concentrations significantly above effluent limits. Sample results showed 220 parts per billion (ppb); while effluent limits are 66.32 ppb, 26.48 ppb and 6.56 ppb (instantaneous maximum, daily maximum and 6-month median respectively). The 2004 sample result was reported in the Discharger's self monitoring report, but was not noted as a violation and no follow-up sampling was performed. No source for the mercury violation is known, and it should be noted that other effluent sample results show mercury levels at or below 0.2 ppb, well below effluent limits. The validity of the 2004 data is unknown.

May 28, 2009 – Effluent pH violation occurred due to acid treatment of the fixed film reactor. During the future periodic maintenance activity, automatic monitoring will be used to ensure adequate buffering with citric acid.

May 30, 2009 – Average Suspended Solids exceeded the effluent limit by 1 mg/L, due to very high influent concentrations (twice normal range). Investigation into the source of such concentrated influent continues.

E. **Planned Changes.** Addition of a second Secondary Clarifier (87' diameter, 10' below grade) and an Aeration Tank (124' by 40' dual basin, 18' deep) is planned during the timeframe of this permit. These additions to the secondary treatment process will improve the facility's ability to handle anticipated increased strength (BOD and TSS) of wastewater due to water conservation efforts of the Member Agencies. These changes will also provide redundancy in the secondary equivalent biological treatment process in the event of an emergency shutdown, mechanical failure, or routine maintenance.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities. This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA). Pursuant to Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 - through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Central Coast Water Board has adopted a *Water Quality Control Plan for the Central Coast Region* (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. To address ocean waters, the Basin Plan incorporates by reference the *Water Quality Control Plan for Ocean Waters of California* (the Ocean Plan), which was adopted in 1972 and amended in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The most recent amendment to the Ocean Plan was adopted by the State Water Resources Control Board (the State Water Board) on April 21, 2005 and became effective on February 14, 2006.

   The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in the Pacific Ocean, the receiving waters for discharges from the South San Luis Obispo County Sanitation District's Wastewater Treatment Facility meet an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation. Beneficial uses established by the Basin Plan and the Ocean Plan for the Pacific Ocean are described in section II. H and I of the Order.

   Requirements of this Order implement the Basin Plan and Ocean Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains the following temperature objective for existing discharges to enclosed bays and coastal waters of California which is applicable to this Discharger.

Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

The Ocean Plan defines elevated temperature wastes as:

Liquid, solid, or gaseous material discharged at a temperature higher than the natural temperature of receiving water.

3. **California Ocean Plan**. The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21. 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** CWA Sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

D. **Impaired Water Bodies on CWA 303 (d) List.** CWA section 303 (d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303 (d) listed water bodies and pollutants, the Regional Water Board must develop and implement TMDLs (Total Maximum Daily Loads) that will specify WLAs (Waste Load Allocations) for point sources and Load Allocations for non-point sources.

The State's 2006 303 (d) list of impaired water bodies, which was approved by USEPA in June 2007, identifies the Pacific Ocean at Pismo Beach as impaired by "indicator bacteria". The outfall for this discharge is located approximately 4,400 feet offshore and south of Pismo Beach.

E. Other Plans, Polices and Regulations

1. **Discharges of Storm Water.** Storm water flows from the wastewater treatment process areas are directed to the headworks and discharged with treated wastewater. These storm water flows constitute all industrial storm water at this facility and, consequently, this permit regulates all industrial storm water discharges at this facility along with wastewater discharges.

2. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ).** This General Permit, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows. The Order requires the Discharger to seek coverage under the General Permit and comply with its requirements. Sewage spill reporting requirements of the previous permit have not been retained in this Order as coverage under the General Permit requires similar reporting by the Discharger.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. NPDES regulations establish two principal bases for effluent limitations. At 40 CFR 122.44 (a) permits are required to include applicable technology-based limitations and standards; and at 40 CFR 122.44 (d) permits are required to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 CFR 122.44 (d) - 1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using U.S. EPA criteria guidance published under CWA Section 304 (a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

1. Discharge Prohibition III.A. (Discharge to the Pacific Ocean at a location other than as described by this Order at 35° 06' 04" N. Latitude, 120° 38' 46" W. Longitude is prohibited.) This prohibition is retained from the previous permit.

2. Discharge Prohibition III.B. (Discharges of any waste in any manner other than as described by this Order are prohibited.) Because limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order do not adequately address waste streams not contemplated during drafting of the Order. To prevent the discharge of such waste streams that may be inadequately regulated, the Order prohibits the discharge of any waste that was not described by the Regional Water Board during the process of permit reissuance.

3. Discharge Prohibition III.C. (The average dry weather monthly rate of discharge to the Pacific Ocean shall not exceed 5.0 MGD.) This flow limitation is retained from the previous permit and reflects the design treatment capacity of the South San Luis Obispo County Sanitation District Wastewater Treatment Facility. The prohibition ensures that the influent flow will not exceed the treatment plant's design capacity.

4. Discharge Prohibition III.D. (Wastes shall not be discharged to State Water Quality Protection Areas, described as Areas of Special Biological Significance by the Ocean Plan (2005), except in accordance with Chapter III.E of the Ocean Plan.) This prohibition restates a discharge prohibition established in Chapter III.E of the Ocean Plan.

5. Discharge Prohibition III.E. (The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the Ocean is prohibited.) This prohibition restates a discharge prohibition established in Chapter III.H of the Ocean Plan.

6. Discharge Prohibition III.F. (Federal law prohibits the discharge of sludge by pipeline to the Ocean. The discharge of municipal or industrial waste sludge directly to the Ocean or into a waste stream that discharges to the Ocean is prohibited. The discharge of sludge or digester supernatant, without further treatment, directly to the Ocean or to a waste stream that discharges to the Ocean, is prohibited.) This prohibition restates a discharge prohibition established in Chapter III.H of the Ocean Plan.

7. Discharge Prohibition III.G. (The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited.) The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 CFR 122.41 (m) or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by the Order.

B. Technology-Based Effluent Limitations

1. **Scope and Authority.** NPDES regulations at 40 CFR 122.44(a) require that permits include applicable technology-based limitations and standards. Where the USEPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402(a)(1) and USEPA regulations at 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit writer must consider specific factors outlined at 40 CFR 125.3, those factors are described below.

   This Order includes limitations based on the minimum level of effluent quality attainable by secondary treatment, as established at 40 CFR 133. The Secondary Treatment Regulation includes the following limitations applicable to all publicly owned treatment works (POTWs).

Table F-4. Secondary Treatment Requirements

Parameter	Effluent Limitation		
	30-Day Avg	7-Day Avg	Percent Removal
BOD_5	30 mg/L	45 mg/L	85
[1]$CBOD_5$	25 mg/L	40 mg/L	85
TSS	30 mg/L	45 mg/L	85
pH	6.0 – 9.0		---

[1] At the option of the permitting authority, effluent limitations for $CBOD_5$ may be substituted for those limitations specified for BOD_5.

In addition, the State Water Board, in Table A of the Ocean Plan, has established technology-based requirements, applicable to all POTWs, for oil and grease, suspended and settleable solids, turbidity, and pH.

2. **Applicable Technology-Based Effluent Limitations.** Federal regulation 40 CFR Part 133.105 (d) provides for Alternative State Requirements that modify BOD_5 and TSS limitations and percent removal requirements for trickling filter wastewater treatment facilities. This facility's Fixed Film Reactor is considered to be a trickling filter treatment unit. These alternative limits must be based on performance consistently achievable by a representative sample of properly operated and maintained eligible facilities in a State or appropriate contiguous geographical area.

   In the 1980s, the Regional Water Board adopted maximum alternate permit limits for BOD_5 and suspended solids of 45 mg/L (30-day average) and 65 mg/L (7-day average) as a temporary measure until plant performance data were available as a basis for setting limits. The minimum allowable removal efficiency of 75% was incorporated into the Discharger's permit at that time consistent with the California Ocean Plan. In 1994, the Discharger's permit was reissued with alternate BOD_5 and TSS limits of 45, and 40 mg/L, respectively, and suspended solids removal efficiency of 80%.

During design of the existing treatment facilities, USEPA indicated that trickling filters on the Central Coast of California should be capable of meeting BOD_5 and TSS limits of 35 mg/L (30-day average); however, the Regional Water Board determined that due to the length, depth and design of the outfall structure, limits of 40 mg/L would be acceptable at that time. Based upon performance of other trickling filter facilities, Discharger performance, and USEPA expectations regarding trickling filters, limits of 40 mg/L for BOD_5 and TSS were included in the previous Order. These limits are retained by this Order and are achievable by the facility without impacts to water quality. The following table summarizes technology-based effluent limitations established by the Order.

Table F-5. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
BOD_5 [1]	mg/L	40	60	90
	lbs/day	1668	2502	3753
TSS [1]	mg/L	40	60	90
	lbs/day	1668	2502	3753
Settleable Solids	mL/L/hr	1.0	1.5	3.0
Turbidity	NTUs	75	100	225
Oil & Grease	mg/L	25	40	75
	lbs/day	1042	1668	3127
pH	pH units	6.0 – 9.0 at all times		

[1] The average monthly percent removal of BOD_5 and TSS shall not be less than 80 percent.

All technology-based limitations are retained from the previous permit and are required by NPDES regulations at 40 CFR 133 and/or Table A of the Basin Plan. Mass-based limitations for BOD_5, TSS, and oil and grease are based on a discharge rate of 5.0 MGD, the design treatment capacity of the Wastewater Treatment Facility.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. **Scope and Authority.** NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

   The process for determining "reasonable potential" and calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters as specified in the Basin and Ocean Plans, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and in other applicable State and federal rules, plans, and policies, including applicable water quality criteria from the Ocean Plan.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44(d)(1)(vi), using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives.** Beneficial uses for ocean waters of the Central Coast Region are established by the Basin Plan and Ocean Plan and are described by Section II. (Findings) H and I of the Order.

   Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. The water quality objectives from the Ocean Plan are incorporated as receiving water limitations into this Order. In addition, Table B of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 CFR 122.44(d)(1), and in accordance with procedures established by the Ocean Plan (2005), the Regional Water Board has performed a reasonable potential analysis (RPA) to determine the need for effluent limitations for the Table B toxic pollutants.

3. **Determining the Need for WQBELs.** Procedures for performing a Reasonable Potential Analysis (RPA) for ocean dischargers are described in Section III.C and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95th percentile concentration at 95 percent confidence of each Table B pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

   Endpoint 1 – There is "reasonable potential." An effluent limitation must be established for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in Appendix III of the Ocean Plan is required.

   Endpoint 2 - There is no "reasonable potential." A WQBEL is not required for the pollutant. Appendix III monitoring is not required for the pollutant; the Regional Water Board, however may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate.

Endpoint 3 - The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing consistent with the monitoring frequency in Appendix III [Ocean Plan] is required. Existing effluent limitations shall remain in the permit; or if the previous permit did not include limitations, the permit must include a reopener clause to allow for subsequent modification of the permit to include effluent limitations if monitoring establishes that the discharge causes, has the reasonable potential to cause or contribute to excursions above Table B water quality objectives.

The State Water Resources Control Board has developed a reasonable potential calculator, which is available on its website. The calculator (RPcalc 2.0) was used in the development of this Order and considers several pathways in the determination of reasonable potential.

a. First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303(d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

b. Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

c. Third Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95^{th} percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed lognormally. If the 95^{th} percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

d. Fourth Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

(1) If the number of censored values (those expressed as a "less than" value) account for less than 80 percent of the total number of effluent values, calculate the M_L (the mean of the natural log of transformed data) and S_L (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.

(2) If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data are limited, and no assumptions can be made regarding its possible distribution.)

e. Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie, when the dilution-adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limits in the expiring permit are retained.

Here, an RPA was conducted using effluent monitoring data generated in five monitoring events between 2004 and 2008. Results from the RPA have been used to determine the need for effluent limitations for Table B pollutants. The following table presents the results of the RPA, performed in accordance with procedures described by the Ocean Plan. Reasonable potential was found by Endpoint 1 for bis(2-ethylhexyl)phthalate, TCDD equivalents, and cyanide. The RPA endpoint for each Table B pollutant is identified. As shown in the following table, the RPA commonly leads to Endpoint 3, which, as described previously is an inconclusive result. Following a finding of Endpoint 3, existing effluent limitations are retained by the permit; or if the previous permit did not include limitations, a reopener clause must be established by the new permit to allow for inclusion of effluent limitations at a later time if monitoring establishes that the discharge causes, has the reasonable potential to cause or contribute to excursions above Table B water quality objectives.

Because of the ongoing use of chlorine (sodium hypochlorite) at the facility and the several operating variables that impact its use, the Central Coast Water Board staff have determined that treated wastewater from the facility has a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for chlorine. Such a determination is consistent with the RPA procedure of the Ocean Plan which requires consideration of all available information, including the "potential toxic

impact of the discharge" to determine if WQBELs are necessary, notwithstanding the statistical procedure with which the RPA is conducted for most pollutants.

Table F-6. RPA Results

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comments
Objectives for Protection of Marine Aquatic Life					
Ammonia (as N)	99600	11	0	40000	Endpoint 2 -- Effluent limitation not required
Arsenic	833	11	5	13.0	Endpoint 2 -- Effluent limitation not required
Cadmium	166	11	8	1.00	Endpoint 2 -- Effluent limitation not required
Chlorinated Phenolics	166	9	9	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chromium (VI)	332	11	2	13	Endpoint 2 -- Effluent limitation not required
Copper	168	9	0	67	Endpoint 2 -- Effluent limitation not required
Cyanide	166	9	2	120	Endpoint 1 -- Effluent limitation required
Endosulfan (total)	1.49	11	11	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Endrin	0.332	11	11	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
HCH	0.664	0	No Data	No Data	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Lead	332	9	3	1.1	Endpoint 2 -- Effluent limitation not required
Mercury	6.56	11	9	0.14	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Nickel	830	11	4	41	Endpoint 2 -- Effluent limitation not required
Non-chlorinated Phenolics	4980	9	8	1.1	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Selenium	2490	11	3	2.8	Endpoint 2 -- Effluent limitation not required
Silver	89.8	11	9	0.28	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Zinc	2000	5	0	110	Endpoint 2 -- Effluent limitation not required
Objectives for Protection of Human Health - Noncarcinogens					
1,1,1-Trichloroethane	89640000	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
2,4-Dinitrophenol	664	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
2-Methyl-4,6-Dinitrophenol	36520	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Acrolein	36520	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Antimony	199200	5	2	0.6	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Bis(2-Chloroethoxy)Methane	730	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Bis(2-Chloroisopropyl)Ether	199200	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chlorobenzene	94620	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chromium^{+3}	31540000	0	No Data	No Data	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comments
Dichlorobenzenes	846600	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Diethyl Phthalate	5478000	4	4	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Dimethyl Phthalate	136120000	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Di-n-Butyl Phthalate	581000	5	3	2.5	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Ethylbenzene	680600	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Fluoranthene	2490	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Hexachlorocyclopentadiene	9628	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Nitrobenzene	8134	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Thallium	332	5	5	20	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Toluene	14110000	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Tributylin	0.2324	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Objectives for Protection of Human Health - Carcinogens					
1,1,2,2-Tetrachloroethane	382	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,1,2-Trichloroethane	1560	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,1-Dichloroethylene	149	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,2-Dichloroethane	4648	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,2-Diphenylhydrazine	26.6	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,3-Dichloropropylene	1477	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
1,4-Dichlorobenzene	2988	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
TCDD Equivalents	6.5E-07	5	1	0.000000461	Endpoint 1 -- Effluent limitation is required
2,4,6-Trichlorophenol	48.1	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
2,4-Dinitrotoluene	432	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
3,3'-Dichlorobenzidine	1.34	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Acrylonitrile	16.6	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Aldrin	0.00365	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Benzene	979	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Benzidine	0.0115	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Beryllium	5.48	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comments
Bis(2-Chloroethyl)Ether	7.47	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Bis(2-Ethylhexyl)Phthalate	581	5	2	130	Endpoint 1 -- Effluent limitation required
Carbon Tetrachloride	149	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chlordane	0.0038	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chlorodibromomethane	1428	5	4	0.2	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Chloroform	21580	5	1	4.1	Endpoint 2 -- Effluent limitation not required
DDT (total)	0.02822	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Dichlorobromomethane	1029	5	2	0.7	Endpoint 2 -- Effluent limitation not required
Dieldrin	0.0066	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Halomethanes	21580	5	3	3.2	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Heptachlor	0.0083	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Heptachlor Epoxide	0.0033	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Hexachlorobenzene	0.0349	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Hexachlorobutadiene	2324	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Hexachloroethane	415	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Isophorone	121180	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Methylene Chloride	74700	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
N-Nitrosodimethylamine	1212	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
N-Nitrosodi-n-Propylamine	63.1	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
N-Nitrosodiphenylamine	415	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
PAHs (total)	1.46	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
PCBs	0.00315	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Tetrachloroethylene	332	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Toxaphene	0.0349	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Trichloroethylene	4482	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND
Vinyl Chloride	5976	5	5	ND	Endpoint 3 -- RPA is inconclusive. Less than 3 detects or greater than 80% ND

ND indicates that the pollutant was not detected.
Minimum probable initial dilution for this Discharger is 165 : 1: WQOs presented above are adjusted for dilution.
Effluent data used for this RPA are from eleven monitoring events between 2004 to 2008.
All units are ug/L.

4. **WQBEL Calculations.** Based on results of the RPAs, performed in accordance with Ocean Plan methods for discharges to the Pacific Ocean, the Central Coast Water Board is retaining or establishing WQBELs for all Ocean Plan Table B pollutants. Based upon available monitoring data, effluent limits are not required to be specified for arsenic, cadmium, chromium (VI), copper, lead, nickel, selenium, chloroform, zinc, dichlorobromomethane, and ammonia. However, based upon limited available data and the fact that water quality objectives are applicable to the discharge regardless of whether they are specified in the permit, applicable limitations for all Table B constituents are listed. As described by Section III. C of the Ocean Plan, effluent limits for Table B pollutants are calculated according to the following equation.

   $Ce = Co + Dm (Co - Cs)$

   Where ...
   - Ce = the effluent limitation (µg/L)
   - Co = the concentration (the water quality objective) to be met at the completion of initial dilution (µg/L).
   - Cs = background seawater concentration (µg/L)
   - Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (here, Dm = 165)

   For the Discharger, Dm is unchanged from Order No. R3-2004-0050. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. As site-specific water quality data are not available, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following.

Table F-7. Background Concentrations—Ocean Plan

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

   All effluent limitations are retained from the previous Order, except for silver and benzidine limits, which are revised to correct errors in the current permit. Effluent limitations for the Table B pollutants are presented in Section IV.A.1 of this Order.

5. **Whole Effluent Toxicity (WET).** Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests - acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is

conducted over a longer period of time and may measure mortality, reproduction, and growth.

Central Coast Water Board staff have determined that treated wastewater from the Sanitation District has a reasonable potential to cause or contribute to acute and/or chronic toxicity in the discharge. Such a determination is consistent with the RPA procedure of the Ocean Plan which requires consideration of all available information, including the "potential toxic impact of the discharge" to determine if WQBELs are necessary, notwithstanding the statistical procedure with which the RPA is conducted for most pollutants. Because the cumulative effects of various pollutants present at low levels in the discharge are unknown, acute and chronic toxicity limitations are retained from the previous permit.

The Discharger must also maintain a Toxicity Reduction Evaluation (TRE) Workplan, which describes steps that the Discharger intends to follow in the event that acute and/or chronic toxicity limitations are exceeded. When monitoring measures WET in the effluent above the limitations established by the Order, the Discharger must resample, if the discharge is continuing, and retest. The Water Board Executive Officer will then determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE or to implement other measures.

D. **Final Effluent Limitations.** Final, technology-based and water quality-based effluent limitations established by the Order are discussed in the preceding sections of the Fact Sheet.

1. **Satisfaction of Anti-Backsliding Requirements.** The Order retains effluent limitations established by the previous permit for BOD_5, TSS, oil and grease, settleable solids, turbidity, and pH, which are based on Table A of the Ocean Plan. The Order also retains effluent limitations from the previous permit for Ocean Plan Table B toxic pollutants. The effluent limitations for silver and benzidine have been revised to correct a prior calculation error. Other changes in WQBELs established by this Order reflect the updated list of Table B pollutants contained in the 2005 Ocean Plan.

2. **Satisfaction of Antidegradation Policy.** Provisions of the Order are consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 CFR 131.12 and by State Water Board Resolution No. 68-16. The Order does not authorize increases in discharge rates or pollutant loadings, and its limitations and conditions otherwise enssure maintenance of the existing quality of receiving waters.

3. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5; TSS; settleable solids; turbidity; oil and grease; and pH. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are

necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Final, technology and water quality based effluent limitations are summarized in sections IV.B and C of this Fact Sheet.

E. **Interim Effluent Limitations.** The Order does not establish interim effluent limitations or schedules for compliance with final limitations.

F. **Land Discharge Specifications.** This section of the standardized permit form is not applicable to this Discharger.

G. **Reclamation Specifications.** The Order does not address use of reclaimed wastewater except to require compliance with applicable State and local requirements regarding the production and use of reclaimed wastewater, including those requirements established by the California Department of Public Health at title 22, sections 60301- 60357 of the California Code of Regulations, Water Recycling Criteria, if applicable.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. **Surface Water.** Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Receiving water limitations within the proposed Order generally include the receiving water limitations of the previous Order; however, these limitations have been supplemented and modified to reflect all applicable, general water quality objectives of the Ocean Plan (2005). In particular, receiving water limitations for bacteria have been modified to accurately reflect the updated Ocean Plan.

B. **Groundwater.** Groundwater limitations established by the Order include general objectives for ground water established by the Basin Plan for the Central Coast Region.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. Rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program (MRP), which is presented as Attachment E of this Order, is presented below.

A. **Influent Monitoring.** In addition to influent flow monitoring, monitoring for BOD_5 and TSS is required to determine compliance with the Order's 80 percent removal requirement for those pollutants.

B. Effluent Monitoring. Effluent monitoring requirements of the previous permit for Discharge Point 001 are retained in this Order, with the following exceptions/changes.

- Monitoring frequencies for influent and effluent BOD and TSS are reduced from every six days to weekly. Past monitoring has demonstrated these constituents do not significantly vary on a day-of-the-week basis, which was the basis for the six-day schedule. The regular weekly schedule will enable the District to improve staff scheduling and convenience without reducing valuable information obtained from the monitoring.

- Monitoring frequencies for total coliform bacteria, temperature, pH, settleable solids, oil and grease, chronic toxicity, ammonia, and Ocean Plan metals are reduced in this permit. Past monitoring has demonstrated consistent concentrations of these constituents that can be adequately characterized by less frequent monitoring. Less frequent monitoring of these constituents will provide for cost savings for the District without significantly diminishing the value of compliance assessment data.

- The MRP specifies annual effluent monitoring for constituents limited by the Ocean Plan Table B. Based upon several years of consistent compliance with discharge limitations, the semi-annual monitoring frequency specified in the existing permit for Ocean Plan Metals, Cyanide, Phenolic Compounds, Endosulfan, Endrin, HCH, and Radionuclides is reduced to annual monitoring. Monitoring for all other Table B toxic pollutants is required one time per year in April, as required in the previous Order and by the Ocean Plan (Appendix III). Monitoring data will provide for on-going characterization of the discharge and compliance evaluation with Table B toxic pollutants.

C. Whole Effluent Toxicity Testing Requirements. Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period, and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order retains limitations and monitoring requirements for acute and chronic toxicity for Discharge Point 001 from the previous permit.

D. Receiving Water Monitoring

1. **Surface Water.** Shoreline water monitoring and shellfish tissue bacterial monitoring specified in section VII.A of the MRP have been conditionally waived by the Executive Officer. If operational changes, plant upsets or effluent violations occur, then the listed receiving water monitoring must resume.

   Benthic sediment and biota monitoring requirements are retained from the previous permit. The benthic sediment monitoring is conducted jointly with the City of Pismo Beach Wastewater Treatment Facility. The Central Coast Water Board has imposed identical requirements in this Order and the City of Pismo Beach Order so that such monitoring can be coordinated between the two agencies, minimizing redundant effort and expense.

2. **Groundwater.** Groundwater monitoring requirements are not established by the Order.

E. Other Monitoring Requirements

1. **Biosolids/Sludge Monitoring.** Biosolids monitoring is required in this Order. The requirements are retained from the previous Order; however, the date of sampling is not specified so that the Discharger may coordinate with pretreatment monitoring requirements.

2. **Pretreatment Monitoring.** Pretreatment monitoring requirements are retained from the previous Order.

3. **Outfall Inspection.** The Order retains the requirement of the previous permit to conduct triennial visual inspections of the outfall and diffuser system and provide reports of those inspections to the Central Coast Water Board regarding the system's physical integrity.

4. **Brine Monitoring.** The MRP has established separate monitoring requirements for the discharge of brine waste. The Discharger requested that brine monitoring be conducted separately from secondary effluent monitoring, because the brine waste is mixed with the secondary effluent discharge after the final effluent monitoring location (EFF-001). The addition of the brine waste at a point before this final monitoring location interferes with numerous effluent testing results. The Regional Water Board has therefore granted the request to conduct separate brine monitoring. The requirements to also maintain logs that describe and quantify brine waste on an annual basis are established by the MRP to better characterize the composition of final combined effluent.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions.

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

NPDES regulations at 40 CFR 122.41(a)(1) and (b - n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. **Reopener Provisions.** The Order may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any, new State water quality objectives that are approved by the U.S. EPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

2. **Special Studies and Additional Monitoring Requirements**

   a. **Toxicity Reduction Requirements.** The requirement to perform a Toxicity Reduction Evaluation if the acute or chronic toxicity limitation is exceeded is retained from Order No. R3-2004-0050. When toxicity monitoring measures acute or chronic toxicity in the effluent above the limitation established by the Order, the Discharger is required to resample and retest, if the discharge is continuing. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements, or whether other measures are warranted.

3. **Best Management Practices and Pollution Prevention**

   a. **Pollutant Minimization Program.** The 2005 Ocean Plan establishes guidelines for the Pollutant Minimization Program (PMP). At the time of the proposed adoption of this Order no known evidence was available that would require the Discharger to immediately develop and conduct a PMP. The Central Coast Water Board will notify the Discharger in writing if such a program becomes necessary. The 2005 Ocean Plan PMP language is included to provide guidance in the event that a PMP must be developed and implemented by the Discharger.

4. **Construction, Operation, and Maintenance Specifications.** This section of the standardized permit template is not applicable.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

   a. **Biosolids Management.** Provisions regarding sludge handling and disposal ensure that such activity will comply with all applicable regulations.

      40 CFR Part 503 sets forth USEPA's final rule for the use and disposal of biosolids, or sewage sludge, and governs the final use or disposal of biosolids. The intent of this federal program is to ensure that sewage sludge is used or disposed of in a way that protects both human health and the environment.

      USEPA's regulations require that producers of sewage sludge meet certain reporting, handling, and disposal requirements. As the USEPA has not delegated the authority to implement the sludge program to the State of California, the enforcement of sludge requirements that apply to the Discharger

remains under USEPA's jurisdiction at this time. USEPA, not the Regional Water Board, will oversee compliance with 40 CFR Part 503.

40 CFR Part 503.4 (Relationship to other regulations) states that the disposal of sewage sludge in a municipal solid waste landfill unit, as defined in 40 CFR 258.2, that complies with the requirements in 40 CFR part 258 constitutes compliance with section 405(d) of the CWA. Any person who prepares sewage sludge that is disposed in a municipal solid waste landfill unit must ensure that the sewage sludge meets the applicable requirements of 40 CFR Part 503.

6. **Other Special Provisions**

   a. **Discharges of Storm Water.** Storm water flows from the wastewater treatment process areas are directed to the headworks and discharged with treated wastewater. These storm water flows constitute all industrial storm water at this facility and, consequently, this permit regulates all industrial storm water discharges at this facility along with wastewater discharges.

   b. **Sanitary Sewer System Requirements.** The Order requires coverage by and compliance with applicable provisions of General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ). This General Permit, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of the General Permit is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows.

7. **Compliance Schedules.** The Order does not establish interim effluent limitations and schedules of compliance with final limitations.

VIII. PUBLIC PARTICIPATION

The Central Coast Water Quality Control Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the South San Luis Obispo County Sanitation District Wastewater Treatment Facility. As a step in the WDR adoption process, the Central Coast Water Board staff has developed tentative WDRs. The Central Coast Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties. The Central Coast Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the publication in the local newspaper (The San Luis Obispo Tribune) on July 17, 2009, and posting on the Central Coast Water Board's website.

B. Written Comments. Central Coast Water Board staff determinations are tentative. Interested persons were invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Central Coast Water Board at the address above on the cover page of this Order. During the public comment period, a single letter was received regarding the proposed requirements.

South San Luis Obispo County Sanitation District – The Discharger submitted minor editorial comments and corrections, which have been incorporated into the proposed Order, as well as the following comments.

1. The date on which the permit becomes effective should be changed from October 23, 2009, to January 1, 2010, to allow time for the District to implement new monitoring and reporting requirements.

Staff Response: The draft proposed monitoring and reporting requirements were provided to the Discharger in June 2009. As described in this Fact Sheet, proposed monitoring and reporting requirements call for less frequent constituent monitoring, and reporting at the same frequency as the existing permit. Therefore, delayed permit implementation to accommodate new monitoring and reporting requirements does not appear warranted. No change is recommended to the proposed permit.

2. The proposed permit requires implementation of a Toxicity Reduction Evaluation if the discharge consistently exceeds effluent toxicity limits. The Discharger requests clarification regarding how many toxicity exceedances will be used as a threshold for implementing the Toxicity Reduction Evaluation.

Staff Response: The proposed permit carries over the existing requirement to implement a Toxicity Reduction Evaluation. The language mirrors the Ocean Plan requirement. Specific details are not included as they would vary depending upon the constituents and magnitude of effluent violations. Procedures for implementing a Toxicity Reduction Evaluation are described in the proposed permit (Attachment A – Definitions); however, to some degree similar procedures would be implemented in response to any violation. Once a violation is identified, the Discharger is required to identify the cause, corrective actions, and implementation schedule (Attachment D - Standard Provisions). A Toxicity Reduction Evaluation is essentially an expanded response to those effluent violations that are not readily eliminated through the standard corrective measures (equipment repair, process adjustments, etc.) With this in mind, the requirement is intentionally silent regarding the specific number of violations that would trigger implementation of a Toxicity Reduction Evaluation. The Toxicity Reduction Evaluation should be implemented when

standard corrective actions do not achieve the goal of consistent compliance with effluent limitations. No change is recommended to the proposed permit.

3. The permit should clearly state that businesses discharging brine to the ocean outfall are not considered "indirect dischargers" subject to the prohibitions at I.A.5 (Attachment D-1).

Staff Response: Standard Provision 1.A.5 states: *Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that (a) Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or (b) Flow through the system to the receiving water untreated; and (c) Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.* The proposed permit allows the Discharger to continue to accept brine waste into the ocean outfall. During the past permit cycle the Discharger developed a brine management plan that calls for brine to be discharged downstream from treatment processes (to prevent disruption of biological treatment processes) and monitoring brine separately from effluent. The Discharger's brine management plan calls for characterization of brine (through monitoring) to ensure that such discharges do not cause or contribute to discharge violations. This permit requires the Discharger to continue brine monitoring (page E-13) to ensure that brine accepted into the outfall does not contribute to discharge violations. Businesses discharging brine to the Discharger's outfall are a type (if atypical) of indirect discharger. Staff added the following sentence to the proposed permit after circulation of the draft: *Any significant changes in brine characteristics (from those presented in the Discharger's brine management plan) or potential impacts to combined effluent quality shall be summarized.* No additional change is recommended.

4. The District requests that the sampling frequency for cyanide, bis(2-ethylhexyl)phthalate and TCDD Equivalents remain as annually.

Staff Response: The draft permit circulated for public comment presented quarterly monitoring frequency for these constituents that displayed "reasonable potential" to be present in the effluent. However, past monitoring data indicates that effluent concentrations have not exceeded discharge limits and are typically less than half the discharge limit. Accordingly, monitoring for these constituents on an annual basis is expected to provide for adequate characterization of the effluent and compliance evaluation. It should be noted that annual monitoring for these constituents will allow the Discharger to perform the analysis along with the rest of the Ocean Plan Table B constituents (a cost savings) and will be consistent with monitoring required of the City of Pismo Beach (co-discharger through the same ocean outfall). Annual monitoring represents a reduction from the semi-annual monitoring of cyanide required in the existing permit. Annual monitoring frequency is consistent with the Ocean Plan requirements. The proposed order is revised to reflect annual monitoring of cyanide, bis(2-ethyhexyl)phthalate and TCDD Equivalents along with the other Ocean Plan Metals and Table B constituents.

5. The District requests that shoreline receiving water monitoring requirements (Attachment E, VIII.A) include a statement to the effect that "Shoreline and shellfish

monitoring has been waived by the Executive Officer." Also, the District requests guidance regarding the statement that "The following receiving water monitoring shall be performed if operational changes, plant upsets, or effluent violations occur."

Staff Response: The only shoreline and shellfish monitoring proposed is to be implemented in response to operational changes, plant upset, or effluent violations. This monitoring requirement is carried over from the existing permit. A clarifying phrase is added to indicate that only those changes, upsets or violations that are likely to increase bacterial concentrations in the surf zone will trigger shoreline bacterial monitoring. The additional language clarifies that surf zone monitoring is not required if a process change or effluent violation that is unlikely to impact bacteria occurs. No further changes are recommended.

6. The District plans to upgrade its treatment facility by adding an additional secondary clarifier and an aeration tank. Description of these projects should be included in the "Planned Changes" of the Fact Sheet (page F-6).

Staff Response: Description of these facility improvements is included.

C. Public Hearing. The Central Coast Water Board held a public hearing on the tentative WDRs during its regular Water Board meeting on the following date and time and at the following location:

Date: **October 23, 2009**
Time: **8:30am**
Location: **Santa Barbara County Offices, Supervisors' Hearing Room, 4th Floor**
105 East Anapamu Street
Santa Barbara, CA 93101

Interested persons were invited to attend. At the public hearing, the Central Coast Water Board heard testimony, if any, pertinent to the discharge, WDRs, and permit.

D. Waste Discharge Requirements Petitions. Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. **Information and Copying.** The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the Central Coast Water Board by calling (805) 549-3147.

F. **Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Coast Water Board, reference this facility, and provide a name, address, and phone number.

G. **Additional Information.** Requests for additional information or questions regarding this Order should be directed to Sorrel Marks at (805) 549-3695 or SMarks@waterboards.ca.gov.

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APPENDIX C. THE CITY OF PISMO BEACH NPDES PERMIT

November 30, 2015

Mr. Ben Fine
Director of Public Works
City of Pismo Beach
bfine@PismoBeach.org

sent by email only

Dear Mr. Fine:

ADOPTION OF WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2015-0016, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. CA0048151 – CITY OF PISMO BEACH WASTEWATER TREATMENT FACILITY, SAN LUIS OBISPO COUNTY, WDID 3 400106001

At its public meeting on November 19, 2015, the Central Coast Regional Water Quality Control Board adopted Order No. R3-2015-0016 Waste Discharge Requirements for the City of Pismo Beach Wastewater Treatment Facility located at 570 Frady Lane, Pismo Beach, San Luis Obipso County, CA. Please review the requirements carefully and note that some modifications to previous monitoring requirements are specified. The Order will also be posted online at: http://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/index.shtml

Your renewed permit's effective date is provided on the Order. Please be aware that your CIWQS upload tool (Permittee Entry Tool) may need to be updated when your new permit becomes effective. Please update the tool to reflect permit changes prior to the effective date to avoid potential late reporting violations. If you need help with PET changes, please contact the CIWQS help desk.

Thank you for your time in assisting with the process of adopting waste discharge requirements. If you have questions regarding the adopted permit, please contact **Katie DiSimone at (805) 542-4638 or katie.disimone@waterboards.ca.gov** or Sheila Soderberg at (805) 549-3592 or ssoderberg@waterboards.ca.gov.

Sincerely,

Kenneth A. Harris Jr.
Executive Officer

Attachment: Order No. R3-2015-0016

cc w/attachment:
Todd Stanley, Central Coast Water Board, tstanley@waterboards.ca.gov
Katherine Paris, Tetra Tech Katherine.Paris@tetratech.com
Kristy Allen, Tetra Tech Kristy.Allen@tetratech.com
Jae Kim, Tetra Tech jae.kim@tetratech.com
SWRCB - NPDES Unit NPDES_wastewater@waterboards.ca.gov
Jessica Jahr, OCC, Jessica.jahr@waterboards.ca.gov
Katie DiSimone, Central Coast Water Board, kdisimone@waterboards.ca.gov
Dan Connally, PG Environmental, LLC, Dan.Connally@pgenv.com
David Smith, EPA Region IX, Smith.davidw@epa.gov
Jamie Marincola, EPA Region IX, Marincola.JamesPaul@epa.gov
Ariana Villanueva, Water Boards, Ariana.villanueva@waterboards.ca.gov
Russel Fleming, City of Pismo Beach, rfleming@pismobeach.org

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ORDER R3-2015-0016
NPDES NO. CA0048151

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF PISMO BEACH WASTEWATER TREATMENT FACILITY

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	**City of Pismo Beach**
Name of Facility	**Wastewater Treatment Plant**
Facility Address	**570 Frady Lane**
	Pismo Beach, CA 93449
	San Luis Obispo County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary Treated Municipal Wastewater	35˚ 06' 04" N	120˚ 38' 46" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Central Coast Regional Water Quality Control Board on:	**November 19, 2015**
This Order shall become effective on:	**February 1, 2016**
This Order shall expire on:	**January 31, 2021**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**August 4, 2020**
The U.S. Environmental Protection Agency (U.S. EPA) and the Central Coast Regional Water Quality Control Board classify this as a major discharge.	

I, Kenneth A. Harris, Jr., Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of this Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on the date indicated above.

Kenneth A. Harris, Jr., Executive Officer

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the City of Pismo Beach's Wastewater Treatment Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Coast Region (hereinafter the Central Coast Water Board), finds:

A. **Legal Authorities.** This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.

B. **Background and Rationale for Requirements.** The Central Coast Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.

C. **Provisions and Requirements Implementing State Law.** The provisions and requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions and requirements are not required or authorized under the CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. **Notification of Interested Parties.** The Central Coast Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet accompanying this Order.

E. **Consideration of Public Comment.** The Central Coast Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order R3-2009-0047 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Coast Water Board from taking enforcement action for past violations of the previous order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater to the Pacific Ocean at a location other than as described by this Order from the City of Pismo Beach Wastewater Treatment Plant ocean outfall (35° 06′ 04″ N. Latitude, 120° 38′ 75″ W. Longitude) is prohibited.

B. The average monthly rate of discharge to the Pacific Ocean shall not exceed 1.9 million gallons per day (MGD).

C. Wastes shall not be discharged to State Water Quality Protection Areas, described as Areas of Special Biological Significance by the 2012 California Ocean Plan (California Ocean Plan), except in accordance with Chapter III.E of the California Ocean Plan.

D. The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited.

E. Discharge of any waste in any manner other than as described by this Order is prohibited.

F. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

G. Federal law prohibits the discharge of sludge by pipeline to the ocean. The discharge of municipal or industrial waste sludge directly to the ocean or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant, without further treatment, directly to the ocean or to a waste stream that discharges to the ocean, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Final Effluent Limitations – Discharge Point 001

1. **Technology-based and bacteriological effluent limitations.** The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP), Attachment E:

Table 4. Final Effluent Limitations for technology-based and bacteriological

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (BOD) 5-day @ 20°C	mg/L	30	45	90	--	--
Total Suspended Solids (TSS)	mg/L	30	45	90	--	--
pH	standard units	--	--	--	6.0	9.0
Oil and Grease	mg/L	25	40	75	--	--
Settleable Solids	ml/L	1.0	1.5	3.0	--	--
Turbidity	NTU	75	100	225	--	--
Fecal Coliform Bacteria	MPN/100 mL	--	200[1]	2000	--	--

[1] 7-sample median

2. **Toxic Pollutants.** The Discharger shall maintain compliance with the following effluent limitations for toxic pollutants at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP.

Table 5. Final Effluent Limitations for the Protection of Marine Aquatic Life

Pollutant	6-Month Median		Daily Maximum		Instantaneous Maximum	
	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)
Cadmium	170	2.7	660	10	1,700	27
Chromium VI	330	5.2	1,300	21	3,300	52
Copper	170	2.7	1,700	27	4,700	74
Lead	330	5.2	1,300	21	3,300	52
Mercury	6.6	0.10	26	0.41	66	1.0
Nickel	830	13	3,300	52	8,300	130
Selenium	2,500	40	9,900	160	25,000	400
Silver	90	1.4	440	7.0	1,100	17
Cyanide [1]	170	2.7	660	10	1,700	27
Total Chlorine Residual	330	5.2	1,300	21	9,900	160
Acute Toxicity [2]	---	---	5.3 [3]	---	---	---
Chronic Toxicity [2]	---	---	170 [3]	---	---	---
Phenolic Compounds (non-chlorinated)	5,000	79	20,000	320	50,000	790
Chlorinated Phenolics	170	2.7	660	10	1,700	27
Endosulfan[2]	1.5	0.024	3.0	0.05	4.5	0.07
Endrin	0.33	0.005	0.66	0.011	1.0	0.016
HCH[2]	0.66	0.010	1.3	0.021	2.0	0.032
Radioactivity	Not to exceed limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 5, Section 64443					

[1] If the Discharger can demonstrate to the satisfaction of the Central Coast Water Board (subject to U.S. EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 C.F.R. part 136, as revised May 14, 1999.

[2] See Attachment A for definitions.

[3] Units are TUa and TUc for acute and chronic toxicity, respectively.

Table 6. Final Effluent Limitations for the Protection of Human Health (Non-Carcinogens)

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Acrolein	3.6×10^4	570
Antimony	2.0×10^5	3200
Bis(2-Chloroethoxy)Methane	7.3×10^2	12
Bis(2-Chloroisopropyl)Ether	2.0×10^5	3200
Chlorobenzene	9.4×10^4	1500
Chromium (III)	3.1×10^7	490,000

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Di-n-Butyl Phthalate	5.8×10^5	9200
Dichlorobenzenes[1]	8.1×10^5	13,000
Diethyl Phthalate	5.4×10^6	85,000
Dimethyl Phthalate	1.4×10^8	2,200,000
4,6-Dinitro-2-Methylphenol	3.6×10^4	570
2,4-Dinitrophenol	6.6×10^2	10
Ethylbenzene	6.8×10^5	11,000
Fluoranthene	2.5×10^3	40
Hexachlorocyclopentadiene	9.6×10^3	150
Nitrobenzene	8.1×10^2	13
Thallium	3.3×10^2	5.2
Toluene	1.4×10^7	220,000
Tributyltin	2.3×10^{-1}	0.0036
1,1,1-Trichloroethane	8.9×10^7	1,400,000

[1] See Attachment A for definitions

Table 7. Final Effluent Limitations for the Protection of Human Health (Carcinogens)

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Acrylonitrile	1.7×10^1	0.27
Aldrin	3.6×10^{-3}	0.000057
Benzene	9.7×10^2	15
Benzidine	1.1×10^{-2}	0.00017
Beryllium	5.4×10^0	0.085
Bis(2-Chloroethyl)Ether	7.4×10^0	0.12
Bis(2-Ethylhexyl)Phthalate	5.8×10^2	9.2
Carbon Tetrachloride	1.5×10^2	2.4
Chlordane [1]	3.8×10^{-3}	0.000060
Chlorodibromomethane	1.4×10^3	22
DDT [1]	2.8×10^{-2}	0.00044
1,4 Dichlorobenzene	3.0×10^3	47
3,3-Dichlorobenzidine	1.3×10^0	0.021
1,2-Dichloroethane	4.6×10^3	73
1,1-Dichloroethylene	1.5×10^2	2.4
Dichlorobromomethane	1.0×10^3	16
Dichloromethane (Methylene Chloride)	7.4×10^4	1200
1,3-Dichloropropene	1.5×10^3	24
Dieldrin	6.6×10^{-3}	0.00010
2,4-Dinitrotoluene	4.3×10^2	6.8

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
1,2-Diphenylhydrazine	2.6×10^{1}	0.41
Halomethanes[1]	2.1×10^{4}	330
Heptachlor	8.3×10^{-3}	0.00013
Heptachlor Epoxide	3.3×10^{-3}	0.000052
Hexachlorobenzene	3.5×10^{-2}	0.00055
Hexachlorobutadiene	2.3×10^{3}	36
Hexachloroethane	4.1×10^{2}	6.5
Isophorone	1.2×10^{5}	1900
N-Nitrosodimethylamine	1.2×10^{3}	19
N-Nitrosodi-n-Propylamine	6.3×10^{1}	1.0
N-Nitrosodiphenylamine	4.1×10^{2}	6.5
PAHs [1]	1.5×10^{0}	0.024
PCBs [1]	3.1×10^{-3}	0.000049
TCDD Equivalents	6.4×10^{-7}	0.00000001
1,1,2,2-Tetrachloroethane	3.8×10^{2}	6.0
Tetrachloroethylene	3.3×10^{2}	5.2
Toxaphene	3.5×10^{-2}	0.00055
Trichloroethylene	4.5×10^{3}	71
1,1,2-Trichloroethane	1.6×10^{3}	25
2,4,6-Trichlorophenol	4.8×10^{1}	0.76
Vinyl Chloride	5.9×10^{3}	93

[1] See Attachment A for definitions

a. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and TSS shall not be less than 85 percent.

b. **Initial Dilution.** The minimum initial dilution of treated effluent at the point of discharge to the Pacific Ocean shall not be less than 165 to 1 (seawater to effluent) at any time.

B. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The following receiving water limitations are based on water quality objectives (Water Contact Standards) contained in the California Ocean Plan and are a required part of this Order. Compliance shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed except where other stations are defined.

1. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is farther from the shoreline, and in areas outside this zone designated for water contact recreation use by the Central Coast Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column.

30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

a. Total coliform density shall not exceed 1,000 per 100 mL;

b. Fecal coliform density shall not exceed 200 per 100 mL; and

c. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum[1]:

a. Total coliform density shall not exceed 10,000 per 100 mL;

b. Fecal coliform density shall not exceed 400 per 100 mL;

c. Enterococcus density shall not exceed 104 per 100 mL; and

d. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1

2. At all areas where shellfish may be harvested for human consumption, as determined by the Central Coast Water Board, the median total coliform density shall not exceed 70 organisms per 100 mL, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mL.

3. Floating particulates and grease and oil shall not be visible.

4. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

5. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

6. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

7. The dissolved oxygen concentration shall not at any time be depressed more than 10-percent from that which occurs naturally as a result of the discharge of oxygen-demanding waste.

8. The pH shall not be changed at any time more than 0.2 unit from that which occurs naturally.

9. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

10. The concentration of substances set forth in Chapter II, Table 1 of the California Ocean Plan in marine sediments shall not be increased to levels that would degrade indigenous biota.

11. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

12. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.

13. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table 1 of the California Ocean Plan.

[1] See paragraph V.C.2.b. Water-Contact Monitoring (Bacterial Characteristics) and Table E-7 Bacteria Monitoring Schedule of the Monitoring and Reporting Program for accelerated monitoring when exceedances occur of single sample maximum (SSM) bacterial surface water limitations.

14. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
15. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
16. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.
17. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations

Activities at the Facility shall not cause exceedance or deviation from the following water quality objectives for groundwater established by the Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Central Coast Region.

1. Groundwater shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.
2. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

VI. PROVISIONS

The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with all Central Coast Water Board specific Standard Provisions also included in Attachment D of this Order.

B. Monitoring and Reporting Program (MRP) Requirements

Pursuant to Water Code sections 13267 and 13383, the Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order, and all notification and general reporting requirements throughout this Order and Attachment D. Where notification or general reporting requirements conflict with those stated in the MRP (e.g., annual report due date), the Discharger shall comply with the MRP requirements. All monitoring shall be conducted according to 40 C.F.R. part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*.

The Discharger is required to provide technical or monitoring reports because it is the owner and operator responsible for the waste discharge and compliance with this Order. The Central Coast Water Board needs the information to determine the Discharger's compliance with this Order, assess the need for further investigation or enforcement action, and to protect public health and safety and the environment.

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened and modified in accordance with NPDES regulations at 40 C.F.R.parts 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any U.S. EPA-approved, new state water quality objective.

b. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a California Ocean Plan Table 1 water quality objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Requirements**

If the discharge consistently exceeds an effluent limitation for toxicity specified by Section III of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) defined in Attachment A in accordance with the Discharger's TRE Workplan.

A TRE is a study conducted in a step-wise process designed to identify the causes of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemicals responsible for toxicity. These procedures are performed in three phases - characterization, identification, and confirmation using aquatic organism toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

The Discharger shall maintain a TRE Workplan, which describes steps that the Discharger intends to follow if a toxicity effluent limitation in this Order is exceeded. The workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88-070 (for industrial discharges) or EPA/600/2-88/062 (for municipal discharges), and shall describe, at least:

i. Actions proposed to investigate and identify the causes and sources of toxicity,

ii. Actions proposed to mitigate the discharge's adverse effects, to correct the noncompliance, or to prevent the recurrence of acute or chronic toxicity (this list of action steps may be expanded if a TRE is undertaken), and

iii. A schedule to implement these actions.

When monitoring detects effluent toxicity greater than a limitation in this Order, the Discharger shall resample immediately, if the discharge is continuing, and retest for whole effluent toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Central Coast Water Board Executive Officer (EO) as soon as possible after receiving monitoring results. The EO will determine if

it is appropriate to initiate enforcement action, require the Discharger to implement a TRE, or implement other measures. The Discharger shall conduct a TRE considering guidance provided by the U.S. EPA's Toxicity Reduction Evaluation Procedures, Phases 1, 2, and 3 (U.S. EPA document nos. EPA 600/3-88/034, 600/3-88/035, and 600/3-88/036, respectively). A TRE, if necessary, shall be conducted in accordance with the schedule shown in Table 8.

Table 8. Toxicity Reduction Evaluation - Schedule

Action	When Required
Take all reasonable measures necessary to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate the TRE in accordance with the workplan.	Within 7 days of notification by the EO.
Conduct the TRE following the procedures in the workplan.	Within the period specified in the workplan (not to exceed one year, without an approved workplan).
Submit the results of the TRE, including summary of findings, required corrective action, and all results and data.	Within 60 days of completion of the TRE.
Implement corrective actions to meet Order limitations and conditions.	To be determined by the EO.

b. **Water Contact Monitoring (Bacterial Characteristics)**

In accordance with California Ocean Plan section III.D.1.b, if a single sample exceeds any of the bacteriological single sample maximum (SSM) standards contained within section V.A.1 of this Order, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued daily until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

(This requirement is also footnoted in Table E-7 of section VIII.A of MRP Attachment E).

3. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program**

The California Ocean Plan establishes guidelines for the Pollutant Minimization Program (PMP). At the time of the proposed adoption of this Order, no known evidence was available that would require the Discharger to immediately develop and conduct a PMP. The Central Coast Water Board will notify the Discharger in writing if such a program becomes necessary. The California Ocean Plan PMP language is included herein to provide guidance in the event that a PMP must be developed and implemented by the Discharger.

PMP Goal: The PMP goal is to reduce all potential pollutant sources through pollutant minimization (control) strategies, including pollution prevention measures, to maintain pollutant effluent concentrations at or below the effluent limitation.

Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence of impairment of beneficial uses. The completion and implementation of a Pollution Prevention Plan, required in accordance with Water Code Section 13263.3 (d), will fulfill the PMP requirements.

Determining the Need for a PMP:

i. The Discharger must develop and conduct a PMP if all of the following conditions are true:

   (a) The calculated effluent limitation is less than the reported minimum level;

   (b) The concentration of the pollutant is reported as "Detected, but Not Quantified" or DNQ; and

   (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

ii. Alternatively, the Discharger must develop and conduct a PMP if all of the following conditions are true:

   (a) The calculated effluent limitation is less than the Method Detection Limit (MDL);

   (b) The concentration of the pollutant is reported as "Not Detected" or ND; and

   (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

Special Provision for Evidence of Pollutant Presence:

The Central Coast Water Board may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:

i. Health advisories for fish consumption;

ii. Presence of whole effluent toxicity;

iii. Results of benthic or aquatic organism tissue sampling;

iv. Sample results from analytical methods more sensitive than methods included in the permit (in accordance with the California Ocean Plan, Chapter III, Section C.4.b, *Deviations from Minimum Levels in Appendix II*; or

v. The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

Elements of a PMP:

The Central Coast Water Board may consider cost-effectiveness when establishing the requirements of a PMP. The program shall include actions and submittals acceptable to the Central Coast Water Board including, but not limited to, the following:

i. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;

ii. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and

v. An annual status report that shall be sent to the Central Coast Water Board including:

(a) All PMP monitoring results for the previous year;

(b) A list of potential sources of the reportable pollutant;

(c) A summary of all action taken in accordance with the control strategy; and,

(d) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Biosolids Management**

i. Sludge and wastewater solids must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 C.F.R. parts 258 and 503 and title 23, chapter 15, division 3 of the California Code of Regulations. If the Discharger desires to dispose of solids and/or sludge in a different manner, a request for permit modification must be submitted to the U.S. EPA and to the Central Coast Water Board at least 180 days prior to beginning the alternative means of disposal.

ii. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 C.F.R. part 258 pertaining to providing information to the public. In the annual self-monitoring report, the Discharger shall include the amount of sludge placed in the landfill as well as the landfill to which it was sent.

iii. All requirements of 40 C.F.R. part 503 and title 23, chapter 15, division 3 of the California Code of Regulations are enforceable whether or not the

requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.

iv. The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.

v. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

vi. The solids and sludge treatment and storage site shall have adequate facilities to divert surface water runoff from adjacent areas to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection, at the minimum, from a 100-year storm and protection from the highest possible tidal stage that may occur.

vii. The discharge of sewage sludge and solids shall not cause waste material to be in position where it is, or can be, conveyed from the treatment and storage sites and deposited in waters of the state. The Discharger shall submit an annual report to U.S. EPA and the Central Coast Water Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 C.F.R. part 503. The Discharger shall also report the quantity of sludge removed from the Facility and the disposal method. This self-monitoring report shall be postmarked by February 19 of each year and report for the period of the previous calendar year.

b. **Pretreatment**

Pretreatment requirements for POTWs are contained within 40 C.F.R. part 403. Per 40 C.F.R. part 403.8, any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards will be required to establish a POTW pretreatment program unless the NPDES state exercises its option to assume local responsibilities as provided for in section 403.10(e). The Executive Officer may require that a POTW with a design flow of 5 MGD or less develop a POTW pretreatment program if he or she finds that the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through as defined in 40 C.F.R. part 403.3.

The Discharger has previously adopted municipal ordinances regarding industrial wastewater sources within their service area. Furthermore, the Report of Waste Discharge submitted by the Discharger in support of the permit renewal process did not identify any current significant or categorical industrial users within the service area. Therefore, the effluent discharge limitations do not anticipate significant or categorical industrial contributions. In the event the Discharger identifies new or previously unidentified industrial users, the Discharger shall apply to the Central Coast Water Board to amend this permit, as appropriate.

6. Other Special Provisions

a. **Discharges of Storm Water.** For the control of storm water discharged from the Facility, if applicable, the Discharger shall seek authorization to discharge under \the State Water Board's Water Quality Order 2014-0057-DWQ, NPDES General Permit No. CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities.*

b. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Water Quality Order 2006-0003-DWQ).** Water Quality Order 2006-0003-DWQ, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of Water Quality Order 2006-003-DWQ is to promote proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and adverse effects of sanitary sewer overflows. The Discharger has enrolled in the General Permit effective August 3, 2006.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. **General.**

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Central Coast and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

B. **Multiple Sample Data.**

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TU_a)
Expressed in Toxic Units Acute (TU_a)

$$TU_a = \frac{100}{\text{96-hr LC 50\%}}$$

b. Lethal Concentration 50% (LC 50)
LC_{50} (percent waste giving 50 percent survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in California Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC_{50} may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC_{50} due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TU_a = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TU_a shall be reported as zero.

Areas of Special Biological Significance (ASBS)
Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Chlordane
Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity
This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TU_c)
   Expressed as Toxic Units Chronic (TU_c)

$$TU_c = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in California Ocean Plan Appendix III.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT
Shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade
Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ)
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's method detection limit. Sample results reported as DNQ are estimated concentrations.

Dichlorobenzenes
Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

Dredged Material
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as “spoil.”

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Central Coast Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds
For purposes of the bacteriological standards of the California Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture
The culture of plants and animals in marine waters independent of any pollution source.

Material
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the California Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)
The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B.

Minimum Level (ML)
The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Natural Light
Reduction of natural light may be determined by the Central Coast Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Central Coast Water Board.

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the California Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons)
The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls)
The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of California Ocean Plan Table 1 pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Coast Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level
The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the ML's included in this Order, including an additional factor if applicable as discussed herein. The ML's included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Central Coast Water Board either from Appendix II of the California Ocean Plan in accordance with section III.C.5.a. of the California Ocean Plan or established in accordance with section III.C.5.b. of the California Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Shellfish
Organisms identified by the State Water Board Division of Drinking Water (formerly California Department of Public Health) as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference
Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation
The highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the California Ocean Plan.

TCDD Equivalents
The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

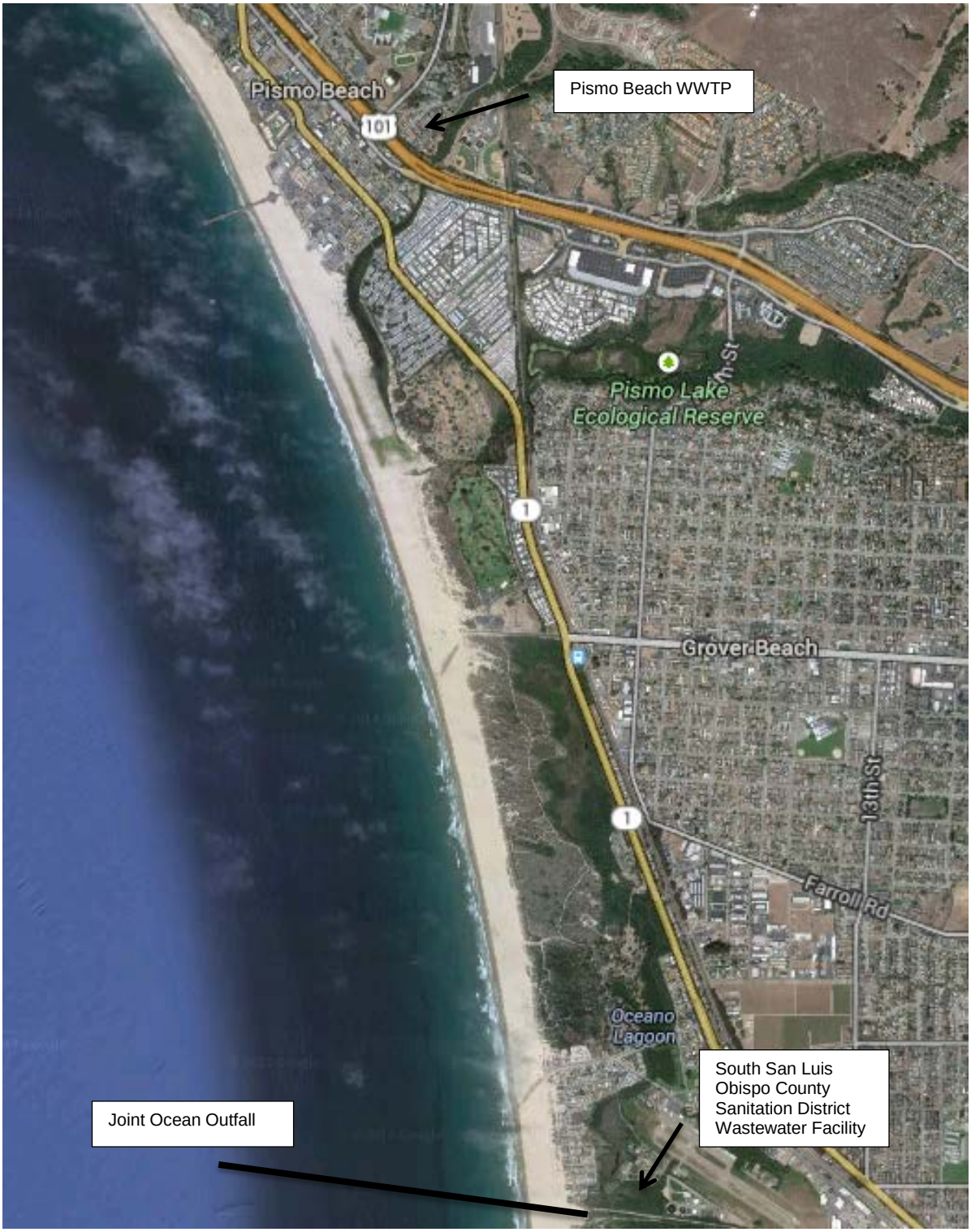
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemicals responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

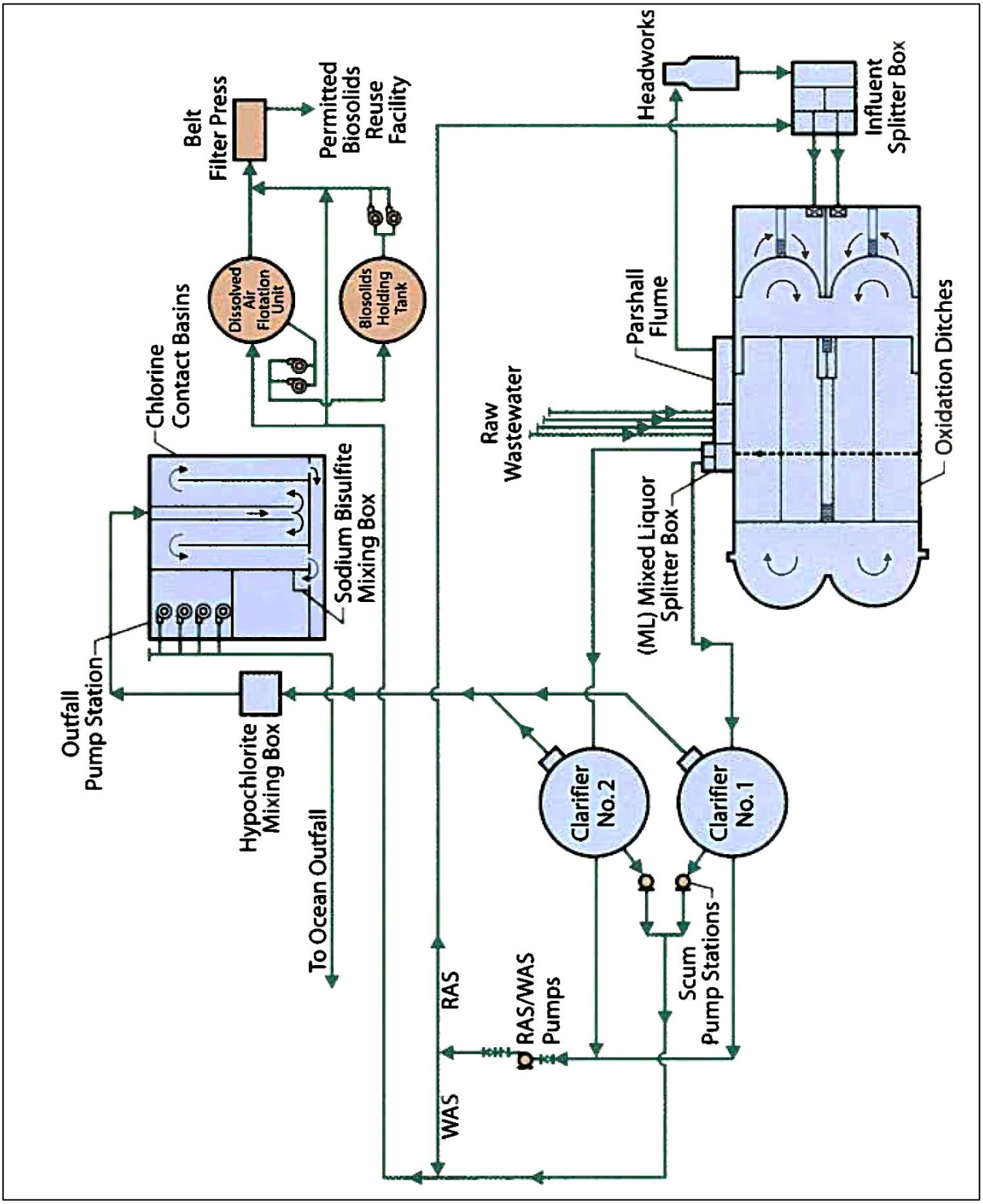
Waste
As used in the California Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Recycling
The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Coast Water Board, State Water Board, U.S. EPA, or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Coast Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Central Coast Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Central Coast Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Coast Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the causes of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Coast Water Board. The Central Coast Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. §§ 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Coast Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Coast Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Coast Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Coast Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Coast Water Board, State Water Board, or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Central Coast Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Central Coast Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard

Provisions – Reporting V.B.3 above must be submitted to the Central Coast Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Coast Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Coast Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Central Coast Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Central Coast Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Coast Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Coast Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The Central Coast Water Board is authorized to enforce the terms of this Order under several provisions of the California Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Central Coast Water Board of the following (40 C.F.R. § 122.42(b)):

A. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

B. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

C. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

VIII. CENTRAL COAST WATER BOARD STANDARD PROVISIONS (JANUARY 2013)

A. Central Coast General Permit Conditions – Prohibitions

1. Introduction of "incompatible wastes" to the treatment system is prohibited
2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.
3. Discharge of "toxic pollutants" in violation of effluent standards and prohibitions established under section 307(a) of the CWA is prohibited.
4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.
5. Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that:
    a. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or
    b. Flow through the system to the receiving water untreated; and
    c. Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.
6. Introduction of "pollutant free" wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this Order is prohibited.

B. Central Coast Standard Provisions – Provisions

1. Collection, treatment, and discharge of waste shall not create nuisance or pollution, as defined by California Water Code Section 13050.

2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.
3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.
4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Central Coast Water Board Executive Officer.
5. Wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to title 23 of the California Code of Regulations.
6. After notice and opportunity for a hearing, this Order may be terminated for cause, including, but not limited to:
    a. violation of any term or condition contained in this Order.
    b. obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts.
    c. a change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge.
    d. a substantial change in character, location, or volume of the discharge.
7. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
8. After notice and opportunity for hearing, this Order may be modified or revoked and reissued for cause, including:
    a. Promulgation of a new or revised effluent standard or limitation.
    b. A material change in character, location, or volume of the discharge.
    c. Access to new information that affects the terms of the Order, including applicable schedules.
    d. Correction of technical mistakes or mistaken interpretations of law.
    e. Other causes set forth under subpart D of 40 C.F.R. part 122.
9. Safeguards shall be provided to ensure maximal compliance with all terms and conditions of this Order. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. Preventative and contingency plans for controlling and minimizing the effect of accidental discharges shall:
        a. identify possible situations that could cause "upset," "overflow," "bypass," or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.)
        b. evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the permit.
10. Physical facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full compliance with this Order when properly operated

and maintained. Proper operation and maintenance shall be described in an Operation and Maintenance Manual. Facilities shall be accessible during the wet-weather season.

11. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Electrical and mechanical equipment shall be maintained in accordance with appropriate practices and standards, such as NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*; NFPA 70E, *Standard for Electrical Safety in the Workplace*; ANSI/NETA MTS *Standard for Maintenance: Testing Specifications for Electrical Power Equipment and Systems*, or procedures established by insurance companies or other industry resources.

12. If the Discharger's facilities are equipped with SCADA or other systems that implement wireless, remote operation, the Discharger should implement appropriate safeguards against unauthorized access to the wireless systems. Standards such as NIST SP 800-53, *Recommended Security Controls for Federal Information Systems*, can provide guidance.

13. Production and use of recycled water is subject to the approval of the Central Coast Water Board. Production and use of recycled water shall be in conformance with chapter 3, division 4, title 22 of the California Code of Regulations (Water Recycling Criteria) and chapter 7, division 7 of the California Water Code (Water Recycling Law). An engineering report pursuant title 22, of the California Code of Regulations is required and a waiver or water recycling requirements from the Central Coast Water Board is required before recycled water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Board.

C. Central Coast Standard Provisions – General Monitoring Requirements

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Central Coast Executive Officer agrees the original monitoring frequency may be resumed.

   For example, if copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.).

2. Water quality analyses performed in order to monitor compliance with this Order shall be by a laboratory certified by the State Water Board Division of Drinking Water (formerly California Department of Public Health) for the constituents being analyzed. Bioassays performed to monitor compliance with this Order shall be in accord with guidelines approved by the State Water Resources Control Board (State Water Board) and the Department of Fish and Wildlife.

3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions. Influent samples shall be samples collected from the combined flows of all

incoming wastes, excluding recycled wastes. Effluent samples shall be samples collected downstream of the last treatment unit and tributary flow and upstream of any mixing with receiving waters.

4. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

D. Central Coast Standard Provisions – General Reporting Requirements

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:

    a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

    b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).

    c. A description of the sampling procedures and preservation sequence used in the survey.

    d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.

    e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.

2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within this Order. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.

3. The Discharger shall file a report of waste discharge at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.

4. Within 120 days after the Discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment or disposal facilities within four years, the Discharger shall file a written report with the Central Coast Water Board. The report shall include:

    a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,

b. a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment or disposal facilities before the waste flow rate equals the capacity of present units.

In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

5. The Discharger shall submit monitoring reports (both eSMRs and DMRs) electronically to the CIWQS website. All other correspondence or reports shall be sent electronically to:

Central Coast Water Board
centralcoast@waterboards.ca.gov

6. Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing Discharger and proposed Discharger containing a specific date for transfer of responsibility, coverage, and liability between them. Whether an Order may be transferred without modification or revocation and reissuance is at the discretion of the Board. If Order modification or revocation and reissuance are necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete application. Please also see Federal Standard Provision – Permit Action II.C

7. Except for data determined to be confidential under CWA section 308 (excludes effluent data and permit applications), all reports prepared in accordance with this Order shall be available for public inspection at the office of the Central Coast Water Board or Regional Administrator of U.S. EPA. Please also see Federal Standard Provision – Records IV.C

8. By January 30 of each year, the Discharger shall submit an annual report to the Central Coast Water Board. The report shall contain the following:

a. Both tabular and graphical summaries of the monitoring data obtained during the previous year.
b. A discussion of the previous year's compliance record and corrective actions taken, or which may be needed, to bring the Discharger into full compliance.
c. An evaluation of wastewater flows with projected flow rate increases over time and the estimated date when flows will reach facility capacity.
d. A discussion of operator certification and a list of current operating personnel and their grades of certification.
e. The date of the Facility's Operation and Maintenance Manual (including contingency plans as described in Provision B.9), the date the manual was last reviewed, and whether the manual is complete and valid for the current facility.
f. A discussion of the laboratories used by the Discharger to monitor compliance with effluent limitation and a summary of performance relative to Section C, General Monitoring Requirements.
g. If the Facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.

h. If appropriate, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Program."

E. Central Coast Standard Provisions – General Pretreatment Provisions

Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (40 C.F.R. part 403 appendix C), where categorical pretreatment standards have been established, or are to be established, (according to 40 C.F.R. chapter 1, subchapter N), shall comply with the appropriate pretreatment standards by the date specified therein or, if a new indirect discharger, upon commencement of discharge.

F. Central Coast Standard Provisions – Enforcement

1. Any person failing to file a report of waste discharge or other report as required by this Order shall be subject to a civil penalty not to exceed $5,000 per day.
2. Upon reduction, loss, or failure of the treatment facility, the Discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

G. Central Coast Standard Provisions – Definitions (Not otherwise included in Attachment A to this Order)

1. A “composite sample" is a combination of no fewer than eight individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.
2. “Daily Maximum” limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on "composite samples” except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a “grab sample.”
3. “Discharger," as used herein, means, as appropriate: (1) the Discharger, (2) the local sewering entity (when the collection system is not owned and operated by the Discharger), or (3) "indirect discharger" (where "Discharger" appears in the same paragraph as "indirect discharger," it refers to the discharger.)
4. Duly Authorized Representative" is one where:
    a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;
    b. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,
    c. the written authorization was submitted to the Central Coast Water Board.
5. A "grab sample" is defined as any individual sample collected in less than 15 minutes. "Grab samples” shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily

maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.

6. "Hazardous substance" means any substance designated under 40 C.F.R. part 116 pursuant to Section 311 of the Clean Water Act

7. "Incompatible wastes" are:
   a. Wastes that create a fire or explosion hazard in the treatment works.
   b. Wastes that will cause corrosive structural damage to treatment works, or wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes.
   c. Solid or viscous wastes in amounts that cause obstruction to flow in sewers or that cause other interference with proper operation of treatment works.
   d. Any waste, including oxygen-demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency.
   e. Heat in amounts that inhibits or disrupts biological activity in the treatment works or that raise influent temperatures above 40°C (104°F) unless the treatment works is designed to accommodate such heat.

8. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

9. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C_1 \times C_2 \times ... \times C_n)^{1/n}$$

   in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

10. "Mass emission rate" is a daily rate defined by the following equations:

    mass emission rate (lbs/day) = 8.34 x Q x C; and,
    mass emission rate (kg/day) = 3.79 x Q x C,

    where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in million gallons per day, MGD) is the measured daily flowrate or the average of measured daily flowrates over the period of interest.

11. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.

12. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.

13. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.

14. "Monthly Average" (or "Weekly Average," as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X1 + X2 + ... + Xn) / n$$

in which "n" is the number of days that samples were analyzed during the period and "X" is either the constituent concentration (mg/L) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

15. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial waste, or other waste.

16. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.

17. "Pollutant-free wastewater" means inflow and infiltration, stormwaters, and cooling waters and condensates which are essentially free of pollutants.

18. "Primary Industry Category" means any industry category listed in 40 C.F.R. part 122, Appendix A.

19. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/L) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$C_{Effluent} \text{ Removal Efficiency (\%)} = 100 \times (1 - C_{effluent} / C_{influent})$$

20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or substantial and permanent loss to natural resources that can reasonably be expected to occur in the absence of a "bypass." It does not mean economic loss caused by delays in production.

21. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.

22. To "significantly contribute" to a permit violation means an "indirect discharger" must:
    a. Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by federal, state, or local law;
    b. Discharge wastewater which substantially differs in nature or constituents from its average discharge;
    c. Discharge pollutants, either alone or in conjunction with discharges from other sources, that results in a permit violation or prevents sewage sludge use or disposal; or
    d. Discharge pollutants, either alone or in conjunction with pollutants from other sources, that increase the magnitude or duration of permit violations.

23. "Toxic Pollutant" means any pollutant listed as toxic under section 307(a)(1) of the Clean Water Act or under 40 C.F.R. part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.).

24. “Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Board.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the Central Coast Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and regulations.

I. GENERAL MONITORING PROVISIONS

A. Laboratories analyzing monitoring samples shall be certified by the State Water Board Division of Drinking Water (formerly California Department of Public Health), in accordance with the provisions of California Water Code section 13176, and must include quality assurance/quality control data with their reports.

B. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and approval of the Central Coast Water Board.

C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references.

1. *A Guide to Methods and Standards for the Measurement of Water Flow,* U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. C13.10:421)

2. *Water Measurement Manual,* U.S. Department of Interior, Bureau of Reclamation, Third Edition, Revised Reprint, 2001, 317 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Stock No. 024-00215-1)

3. *Flow Measurement in Open Channels and Closed Conduits,* U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

4. *NPDES Compliance Sampling Manual*, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

D. All monitoring instruments and devices used by the City of Pismo Beach (hereinafter Discharger) to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.

F. Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 C.F.R. part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule shall also adhere to guidance and requirements contained in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005). Analyses for toxics listed in Table 1 of the 2012 California Ocean Plan (California Ocean Plan) shall adhere to guidance and requirements contained in that document

G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address:

State Water Board Quality Assurance Program Officer
Office of Information Management and Analysis
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	**INF-001**	Influent wastewater prior to treatment and following all significant inputs to the collection system (including City Yard stormwater and sump wastewater) or to the headworks of untreated wastewater, upstream of any in-plant return flows, where representative samples of wastewater influent can be obtained.
001	**EFF-001**	Location where representative effluent sample discharged through the ocean outfall can be collected, after treatment and chlorination/dechlorination, prior to mixing with South San Luis Obispo County Sanitation District effluent and contact with receiving water.
--	**SRF-A**	At a location along the shoreline 300 meters south of the outfall in surf zone (formerly known as shoreline monitoring station A).
--	**SRF-B**	At a location along the shoreline adjacent to the outfall in surf zone (formerly known as shoreline monitoring station B).
--	**SRF-C**	At a location along the shoreline 300 meters north of the outfall in surf zone (formerly known as shoreline monitoring station C).
--	**SRF-D**	At a location near the shoreline at the mouth of Arroyo Grande Creek (formerly known as shoreline monitoring station D).
--	**RSW-001**	(Historical) At a location in the receiving water 300 meters north of outfall at mid-depth of diffuser.

--	**RSW-002N**	(Historical) At a location in the receiving water 20 meters north of outfall at mid-depth of diffuser.
--	**RSW-002S**	(Historical) At a location in the receiving water 20 meters south of outfall at mid-depth of diffuser.
--	**RSW-003**	(Historical) At a location in the receiving water 300 meters south of outfall at mid-depth of diffuser.
--	**RSW-004**	(Historical) At a location in the receiving water 1000 meters south of outfall at mid-depth of diffuser.
--	**BEN-001**	At the ocean bottom directly below station RSW-001.
--	**BEN-002N**	At the ocean bottom directly below station RSW-002N.
--	**BEN-002S**	At the ocean bottom directly below station RSW-002S.
--	**BEN-003**	At the ocean bottom directly below station RSW-003.
--	**BEN-004**	At the ocean bottom directly below station RSW-004.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the wastewater treatment plant (hereinafter Facility) at INF-001 as shown in Table E-2.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
BOD_5	mg/L	24-hr Composite	1/Week
TSS	mg/L	24-hr Composite	1/Week

IV. EFFLUENT MONITORING REQUIREMENTS

Monitoring Location EFF-001

The Discharger shall monitor treated wastewater at EFF-001 as shown in Table E-3. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding minimum level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Daily Flow	MG	Metered	1/Day
Maximum Daily Flow	MGD	Metered	1/Day
Average Daily Flow	MGD	Calculated	1/Month
Total Chlorine Residual	mg/L	Grab	1/Day
Chlorine Used	lbs/day	Recorded	1/Day
Total Coliform Bacteria	MPN/100 mL	Grab	1/Week
Fecal Coliform Bacteria	MPN/100 mL	Grab	5/Week
pH	pH units	Grab	1/Month
Temperature	°F	Grab	1/Month
BOD_5	mg/L	24-hr Composite	1/Week
TSS	mg/L	24-hr Composite	1/Week

Settleable Solids	ml/L/hr	Grab	1/Month
Turbidity	NTU	Grab	1/Week
Oil and Grease	mg/L	Grab	1/Month
Copper	mg/L	24-hr Composite	2/year[1]
Nickel	mg/L	24-hr Composite	2/year[1]
Chlorodibromomethane	µg/L	Grab	2/year[1]
Dichlorobromomethane	µg/L	Grab	2/year[1]
Ammonia (as N)	mg/L	Grab	1/Year [1]
Chronic Toxicity [2]	TU_c	24-hr Composite	1/Year [1]
Acute Toxicity [2]	TU_a	Grab	1/Permit Term
CA Ocean Plan Table 1 Metals [3], [4]	µg/L	24-hr Composite	1/Year [1]
CA Ocean Plan Table 1 Pollutants [4], [5]	µg/L	24-hr Composite	1/Year [1]
Remaining Priority Pollutants [5], [6]	µg/L	24-hr Composite	1/Year [1]

[1] Sampling shall be conducted in April for 1/year monitoring, and April and October for 2/year monitoring.

[2] Whole effluent, acute, and chronic toxicity monitoring shall be conducted according to the requirements established in section V of this Monitoring and Reporting Program.

[3] Those twelve metals (Sb, As, Cd, Cr^{+3}, Cr^{+6}, Cu, Pb, Hg, Ni, Se, Ag, and Zn) with applicable water quality objectives established by Table 1 of the California Ocean Plan. Analysis shall be for total recoverable metals.

[4] Procedures, calibration techniques, and instrument/reagent specifications shall conform to 40 C.F.R. part 136 and applicable provisions of the California Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the California Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the California Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table 1; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML. In addition, data must comply with QA/QC requirements of 40 C.F.R. part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 C.F.R. part 136.

[5] Those pollutants in California Ocean Plan Table 1. Analyses, compliance determination, and reporting shall adhere to applicable provisions of the California Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III. The Discharger shall ensure its analytical laboratory uses the MLs presented in California Ocean Plan Appendix II as the lowest calibration standards. The Discharger shall select the lowest ML necessary to demonstrate compliance with effluent limitations. If effluent limitations are less than the lowest ML, then the Discharger shall use the lowest ML.

[6] The "Remaining Priority Pollutants" (see Table E-4 below) consist of the priority pollutants listed in Part D of EPA Form 3510-2A (Rev. 1-99) that currently do not have ocean criteria (water quality objectives) per Table 1 of the California Ocean Plan. A complete EPA Form 3510-2A is required for all new and renewal NPDES permit applications pursuant to 40 C.F.R. 122.21. Expanded Effluent Testing Data per part D of EPA Form 3510-2A is required for all treatment works with design flows greater than or equal to 1.0 MGD or with a pretreatment program (or required to have a pretreatment program), or otherwise required by the permitting authority to provide the data.

Table E-4. Remaining Priority Pollutants

Volatile Organic Compounds
Chloroethane
2-Chloroethyl Vinyl Ether
1,1-Dichloroethane
Trans-1,2-Dichloro-Ethylene
1,2-Dichloropropane
1,3-Dichloro-Propylene

Acid-Extractable Compounds
P-Chloro-M-Cresol (4-cholor-3-methylphenol)
2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2-Nitrophenol
4-Nitrophenol
Pentachlorophenol
Phenol
Base-Neutral Compounds
Acenaphthene
4-Bromophenyl Phenyl Ether
Butyl Benzyl Phthalate
2-Chloronaphthelene
4-Chlorophenyl Phenyl Ether
Di-N-Octyl Phthalate
2,6-Dinitrotoluene
Endrin Aldehyde
Naphthalene
1,2,4-Trichlorobenzene

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

Compliance with the acute toxicity objective shall be determined using a U.S. EPA approved protocol as provided in 40 C.F.R. part 136 (*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, U.S. EPA Office of Water, EPA-821-R-02-012 or the latest edition).

$$\text{Acute Toxicity } (TU_a) = 100/96\text{-hr } LC_{50}$$

The percent waste giving 50 percent survival of test organisms (LC_{50}) shall be determined by a 96-hour static or continuous flow bioassay techniques using standard marine test species as specified in EPA-821-R-02-012 and as noted in the following table:

Table E-5. Approved Tests – Acute Toxicity (TU_a)

Species	Scientific Name	Effect	Test Duration
shrimp	*Holmesimysis costata*	survival	48 or 96 hours
shrimp	*Mysidopsis bahia*	survival	48 or 96 hours
silversides	*Menidia beryllina*	survival	48 or 96 hours
sheepshead minnow	*Cyprinodon variegatus*	survival	48 or 96 hours

If the effluent is to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) and originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

Reference toxicant test results shall be submitted with the effluent sample test results. Both tests must satisfy the test acceptability criteria specified in EPA-821-R-02-012. If the test acceptability criteria are not achieved or if toxicity is detected, the sample shall be retaken

and retested within five days of the failed sampling event. The retest results shall be reported in accordance with EPA-821-R-02-012 (chapter on report preparation) and the results shall be attached to the next monitoring report.

When it is not possible to measure the 96-hour LC_{50} due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TU_a = [\log(100-S)]/1.7$$

Where S = percentage survival in 100 percent waste. If S > 99, TU_a shall be reported as zero.

When toxicity monitoring finds acute toxicity in the effluent above the effluent limitation established by this Order, the Discharger shall immediately resample the effluent, if the discharge is continuing, and retest for acute toxicity. Results of the initial failed test and any toxicity monitoring results subsequent to the failed test shall be reported as soon as reasonable to the Central Coast Water Board Executive Officer (EO). The EO will determine whether it is appropriate to initiate enforcement action, require the Discharger to implement toxicity reduction evaluation (TRE) requirements (section V.C.2.a of this Order), or implement other measures.

B. Chronic Toxicity

The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA-821/600/R-95/136; *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA-600-4-91003; *Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project*, SWRCB 1996, 96-1WQ; or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA/600/4-87-028 or the latest edition.

Chronic toxicity measures a sublethal effect (e.g., reduced growth or reproduction) to experimental test organisms exposed to an effluent compared to that of the control organisms.

$$\text{Chronic Toxicity } (TU_c) = 100/\text{NOEL}$$

The no observed effect level (NOEL) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question (i.e., the highest effluent concentration to which organisms are exposed in a chronic test that causes no observable adverse effects on the test organisms; e.g., the highest concentration of a toxicant to which the values for the observed responses are not statistically significantly different from the controls). Examples of chronic toxicity include but are not limited to measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects.

In accordance with the California Ocean Plan, Appendix III, Standard Monitoring Procedures, the Discharger shall use the critical life stage toxicity tests specified in the table below to measure TU_c. Other species or protocols will be added to the list after State Water Board review and approval.

A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity limitation. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period of no fewer than three sampling events, monitoring can be reduced to the most sensitive species. The sensitivity of the test

organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Table E-6. Approved Tests – Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
Giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
Red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
Oyster, *Crassotsrea gigas;* mussels, *Mytilus spp.*	abnormal shell development; percent survival	1	a, c
Urchin, *Strongylocentrotus purpuratus;* sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
Urchin, *Strongylocentrotus purpuratus;* sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
Shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
Shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
Topsmelt, *Atherionops affinis*	larval growth rate; percent survival	1	a, c
Silverside, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the Central Coast Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, E.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effuents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Central Coast Water Board. If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.

If the effluent to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

If chronic toxicity is measured in the effluent above 85 TU_c, the Discharger shall re-sample and submit the results to the Central Coast Water Board as described in section V.C.2.a of this Order.

C. Toxicity Reporting

1. The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information:
    a. Toxicity test results;
    b. Dates of sample collection and initiation of each toxicity test; and
    c. Acute and/or chronic toxicity discharge limitations (or value).
2. Toxicity test results shall be reported according to the appropriate guidance: *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, U.S. EPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition, or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, EPA-821-R-02-012 (2002) or latest edition.
3. If the results from the initial investigation based on the TRE workplan show that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.
4. Within 30 days of receipt of test results exceeding an acute or chronic toxicity discharge limitation, the Discharger shall provide written notification to the EO of:
    a. Findings of the TRE or other investigation to identify the causes of toxicity; and
    b. Actions the Discharger has taken or will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity.

If the Discharger has not completed the corrective actions, including a TRE, then the Discharger shall submit a schedule under which corrective actions will be implemented or provide the reason for not taking corrective actions if no action is needed.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Visual Monitoring – Monitoring Locations SRF-A through SRF-D

1. The Discharger shall make monthly visual observations, and immediately in the event of a plant upset, operational change, or effluent violations, of the receiving water and shoreline at Monitoring Locations SRF-A through SRF-D and note the presence or absence of the following:
    a. Wind (direction and speed);
    b. Weather (cloudy, sunny, rain);
    c. Antecedent rainfall (7-day);
    d. Surf conditions;
    e. Tidal conditions (high, slack, or low tide);
    f. Floating or suspended matter;
    g. Discoloration;

h. Odor;

i. Temperature;

j. Foaming; and

k. Marine plant and animal life.

l. Current direction, if discernible (SRF-D only); and

m. If Arroyo Grande Creek is flowing to the ocean (SRF-D only).

B. Bacteria Monitoring – Monitoring Locations SRF-A through SRF-D

Bacteria monitoring shall be conducted immediately, as shown in Table E-7, if operational changes, plant upsets, process failures, or effluent violations occur that are likely to increase bacterial concentrations in the surf zone. Bacteria monitoring shall be conducted along the 30-foot contour at Monitoring Locations SRF-A, SRF-B, SRF-C, and SRF-D. Latitude and longitude shall be recorded and reported for all monitoring locations for each monitoring event.

Table E-7. Receiving Water Monitoring Requirements

Parameter	Units	Sampling Station	Minimum Sampling Frequency[1]
Total Coliform Bacteria [2], [3]	MPN/100 ml	SRF-A through SRF-D	7 days
Fecal Coliform Bacteria [2], [3]	MPN/100 ml	SRF-A through SRF-D	7 days

[1] Surf Zone sampling shall begin immediately upon operational changes, plant upsets, process failures or effluent violations that are likely to increase surf zone bacterial concentrations and continue for a minimum of 7 days and until surf and effluent bacteria concentrations return to compliance.

[2] For all bacterial analyses, sample dilutions shall be performed so the range of values extends from 2 to 16,000 MPN/100 ml. The detection methods used for each analysis shall be reported with the results of the analysis.

[3] If a single sample exceeds any of the bacteriological single sample maximum (SSM) standards contained within section V.A.1 of this Order, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued daily until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities. When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean. Shore stations (immediately inshore of 30-foot contour sites) shall be sampled concurrent with 30-foot contour repeat sampling.

C. Benthic Sediment Monitoring

Benthic monitoring shall assess the temporal and spatial occurrence of pollutants in local marine sediments and evaluate the physical and chemical quality of the sediments in relation to the outfall. At all benthic monitoring stations, one grab sample shall be collected using a 0.1 m^3 Van Veen grab sampler.

Sediment samples shall be analyzed according to Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA 430/9-86-004, 1987) and Analytical Methods for EPA Priority Pollutants and 301(h) Pesticides in Estuarine and Marine Sediments (EPA 503-6-90-004, 1986). When processing samples for analysis, macrofauna and large remnants greater than 0.25 inch (0.64 cm) should be removed, taking care to avoid contamination.

All sediment results shall be reported in the raw form and expressed on a dry weight basis. For all non-detect results, parameter detection limits shall be reported. Dry weight concentration target detection levels are indicated for National Oceanic and Atmospheric Administration National Status and Trends Program analyses.

Benthic monitoring results shall be included in the Annual Report with a complete discussion of benthic sediment survey results and (possible) influence of the discharge on sediment conditions in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns observed for raw sediment parameters. The Annual Report should also present an analysis of natural variation in sediment conditions, etc., which could influence the validity of study results. The Discharger's sediment results may also be compared with the results of other applicable studies, numerical protective levels, etc., as appropriate. Survey results shall be compared to pre-discharge or historical data using appropriate statistical methods, if available.

Sampling shown in Table E-8 shall occur at the ocean bottom directly below stations RSW-001, RSW-002N, RSW-002S, RSW-003, and RSW-004.

Table E-8. Benthic Sediment Monitoring Requirements

Parameter	Units	Minimum Frequency of Sampling
Particle Size	Phi (% volume)	July – October 2016 July – October 2019
Sediment Sulphides at pH 7	mg/kg	July – October 2016 July – October 2019
BOD_5	mg/kg	July – October 2016 July – October 2019
Arsenic, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Cadmium, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Total Chromium, Total Recoverable	mg/kg	July – October 2016 July – October 2019
$Chromium^{+6}$, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Copper, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Lead, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Mercury, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Nickel, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Silver, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Zinc, Total Recoverable	mg/kg	July – October 2016 July – October 2019
Total Kjeldahl Nitrogen	mg/kg	July – October 2016 July – October 2019
Ammonia	mg/kg	July – October 2016 July – October 2019
Nitrate	mg/kg	July – October 2016 July – October 2019
Total Organic Carbon	mg/kg	July – October 2016 July – October 2019

D. Benthic Biota Monitoring

Benthic infaunal monitoring shall assess the temporal and spatial status of local benthic communities in relation to the outfall. Benthic biota monitoring shall occur at the same time as benthic sediment monitoring. Sampling shall be conducted as follows.

1. At least five benthic samples shall be taken at each of the five monitoring stations (BEN-001, BEN-002N, BEN-002S, BEN-003, and BEN-004) using a 0.1 m^3 Van Veen grab sampler.
2. For benthic infauna analyses, each replicate sample shall be passed through a 1 mm screen, and the organisms retained and preserved as appropriate for subsequent identification. It is recommended that sample preservation, sample processing, and data

analyses be conducted according to *Quality Assurance/Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods (EPA 430/9-96-004. [1987].*

3. Benthic infauna from each replicate sample shall be counted and identified to the lowest possible taxon. For each replicate sample, number of individuals, number of species, and number of individuals per species within each major taxonomic group (polychaetes, mollusks, crustaceans, echinoderms, and all other macroinvertebrates) shall be recorded.

4. The Annual Report shall include a complete discussion of benthic infaunal survey results and (possible) influence of the outfall on benthic infaunal communities in the study area. The discussion should be based on graphical, tabular, and/or appropriate statistical analyses of spatial and temporal patterns. Temporal trends in the number of individuals, number of species, number of individuals per species, and community structure indices, species richness (S), Margalef index (d), ShannonWiener index (H'), Brillouin index (h), Simpson's index (SI), Swartz's dominance, and Infaunal Trophic Index (ITI) shall be reported. Statistical analyses shall include multivariate techniques consisting of classification and ordination analysis. The Annual Report should also present an analysis of natural community variation including the effects of different sediment conditions, oceanic seasons, water temperatures, etc., that could influence the validity of study results. Survey results shall be compared to pre-discharge or historical data using appropriate statistical methods, if available.

IX. OTHER MONITORING REQUIREMENTS

A. Solids/Biosolids Monitoring, Notification, and Reporting

1. Biosolids Monitoring

a. Biosolids shall be tested for the metals required in 40 C.F.R. section 503.16 (for land application) or section 503.26 (for surface disposal), using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), as required in section 503.8(b)(4), at the following minimum frequencies:

Volume (dry metric tons) [1]	Sampling and Analysis Frequency [2]
0-290	1/Year
290-1500	1/Quarter
1500-15000	1/60 days
> 15000	1/Month

[1] For accumulated, previously untested biosolids, the Discharger shall develop a representative sampling plan, including number and location of sampling points, and collect representative samples.

[2] Test results shall be expressed in mg pollutant per kg biosolids on a 100 percent dry weight basis. Biosolids to be land applied shall be tested for organic-N, ammonium-N, and nitrate-N at the frequencies required above.

b. Prior to land application, the Discharger shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 40 C.F.R. 503.32. Prior to disposal in a surface disposal site, the Discharger shall demonstrate that the biosolids meet Class B levels or shall ensure that the site is covered at the end of each operating day. If pathogen reduction is demonstrated using a “Process to Significantly/Further Reduce Pathogens,” the Discharger shall maintain daily records of the operating parameters used to achieve this reduction. If pathogen reduction is demonstrated by testing for fecal coliforms and/or pathogens,

samples must be drawn at the frequency in 1(a) above. For fecal coliform, at least seven grab samples must be drawn during each monitoring event and a geometric mean calculated from these seven samples.

c. For biosolids that are land applied or placed in a surface disposal site, the Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 C.F.R. section 503.33(b).

d. Class I facilities (facilities with pretreatment programs or others designated as Class I by the Regional Administrator) and federal facilities with greater than five MGD influent flow shall sample biosolids for pollutants listed under section 307(a) of the Clean Water Act (as required in the pretreatment section of the permit for POTWs with pretreatment programs). Class I facilities and federal facilities greater than five MGD shall test dioxins/dibenzofurans using a detection limit of less than one pictogram per gram at the time of their next priority pollutant scan if they have not done so within the past five years, and once per five years thereafter.

e. The biosolids shall be tested annually, or more frequently if necessary, to determine hazardousness in accordance 40 C.F.R. part 261.

f. If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

g. Biosolids placed in a municipal landfill shall be tested by the Paint Filter Liquids Test (EPA Method 9095) at the frequency in 11 (a) above or more often if necessary to demonstrate that there are no free liquids.

2. **Solids/Biosolids Monitoring**

The Discharger, either directly or through contractual arrangements with its biosolids management contractors, shall comply with the following notification requirements:

a. Notification of non-compliance: The Discharger shall notify U.S. EPA Region 9, the Central Coast Water Board, and the Regional Board located in the region where the biosolids are used or disposed, of any non-compliance within 24 hours if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the Discharger shall notify U.S. EPA Region 9 and the affected Regional Boards of the non-compliance in writing within five working days of becoming aware of the non-compliance. The Discharger shall require its biosolids management contractors to notify U.S. EPA Region 9 and the affected Regional Water Boards of any non-compliance within the same timeframes. See Attachment C for Central Coast Water Board contact information.

b. If biosolids are shipped to another state or to Indian Lands, the Discharger must send 60 days prior notice of the shipment to the permitting authorities in the receiving state or Indian Land (U.S. EPA Regional Office for that area and the state or Indian authorities).

c. For land application: Prior to reuse of any biosolids from this Facility to a new or previously unreported site, the Discharger shall notify U.S. EPA and the Central Coast Water Board. The notification shall include a description and topographic map of the proposed sites, names and addresses of the applier, and site owner and a listing of any state or local permits which must be obtained. The plan shall include a description of the crops or vegetation to be grown, proposed loading rates and

determination of agronomic rates. If any biosolids within a given monitoring period do not meet 40 C.F.R. section 503.13 metals concentration limits, the Discharger (or its contractor) must pre-notify U.S. EPA, and determine the cumulative metals loading at that site to date, as required in 40 C.F.R section 503.12.

d. The Discharger shall notify the applier of all the applier's requirements under 40 C.F.R. 503, including the requirement that the applier certify that the management practices, site restrictions, and any applicable vector attraction reduction requirements have been met. The Discharger shall require the applier to certify at the end of 38 months following application of Class B biosolids that the harvesting restrictions in effect for up to 38 months have been met.

e. For surface disposal: Prior to disposal to a new or previously unreported site, the Discharger shall notify U.S. EPA and the Central Coast Water Board. The notice shall include description and topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site operator, site owner, and any state or local permits which must be obtained. The notice shall describe procedures for ensuring public access and grazing restrictions for three years following site closure. The notice shall include a groundwater monitoring plan or description of why groundwater monitoring is not required.

3. **Biosolids Reporting**

The Discharger shall submit an annual biosolids report to U.S. EPA Region 9 Biosolids Coordinator and the Central Coast Water Board by February 19 of each year for the period covering the previous calendar year. The report shall include:

a. The amount of biosolids generated during the reporting period, in dry metric tons, and the amount accumulated from previous years;

b. Results of all pollutant and pathogen monitoring required in Item 1 above and the Monitoring and Reporting Program of this Order. Results must be reported on a 100 percent dry weight basis for comparison with 40 C.F.R. section 503 limits;

c. Descriptions of pathogen reduction methods and vector attraction reduction methods, including supporting time and temperature data, and certifications, as required in 40 C.F.R. sections 503.17 and 503.27;

d. Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, disposal in a municipal waste landfill, or for other use or disposal methods not covered above, and volumes delivered to each.

e. For land application sites, the following information must be submitted by the Discharger, unless the Discharger requires its biosolids management contractors to report this information directly to U.S. EPA Region 9 Biosolids Coordinator:

i. Locations of land application sites (with field names and numbers) used that calendar year, size of each field applied to, applier, and site owner;

ii. Volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, calculated plant available nitrogen;

iii. Crop planted, dates of planting and harvesting;

iv. For any biosolids exceeding 40 C.F.R. section 503.13 Table 3 metals concentrations: the locations of sites where applied and cumulative metals loading at that site to date;

v. Certifications of management practices in 40 C.F.R. section 503.14; and

vi. Certifications of site restrictions in 40 C.F.R. section 503(b)(5).

f. For surface disposal sites:

i. Locations of site, site operator, site owner, size of parcel on which disposed;

ii. Results of any required groundwater monitoring;

iii. Certifications of management practices in Section 503.24; and

iv. For closed sites, date of site closure and certifications of management practices for the three years following site closure.

g. For all biosolids used or disposed at the Discharger's facilities, the site and management practice information and certification required in 40 C.F.R. sections 503.17 and 503.27; and

h. For all biosolids temporarily stored, the information required in 40 C.F.R. section 503.20 required to demonstrate temporary storage.

i. All the requirements of 40 C.F.R. section 503 and chapter 15, division 3, title 23 of the California Code of Regulations are enforceable by U.S. EPA and the Central Coast Water Board whether or not the requirements are stated in an NPDES permit or any other permit issued to the Discharger.

Reports shall be submitted via CIWQS to the Central Coast Water Board and to U.S.EPA at the following address:

Regional Biosolids Coordinator
U.S. EPA (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

B. Pretreatment Monitoring

The information submitted by the Discharger in support of this permit renewal identified no significant or categorical industrial users within the service area. Therefore, the monitoring and reporting program does not anticipate significant or categorical industrial contributions, nor establish specific pretreatment monitoring. In the event the Discharger identifies categorical or significant industrial users, the Discharger shall apply to the Central Coast Water Board to amend this permit, as appropriate.

C. Outfall Inspection

Every three years, the Discharger shall visually inspect the entire outfall structure (using dye studies, if appropriate) to determine its structural integrity and identify leaks, potential leaks, or malfunctions. The outfall inspection shall also check for possible external blockage of ports by sand and/or silt deposition. Inspections shall occur during periods typically characterized by good underwater visibility. During the term of this Order, inspections shall be conducted in

2016 and 2019. If the Order is administratively extended, outfall inspection shall continue every three years from 2019.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Federal Standard Provisions and Central Coast Water Board Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the CIWQS website (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring requirements specified in this MRP under sections III through IX. The Discharger shall submit SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Sampling and monitoring as required by this MRP shall begin on the effective date of this Order. The Discharger shall complete all required monitoring and reporting according to the schedule shown in Table E-10 unless otherwise directed by the EO.

Table E-10. Monitoring Periods and Reporting Schedule

SMR Name	Permit Section for Monitoring & Sampling Data Included in this Report	SMR Submittal Frequencies	SMR Due Date
NPDES Monitoring Report – Monthly	MRP Sections III (Influent) and IV (Effluent) and VIII (Receiving Water)	Monthly	First day of second calendar month following period of sampling (first report due March 1, 2016)
NPDES Monitoring Report – Annual	MRP Section IV (Effluent) – CA Ocean Plan Table 1 constituents, ammonia, chronic toxicity, priority pollutants	Annually	July 1 (following April sampling)
Ocean Outfall Inspection Report	MRP Section IX.C	Once every three years	February 1, 2017 and February 1, 2020
Biosolids Report	MRP Section IX.A and Order Section V.C.5.a	Annually	February 19 following calendar year of sampling
NPDES Summary Report	Attachment D, Standard Provision VIII.D.8	Annually	January 30 following calendar year of sampling
NPDES Monitoring Report – Acute Toxicity	MRP Section IV (Effluent) – Acute Toxicity	Once per Permit	January 30, 2020
Report of Waste Discharge	Table 3	Once per Permit	July 4, 2020

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported minimum level (reported ML, also known as the reporting level, or RL) and the current method detection limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the reported ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A. For purposes of reporting and administrative enforcement by the Central Coast Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

6. Multiple Sample Data. When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case

the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMR's in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and provide the proposed time schedule for corrective actions. Identified violations must include a description of the violated requirement and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

The Discharger shall electronically certify and submit DMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. The CIWQS website will provide additional information for DMR submittal in the event there is a planned service interruption for electronic submittal.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section I.B Limitations and Discharge Requirements of this Order, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) incorporates this Fact Sheet as findings of the Central Coast Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to the City of Pismo Beach (hereinafter Discharger). Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to the Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	3 400106001
Discharger	City of Pismo Beach
Name of Facility	Wastewater Treatment Plant
Facility Address	570 Frady Lane
	Pismo Beach, CA 93449
	San Luis Obispo County
Facility Contact, Title and Phone	Russell Fleming, 805-773-7075
Authorized Person to Sign and Submit Reports	Ben Fine, Director of Public Works, 805-773-7037
Mailing Address	760 Mattie Road, Pismo Beach, CA 93449
Billing Address	760 Mattie Road, Pismo Beach, CA 93449
Type of Facility	Publically Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	II
Complexity	A
Pretreatment Program	NA
Recycling Requirements	NA
Facility Permitted Flow	1.9 (in million gallons per day, MGD)
Facility Design Flow	1.9 MGD
Watershed	Pismo Creek
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. The Discharger is the owner and operator of a wastewater treatment plant (hereinafter Facility) that treats domestic, commercial, and industrial wastewaters collected from the Discharger's service area, serving a population of approximately 8,603. The Facility is located at 570 Frady Lane, Pismo Beach, San Luis Obispo County.

For the purposes of this Order, references to "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Facility was previously regulated by Order No. R3-2009-0047 which was adopted on October 23, 2009 and expired on October 23, 2014. The terms and conditions of the current order will be automatically continued and remain in effect until new waste discharge requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under California Water Code section 1211.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDRs and NPDES permit on April 8, 2014.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment and Controls

Residential and commercial wastewater is conveyed to the Facility, which was upgraded in 2006. The monthly average design treatment capacity is 1.9 MGD.

A single mechanical bar screen captures large debris from the raw wastewater in the headworks. From the headworks, the influent flows to a splitter box where it is divided between two oxidation ditches. Each oxidation ditch has a capacity of 0.89 million gallons with side water depths of 12 feet. Anoxic zones constitute approximately 12 percent of each oxidation ditch, with mechanical aerators providing aeration to the remaining 88 percent. Effluent from the oxidation ditches passes through a mixed liquor splitter box and is split evenly between the two secondary clarifiers. Effluent from the secondary clarifiers is disinfected with chlorine and then dechlorinated with sodium bisulfite prior to discharge.

Biosolids from the secondary clarifier are returned to the oxidation ditches or wasted to the dissolved air flotation thickener. Thickened biosolids are collected and pumped to a sludge holding tank until dewatered in the belt filter press. Dewatered biosolids are hauled to a composting facility.

B. Discharge Points and Receiving Waters

Effluent from the Facility is commingled with effluent from the South San Luis Obispo County Sanitation District Wastewater Treatment Facility and discharged through a jointly owned 4,400-foot outfall/diffuser system that terminates at a depth of approximately 55 feet in the Pacific Ocean. The outfall is at latitude 35° 06' 04" N and longitude 120° 38' 46" W.

The diffuser provides a minimum probable initial dilution ratio (seawater to effluent) of 165 to 1 at Discharge Point 001. This is ratio used by Central Coast Water Board staff to determine the need for water quality-based effluent limitations and to calculate those limitations.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R3-009-0047 for discharges from Discharge Point 001 and representative monitoring data for Monitoring Location EFF-001 for the term of the previous order are as shown in Table F-2.

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
5-Day Biochemical Oxygen Demand (BOD_5)	mg/L	30	45	90
	lbs/day	475	713	1426
	kg/day	215	323	647
Total Suspended Solids (TSS)	mg/L	30	45	90
	lbs/day	475	713	1426
	kg/day	215	323	647
BOD_5 and TSS	%	Removal by treatment shall not be less than 85 percent		
Oil and Grease	mg/L	25	40	75
	lbs/day	396	634	1188
	kg/day	180	288	539
Settleable Solids	mL/L/hr	1.0	1.5	3.0
Turbidity	NTUs	75	100	225
pH	pH Units	6.0 - 9.0		
Fecal Coliform	MPN/100 mL	---	(7-sample median) 200	2000
Flow	MGD	Daily dry weather flow shall not exceed a monthly average of 1.9 MGD.		
CA Ocean Plan Table 1 Pollutants	varies	Effluent limitations were established for all Table 1 pollutants based upon water quality objectives established in the 2012 California Ocean Plan and a minimum of initial dilution of 165:1.		

Table F-3. Effluent Characterization – 2010–2013

Parameter	Units	Highest Monthly Average	Highest Daily Maximum
Effluent Flow	MGD	1.08	2.66
BOD_5	mg/L	2.67	6.33
TSS	mg/L	3.5	10.75
Settleable Solids	mg/L	0.12	0.33
Turbidity	NTU	1.21	3.77
Oil & Grease	kg/day	3.04	--
Temperature	°F	68.83	77.35
pH	pH units	7.46	8.13
Fecal Coliform	MPN/100 mL	26.71	232.50
Total Coliform	MPN/100 mL	107.19	875.00
Total Ammonia	mg/L	99.6	398.40

D. Compliance Summary

On July 31, 2012, the Discharger experienced one incident of noncompliance with fecal coliform bacteria due to negligent or inadvertent failure to comply with monitoring requirements.

E. Planned Changes

No planned changes were indicated in the application submitted by the Discharger.

Subsequent discussions with the Discharger indicated potential interest to establish a hauled or brine waste disposal program. Central Coast Water Board staff has instructed the Discharger they may submit a plan for the program for consideration. This Order would be reopened for public consideration and discussion in the event the Discharger opts to pursues the change.

Since the time of the Discharger's application, the Discharger has completed a Recycled Water Facilities Planning Study. The April 2015 Study recommends an upgraded treatment process such that the recycled water meets standards for groundwater recharge directly into an inland aquifer. Preliminary schedule estimates indicate the project could move forward during the term of this proposed permit. If the Discharger will materially change its discharge's characteristics as a result of this project, they will apply for revision of their permit as needed.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Central Coast Water Board adopted a Water Quality Control Plan for the Central Coastal Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the region. To address ocean waters, the Basin Plan incorporates by reference the *Water Quality Control Plan for Ocean Waters of California* (California Ocean Plan).

   The Basin Plan implements State Water Board Resolution No. 88-63, which establishes that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in the Pacific Ocean, the receiving waters for discharges from the Facility meet an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation. Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan) on May 18, 1972, and amended the

plan on September 18, 1975. The California Thermal Plan contains temperature objectives for enclosed bays and coastal waters of California.

> *Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.*

The California Ocean Plan defines elevated temperature wastes as:

> *Liquid, solid, or gaseous material discharged at a temperature higher than the natural temperature of receiving water.*

Requirements of this Order implement the California Thermal Plan.

3. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (California Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, which became effective on August 19, 2013. The California Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The California Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-4. California Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
Outfall 001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

In order to protect the beneficial uses, the California Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the California Ocean Plan.

4. **Antidegradation Policy.** Section 131.12 of title 40 Code of Federal Regulations (40 C.F.R.) requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Coast Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now

prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on CWA 303(d) List

CWA section 303 (d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303 (d) listed water bodies and pollutants, the Central Coast Water Board must develop and implement Total Maximum Daily Loads (TMDLs) that will specify waste load allocations for point sources and load allocations for non-point sources.

The receiving water is not identified as impaired on the state's 2008-2010 303 (d) list of impaired water bodies, which was approved by U.S. EPA on November 12, 2011.

E. Other Plans, Polices and Regulations

1. **Discharges of Storm Water.** For the control of storm water discharged from the Facility, this Order requires, if applicable, the Discharger to seek authorization to discharge under the State Water Board's Water Quality Order 2014-0057-DWQ, NPDES General Permit CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities.*

2. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Board Water Quality Order 2006-0003-DWQ).** Water Quality Order 2006-0003-DWQ, adopted on May 2, 2006, is applicable to all "federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California." The purpose of Water Quality Order 2006-0003-DWQ is to promote the proper and efficient management, operation, and maintenance of sanitary sewer systems and to minimize the occurrences and impacts of sanitary sewer overflows.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in 40 C.F.R.: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 C.F.R. section 122.44 (d): 1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using U.S. EPA criteria guidance published under CWA section 304 (a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

1. Discharge Prohibition II. A (No discharge to the Pacific Ocean at a location other than as described by this Order). This Order authorizes a single, specific point of discharge to the Pacific Ocean. This prohibition reflects CWA section 402's prohibition against discharges of pollutants except in compliance with the act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also retained from the previous permit.
2. Discharge Prohibition II. B (Discharges in a manner except as described by this Order are prohibited). Because limitations and conditions of this Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of this Order do not adequately address waste streams not contemplated during drafting of this Order. To prevent the discharge of such waste streams that may be inadequately regulated, this Order prohibits the discharge of any waste that was not described by to the Central Coast Water Board during the process of permit reissuance.
3. Discharge Prohibition II.C (The average monthly rate of discharge to the Pacific Ocean shall not exceed 1.9 MGD.) This flow limitation is retained from the previous permit and reflects the current design treatment capacity of the Facility. The limitation ensures that the influent flow will not exceed the Facility's hydraulic and treatment capacity.
4. Discharge Prohibition II.D (Wastes shall not be discharged to State Water Quality Protection Areas, described as Areas of Special Biological Significance by the California Ocean Plan, except in accordance with Chapter III.E of the Ocean Plan.) This prohibition restates a discharge prohibition established in Chapter III.E of the California Ocean Plan.
5. Discharge Prohibition II. E (Discharges of radiological, chemical, or biological warfare agent or high level radioactive waste to the ocean is prohibited). This prohibition restates a discharge prohibition established in section III. H of the California Ocean Plan.
6. Discharge Prohibition II. F (Federal law prohibits the discharge of sludge by pipeline the Ocean. The discharge of municipal or industrial waste sludge directly to the ocean or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant, without further treatment, directly to the ocean or to a waste stream that discharges to the ocean, is prohibited.) This prohibition reflects the prohibition in Chapter III. H of the California Ocean Plan.
7. Discharge Prohibition II. G (The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G. (Bypass), is prohibited). The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge, which poses a threat to human health or aquatic life, and therefore, is explicitly prohibited by this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. Where U.S. EPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402(a)(1) and U.S. EPA regulations at 40 C.F.R. section 125.3 authorize the use

of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit writer must consider specific factors outlined at 40 C.F.R. section 125.3.

This Order includes limitations based on the minimum level of effluent quality attainable by secondary treatment, as established at 40 C.F.R. part 133. The secondary treatment regulation includes the following limitations applicable to all publicly owned treatment works (POTWs).

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on secondary treatment standards or equivalent to secondary treatment standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that U.S. EPA had not “sanctioned” the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD_5 and TSS for secondary treatment. Therefore, to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statutes [Section 23 of Pub. L. 97-147] that required U.S. EPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in 40 C.F.R. section 133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for “equivalent to secondary treatment.” These “equivalent to secondary treatment” limitations are up to 45 mg/L (monthly average) and up to 65 mg/L (weekly average) for BOD_5 and TSS.

Therefore, POTWs that use waste stabilization ponds, identified in 40 C.F.R. section 133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum levels of effluent quality for TSS adjusted upwards.

Furthermore, in order to address the variations in facility performance due to geographic, climatic, or seasonal conditions in different states, the Alternative State Requirements (ASR) provision contained in 40 C.F.R. section 133.105(d) was written. ASR allows states the flexibility to set permit limitations above the maximum levels of 45 mg/L (monthly average) and 65 mg/L (weekly average) for TSS from lagoons. However, before ASR limitations for suspended solids can be set, the effluent must meet the BOD limitations as prescribed by 40 C.F.R. section 133.102(a). Presently, the maximum TSS value set by the State of California for lagoon effluent is 95 mg/L. This value

corresponds to a 30-day consecutive average or an average over duration of less than 30 days.

In order to be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria:

a. The principal treatment process must be either a trickling filter or waste stabilization pond;

b. The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD5 and TSS; and

c. Water quality is not adversely affected by the discharge. (40 C.F.R. § 133.101(g).)

The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD_5 is consistently attained (30-day average).

Table F-5. Secondary Treatment Requirements

Parameter	Effluent Limitation		
	30-Day Average	7-Day Average	Percent Removal [1]
BOD_5	30 mg/L	45 mg/L	85
TSS	30 mg/L	45 mg/L	85
pH	6.0 – 9.0		---

[1] 30-day average

2. Applicable Technology-Based Effluent Limitations

The following table summarizes technology-based effluent limitations established by this Order.

Table F-6. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
$BOD_{5[}$[1]	mg/L	30	45	90
TSS[1]	mg/L	30	45	90
pH	Standard units	6.0 - 9.0 at all times		
Settleable Solids	mL/L/hr	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Oil and Grease	mg/L	25	40	75

[1]The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. part 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are

contained in other state plans and policies, or any applicable water quality criteria contained in the California Ocean Plan.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses for ocean waters of the Central Coast Region are established by the Basin Plan and California Ocean Plan and are described in section III.C.1 and III.C.3, respectively, of the Fact Sheet. The water quality objectives (WQOs) from the California Ocean Plan are incorporated as receiving water limitations into this Order.

Water quality objectives applicable to ocean waters of the Central Coast region include water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. In addition, Table 1 of the California Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 C.F.R. section 122.44(d)(1) and in accordance with procedures established by the California Ocean Plan, the Central Coast Water Board has performed a reasonable potential analysis (RPA) to determine the need for effluent limitations for the Table 1 toxic pollutants.

3. Determining the Need for WQBELs

Procedures for performing an RPA for ocean dischargers are described in Section III.C and Appendix VI of the California Ocean Plan. The procedure is a statistical method that projects an effluent data set while taking into account the averaging period of WQOs, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set and compares the 95th percentile concentration at 95th percent confidence of each Table 1 pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

Endpoint 1 - There is "reasonable potential." An effluent limitation must be developed for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in California Ocean Plan Appendix III is required.

Endpoint 2 - There is no "reasonable potential." An effluent limitation is not required for the pollutant. California Ocean Plan Appendix III effluent monitoring is not required for the pollutant. However, the Regional Water Board may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate.

Endpoint 3 - The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing, consistent with the monitoring frequency in California Ocean Plan Appendix III is required. An existing effluent limitation for the pollutant shall remain in the permit; otherwise, the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if the monitoring establishes that the

discharge causes, has the reasonable potential to cause, or contribute to an excursion above a Table B water quality objective.

The State Water Board has developed a reasonable potential calculator (RPcalc 2.2), which is available at:

http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/trirev/stakeholder050505/rpcalc22_setup.zip

RPcalc 2.2 was used in the development of this Order and considers several pathways in the determination of reasonable potential.

a. First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Central Coast Water Board may decide that WQBELs are necessary after a review of such information. Such information may include facility or discharge type; solids loading, lack of dilution; history of compliance problems; potential toxic effects; fish tissue data; CWA section 303(d) status of the receiving water; the presence of threatened or endangered species or their critical habitat; or other information.

b. Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

c. Third Path

If the effluent data contain three or more detected and quantified values (i.e., values that are at or above the minimum level (ML)) and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed log-normally. If the 95th percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

d. Fourth Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

i. If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.

ii. If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the

effluent data are limited, and no assumptions can be made regarding their possible distribution.)

e. Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective and accounting for ties. The sample number is reduced by one for each tie, when the dilution-adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limitations in the expiring permit are retained.

An RPA was conducted using effluent data reported from monitoring events from October 2009 to April 2013. The effluent data were obtained from electronic self-monitoring data posted to the State Water Board's CWIQS database, discharge monitoring data posted to U.S. EPA's Integrated Compliance Information System, and laboratory reports included in the report of waste discharge. The following tables present results of the RPA, performed in accordance with procedures described by the California Ocean Plan for the Facility. The maximum effluent concentration adjusted for complete mixing, the applicable WQO, and the RPA endpoint for each Table 1 pollutant is identified. As shown in the following tables, the RPA commonly lead to Endpoint 3, meaning that the RPA is inconclusive, when a majority of the effluent data is reported as not detected (ND). In these circumstances, the Central Coast Water Board concludes that additional monitoring will be required for those pollutants during the term of the reissued permit and existing effluent limitations will be retained. RPA results that did not result in endpoint 3 are bolded in Table F-5 and discussed further in the sections that follow.

Table F-5. RPA Results for Discharges to the Pacific Ocean

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Objectives for Protection of Marine Aquatic Life					
Ammonia (as N)	600	5	2	1.8	**Endpoint 2 – Effluent limitation not required.**
Arsenic	8	4	0	4.1	**Endpoint 2 – Effluent limitation not required.**
Cadmium	1	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorinated Phenolics	1	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (VI)	2	4	2	0.058	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Copper	3	4	0	2.9	**Endpoint 1 – Effluent limitation is necessary.**

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Cyanide	1	4	2	0.043	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Endosulfan (total)	0.009	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Endrin	0.002	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
HCH	0.004	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Lead	2	4	2	0.0024	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Mercury	0.04	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nickel	5	4	0	2.2	**Endpoint 1 – Effluent limitation is necessary.**
Non-chlorinated Phenolics	30	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Selenium	15	4	3	0.39	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Silver	0.7	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Total Residual Chlorine	2	1627	407	7.7	**Endpoint 1 – Effluent limitation is necessary.**
Zinc	20	4	0	8.5	**Endpoint 2 – Effluent limitation not required.**
Objectives for Protection of Human Health - Noncarcinogens					
1,1,1-Trichloroethane	540000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrophenol	4.0	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2-Methyl-4,6-Dinitrophenol	220	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acrolein	220	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Antimony	1200	4	2	2.5	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethoxy)Methane	4.4	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroisopropyl)Ether	1200	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlorobenzene	570	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chromium (III)	190000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobenzenes	5100	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Diethyl Phthalate	33000	4	3	0.00072	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dimethyl Phthalate	820000	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Di-n-Butyl Phthalate	3500	4	3	0.0016	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Ethylbenzene	4100	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Fluoranthene	15	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorocyclo-pentadiene	58	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Nitrobenzene	4.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Thallium	2	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Toluene	85000	4	2	0.0054	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tributyltin	0.0014	4	3	0.000013	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Objectives for Protection of Human Health - Carcinogens					
1,1,2,2-Tetrachloroethane	2.3	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,1,2-Trichloroethane	9.4	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,1-Dichloroethylene	0.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Dichloroethane	28	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,2-Diphenylhydrazine	0.16	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,3-Dichloropropylene	8.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
1,4-Dichlorobenzene	18	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
TCDD Equivalents	3.9×10^{-9}	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4,6-Trichlorophenol	0.29	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
2,4-Dinitrotoluene	2.6	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
3,3'-Dichlorobenzidine	0.0081	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Acrylonitrile	0.10	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Aldrin	2.2×10^{-5}	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzene	5.9	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Benzidine	6.9×10^{-5}	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Beryllium	0.033	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Chloroethyl)Ether	0.045	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Bis(2-Ethylhexyl)Phthalate	3.5	4	2	0.036	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Carbon Tetrachloride	0.90	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Chlordane	2.3×10^{-5}	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

Table 1 Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of Non-Detects	Max Effluent Conc. (µg/L)	RPA Result, Comment
Chlorodibromomethane	8.6	4	0	1.7	**Endpoint 1 – Effluent limitation is necessary.**
Chloroform	130	4	0	2.5	**Endpoint 2 – Effluent limitation not required.**
DDT (total)	0.00017	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Dichlorobromomethane	6.2	4	0	2.7	**Endpoint 1 – Effluent limitation is necessary.**
Dieldrin	0.00004	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Halomethanes	130	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor	0.00005	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Heptachlor Epoxide	0.00002	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobenzene	0.00021	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachlorobutadiene	14	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Hexachloroethane	2.5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Isophorone	730	4	3	0.0016	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Methylene Chloride	450	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodimethylamine	7.3	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodi-n-Propylamine	0.38	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
N-Nitrosodiphenylamine	2.5	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PAHs (total)	0.0088	1	1	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
PCBs	1.9×10^{-5}	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Tetrachloroethylene	2.0	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Toxaphene	0.00021	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Trichloroethylene	27	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.
Vinyl Chloride	36	4	4	ND	Endpoint 3 – RPA is inconclusive. Less than 3 detects or greater than 80% ND.

NA indicates that effluent data are not available.
ND indicates that the pollutant was not detected.
Minimum probable initial dilution for this Discharger is 165:1.
Effluent data used for this RPA were collected from October 2009 to April 2013.

4. WQBEL Calculations

Based on results of the RPA, the Central Coast Water Board is establishing WQBELs for copper, nickel, chlorodibromomethane, dichlorobromomethane, and total residual

chlorine based on a conclusion of Endpoint 1. An Endpoint 2 was concluded for ammonia, arsenic, zinc, and chloroform. Effluent limitations are not required for pollutants resulting in an Endpoint 2. All other California Ocean Plan Table 1 pollutants resulted in an Endpoint 3; therefore, the limits for these pollutants are retained in this Order. The Central Coast Water Board is also establishing WQBELs for whole effluent, acute and chronic toxicity, which are also pollutants or pollutant parameters identified by Table 1 of the California Ocean Plan.

As described by Section III. C of the California Ocean Plan, effluent limitations for Table 1 pollutants are calculated according to the following equation.

$C_e = C_o + D_m (C_o – C_s)$

Where

C_e = the effluent limitation (µg/L)

C_o = the concentration (the water quality objective) to be met at the completion of initial dilution (µg/L).

C_s = background seawater concentration (µg/L)

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater (here, D_m = 165)

For this Facility, the D_m of 165 is unchanged from Order No. R3-2009-0047. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. As site-specific water quality data are not available, in accordance with Table 1 implementing procedures, C_s equals zero for all pollutants, except the following.

Table F-6. Background Concentrations (C_s) – California Ocean Plan (Table 3)

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

For all other California Ocean Plan Table 1 parameters, C_s = 0

Applicable water quality objectives from Table 1 of the California Ocean Plan are as follows:

Table F-7. Water Quality Objectives (C_o) – California Ocean Plan (Table 1) Objectives for Protection of Marine Aquatic Life

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	µg/L	8	32	80
Cadmium	µg/L	1	4	10
Chromium (VI)	µg/L	2	8	20
Copper	µg/L	3	12	30
Lead	µg/L	2	8	20
Mercury	µg/L	0.04	0.16	0.4

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Nickel	µg/L	5	20	50
Selenium	µg/L	15	60	150
Silver	µg/L	0.7	2.8	7
Zinc	µg/L	20	80	200
Cyanide	µg/L	1	4	10
Total Chlorine Residual	µg/L	2	8	60
Ammonia	µg/L	600	2,400	6,000
Acute Toxicity	TU_a	-------	0.3	-------
Chronic Toxicity	TU_c	-------	1	-------
Non-chlorinated Phenolics	µg/L	30	120	300
Chlorinated Phenolics	µg/L	1	4	10
Endosulfan (total)	µg/L	0.009	0.018	0.027
Endrin	µg/L	0.002	0.004	0.006
HCH	µg/L	0.004	0.008	0.012
Radioactivity	µg/L	-------	-------	-------

Table F-8. Water Quality Objectives (C_o) – California Ocean Plan (Table 1) Objectives for Protection of Human Health – (Non-Carcinogens)

Pollutant	Units	30-day Average
Acrolein	µg/L	220
Antimony	µg/L	1,200
Bis(2-Chloroethoxy)Methane	µg/L	4.4
Bis(2-Chloroisopropyl)Ether	µg/L	1,200
Chlorobenzene	µg/L	570
Chromium (III)	µg/L	190,000
Di-n-Butyl Phthalate	µg/L	3,500
Dichlorobenzenes	µg/L	5,100
Diethyl Phthalate	µg/L	33,000
Dimethyl Phthalate	µg/L	820,000
2-Methyl-4,6-Dinitrophenol	µg/L	220
2,4-Dinitrophenol	µg/L	4
Ethylbenzene	µg/L	4,100
Fluoranthene	µg/L	15
Hexachlorocyclopentadiene	µg/L	58
Nitrobenzene	µg/L	4.9
Thallium	µg/L	2
Toluene	µg/L	85,000
Tributyltin	µg/L	0.0014
1,1,1-Trichloroethane	µg/L	540,000

Table F-9. Water Quality Objectives (C_o) – California Ocean Plan (Table 1) Objectives for Protection of Human Health – (Carcinogens)

Pollutant	Units	30-day Average
Acrylonitrile	µg/L	0.1
Aldrin	µg/L	0.000022
Benzene	µg/L	5.9
Benzidine	µg/L	0.000069
Beryllium	µg/L	0.033
Bis(2-Chloroethyl)Ether	µg/L	0.045
Bis(2-Ethylhexyl)Phthalate	µg/L	3.5
Carbon Tetrachloride	µg/L	0.9
Chlordane	µg/L	0.000023
Chlorodibromomethane	µg/L	8.6
Chloroform	µg/L	130
DDT (total)	µg/L	0.00017
1,4 Dichlorobenzene	µg/L	18
3,3'-Dichlorobenzidine	µg/L	0.0081
1,2-Dichloroethane	µg/L	28
1,1-Dichloroethylene	µg/L	0.9
Dichlorobromomethane	µg/L	6.2
Methylene Chloride	µg/L	450
1,3-Dichloropropylene	µg/L	8.9
Dieldrin	µg/L	0.00004
2,4-Dinitrotoluene	µg/L	2.6
1,2-Diphenylhydrazine	µg/L	0.16
Halomethanes	µg/L	130
Heptachlor	µg/L	0.00005
Heptachlor Epoxide	µg/L	0.00002
Hexachlorobenzene	µg/L	0.00021
Hexachlorobutadiene	µg/L	14
Hexachloroethane	µg/L	2.5
Isophorone	µg/L	730
N-Nitrosodimethylamine	µg/L	7.3
N-Nitrosodi-n-Propylamine	µg/L	0.38
N-Nitrosodiphenylamine	µg/L	2.5
PAHs (total)	µg/L	0.0088
PCBs	µg/L	0.000019
TCDD Equivalents	µg/L	0.0000000039
1,1,2,2-Tetrachloroethane	µg/L	2.3
Tetrachloroethylene	µg/L	2
Toxaphene	µg/L	0.00021
Trichloroethylene	µg/L	27
1,1,2-Trichloroethane	µg/L	9.4

Pollutant	Units	30-day Average
2,4,6-Trichlorophenol	µg/L	0.29
Vinyl Chloride	µg/L	36

Effluent limitations are calculated using the equation $C_e = C_o + D_m (C_o – C_s)$ as outlined above. For example, the effluent limitations for copper are calculated as follows (all limits calculated are expressed with two significant digits).

Copper

C_e = 3+165 (3–2) = 170 µg/L (6-Month Median)

C_e = 12+165 (12–2) = 1,700 µg/L (Daily Maximum)

C_e = 30+165 (30–2) = 4,700 µg/L (Instantaneous Maximum)

Chronic Toxicity

$C_e = 1 + 165 (1 - 0) = 170\ TU_c$ (Daily Maximum)

Acute Toxicity

To determine an effluent limitation for acute toxicity, the California Ocean Plan allows a mixing zone that is ten percent of the distance from the edge of the outfall structure to the edge of the chronic mixing zone (the zone of initial dilution); and therefore, the effluent limitation for acute toxicity is determined by the following equation:

$C_e = C_o + (0.1) D_m (C_o)$

Where C_o equals 0.3 and D_m equals 165, the effluent limitation for acute toxicity is 5.3 TU_a.

Table F-10. Effluent Limitations for the Protection of Marine Aquatic Life

Pollutant	6-Month Median		Daily Maximum		Instantaneous Maximum	
	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)
Cadmium	170	2.7	660	10	1,700	27
Chromium VI	330	5.2	1,300	21	3,300	52
Copper	170	2.7	1,700	27	4,700	74
Lead	330	5.2	1,300	21	3,300	52
Mercury	6.6	0.10	26	0.41	66	1.0
Nickel	830	13	3,300	52	8,300	130
Selenium	2,500	40	9,900	160	25,000	400
Silver	90	1.4	440	7.0	1,100	17
Cyanide [1]	170	2.7	660	10	1,700	27
Total Chlorine Residual	330	5.2	1,300	21	9,900	160
Acute Toxicity [2]	---	---	5.3 [3]	---	---	---
Chronic Toxicity [2]	---	---	170 [3]	---	---	---
Phenolic Compounds (non-chlorinated)	5,000	79	20,000	320	50,000	790

Pollutant	6-Month Median		Daily Maximum		Instantaneous Maximum	
	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)	Concentration (µg/L)	Mass Loading (lbs/day)
Chlorinated Phenolics	170	2.7	660	10	1,700	27
Endosulfan[2]	1.5	0.024	3.0	0.05	4.5	0.07
Endrin	0.33	0.005	0.66	0.011	1.0	0.016
HCH[2]	0.66	0.010	1.3	0.021	2.0	0.032
Radioactivity	Not to exceed limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 5, Section 64443					

[1] If the Discharger can demonstrate to the satisfaction of the Central Coast Water Board (subject to U.S. EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 C.F.R. part 136, as revised May 14, 1999.

[2] See Attachment A for definitions.

[3] Units are TUa and TUc for acute and chronic toxicity, respectively.

Table F-11. Effluent Limitations for the Protection of Human Health (Non-Carcinogens)

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Acrolein	3.6×10^{4}	570
Antimony	2.0×10^{5}	3200
Bis(2-Chloroethoxy)Methane	7.3×10^{2}	12
Bis(2-Chloroisopropyl)Ether	2.0×10^{5}	3200
Chlorobenzene	9.4×10^{4}	1500
Chromium (III)	3.1×10^{7}	490,000
Di-n-Butyl Phthalate	5.8×10^{5}	9200
Dichlorobenzenes[1]	8.1×10^{5}	13,000
Diethyl Phthalate	5.4×10^{6}	85,000
Dimethyl Phthalate	1.4×10^{8}	2,200,000
4,6-Dinitro-2-Methylphenol	3.6×10^{4}	570
2,4-Dinitrophenol	6.6×10^{2}	10
Ethylbenzene	6.8×10^{5}	11,000
Fluoranthene	2.5×10^{3}	40
Hexachlorocyclopentadiene	9.6×10^{3}	150
Nitrobenzene	8.1×10^{2}	13
Thallium	3.3×10^{2}	5.2
Toluene	1.4×10^{7}	220,000
Tributyltin	2.3×10^{-1}	0.0036
1,1,1-Trichloroethane	8.9×10^{7}	1,400,000

[1] See Attachment A for applicable definitions.

Table F-12. Effluent Limitations for the Protection of Human Health (Carcinogens)

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Acrylonitrile	1.7×10^{1}	0.27
Aldrin	3.6×10^{-3}	0.000057
Benzene	9.7×10^{2}	15
Benzidine	1.1×10^{-2}	0.00017
Beryllium	5.4×10^{0}	0.085
Bis(2-Chloroethyl)Ether	7.4×10^{0}	0.12
Bis(2-Ethylhexyl)Phthalate	5.8×10^{2}	9.2
Carbon Tetrachloride	1.5×10^{2}	2.4
Chlordane [1]	3.8×10^{-3}	0.000060
Chlorodibromomethane	1.4×10^{3}	22
DDT [1]	2.8×10^{-2}	0.00044
1,4 Dichlorobenzene	3.0×10^{3}	47
3,3-Dichlorobenzidine	1.3×10^{0}	0.021
1,2-Dichloroethane	4.6×10^{3}	73
1,1-Dichloroethylene	1.5×10^{2}	2.4
Dichlorobromomethane	1.0×10^{3}	16
Dichloromethane (Methylene Chloride)	7.4×10^{4}	1200
1,3-Dichloropropene	1.5×10^{3}	24
Dieldrin	6.6×10^{-3}	0.00010
2,4-Dinitrotoluene	4.3×10^{2}	6.8
1,2-Diphenylhydrazine	2.6×10^{1}	0.41
Halomethanes[1]	2.1×10^{4}	330
Heptachlor	8.3×10^{-3}	0.00013
Heptachlor Epoxide	3.3×10^{-3}	0.000052
Hexachlorobenzene	3.5×10^{-2}	0.00055
Hexachlorobutadiene	2.3×10^{3}	36
Hexachloroethane	4.1×10^{2}	6.5
Isophorone	1.2×10^{5}	1900
N-Nitrosodimethylamine	1.2×10^{3}	19
N-Nitrosodi-n-Propylamine	6.3×10^{1}	1.0
N-Nitrosodiphenylamine	4.1×10^{2}	6.5
PAHs [1]	1.5×10^{0}	0.024
PCBs [1]	3.1×10^{-3}	0.000049
TCDD Equivalents	6.4×10^{-7}	0.00000001
1,1,2,2-Tetrachloroethane	3.8×10^{2}	6.0
Tetrachloroethylene	3.3×10^{2}	5.2
Toxaphene	3.5×10^{-2}	0.00055

Pollutant	30-day Average	
	Concentration (µg/L)	Mass Loading (lbs/day)
Trichloroethylene	4.5×10^3	71
1,1,2-Trichloroethane	1.6×10^3	25
2,4,6-Trichlorophenol	4.8×10^1	0.76
Vinyl Chloride	5.9×10^3	93

[1] See Attachment A for applicable definitions.

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests - acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Central Coast Water Board staff have determined that treated wastewater from the Facility has a reasonable potential to cause or contribute to acute and/or chronic toxicity in the discharge. Such a determination is consistent with the RPA procedure of the California Ocean Plan which requires consideration of all available information, including the "potential toxic impact of the discharge" to determine if WQBELs are necessary, notwithstanding the statistical procedure with which the RPA is conducted for most pollutants. Due to the multiple residential, commercial, and industrial contributors to the influent flow of the Facility, and because the cumulative effects of various pollutants present at low levels in the discharge are unknown, acute and chronic toxicity limitations are retained from the previous permit.

The Discharger must also maintain a toxicity reduction evaluation workplan, which describes steps that the Discharger intends to follow in the event that acute and/or chronic toxicity limitations are exceeded. When monitoring measures WET in the effluent above the limitations established by the Order, the Discharger must resample, if the discharge is continuing, and retest. The Executive Officer will then determine whether to initiate enforcement action, require the Discharger to implement a toxicity reduction evaluation, or to implement other measures.

D. Final Effluent Limitation Considerations

Final, technology-based and water quality-based effluent limitations established by the Order are discussed in the preceding sections of the Fact Sheet.

1. Anti-Backsliding Requirements

The Order retains effluent limitations established by the previous Order for BOD_5, TSS, oil and grease, settleable solids, turbidity, pH, total coliform, and fecal coliform.

The Order also retains most of the effluent limitations from the previous Order for the California Ocean Plan Table 1 toxic pollutants. The California Ocean Plan was amended in 2005 to include a procedure for determining "reasonable potential" by characterization of effluent monitoring data. The California Ocean Plan's Appendix VI procedure resulted

in a finding of endpoint 2 (i.e., "no reasonable potential") for ammonia, arsenic, zinc, and chloroform. Consistent with the California Ocean Plan, effluent limitations are not required for pollutants resulting in an endpoint 2. The removal of these effluent limitations from this Order is consistent with CWA section 402(o)(2) and anti-backsliding regulations.

The Central Coast Water Board is establishing WQBELs for copper, nickel, chlorodibromomethane, dichlorobromomethane and total residual chlorine based on a conclusion of endpoint 1 (i.e., "reasonable potential"). All other California Ocean Plan Table 1 pollutants resulted in an endpoint 3 (i.e., "inconclusive"). Therefore, the limitations for these pollutants (endpoints 1 and 3) are retained in this Order. The Central Coast Water Board is also establishing WQBELs for whole effluent, acute and chronic toxicity, which are also pollutants or pollutant parameters identified by Table 1 of the California Ocean Plan.

The previous Order's effluent limitations have also been updated to be consistent with mathematical calculations for the significant figures presented in the California Ocean Plan's water quality objectives (i.e., two significant figures). This correction has resulted in relatively minor changes to several effluent limitations. The review of the calculations also revealed two mathematical errors in the previous Order's limitations for carbon tetrachloride and toxaphene. These errors have been corrected. No negative impacts to receiving water quality are anticipated as a result of these changes.

2. Antidegradation Policies

The Order does not authorize increases in discharge rates or pollutant loadings. The Order's limitations and conditions ensure maintenance of the existing quality of receiving waters. Therefore, provisions of the Order are consistent with applicable antidegradation policy expressed by NPDES regulations at 40 C.F.R. 131.12 and State Water Board Resolution 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on $BOD_{5,}$ TSS, settleable solids, turbidity, oil and grease, and pH. Restrictions on these pollutants are discussed in section IV. B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Final, technology and water quality-based effluent limitations are summarized in sections IV.B and IV.C of this Fact Sheet.

E. Interim Effluent Limitations

The Order does not establish interim effluent limitations and schedules for compliance with final limitations. Interim limitations are authorized only in certain circumstances when immediate compliance with newly established final water quality based limitations is not feasible.

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications

The Order does not address use of recycled wastewater except to require compliance with applicable state and local requirements regarding the production and use of recycled wastewater, including requirements of California Water Code sections 13500 - 13577 (Water Reclamation) and the California Code of Regulations title 22, sections 60301 - 60357 (water recycling criteria). Compliance with title 22 water recycling criteria shall be determined by the State Water Board Division of Drinking Water (formerly California Department of Public Health), which reviews title 22 engineering reports.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Receiving water limitations within this Order include the receiving water limitations of the previous order.

B. Groundwater

Groundwater limitations established by the Order include general objectives for groundwater established by the Basin Plan for the Central Coast Water Board.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to this Order.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the permit. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

The Order may be modified in accordance with the requirements set forth at 40 C.F.R. sections 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any, new state water quality objectives that are approved by U.S. EPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Requirements**

The requirement to maintain a toxicity reduction work plan is retained from Order R3-2009-0047. When toxicity monitoring measures acute or chronic toxicity in the effluent above the limitation established by this Order, the Discharger is required to resample and retest, if the discharge is continuing. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation requirements or whether other measures are warranted.

b. **Water Contact Monitoring (Bacterial Characteristics)**

The requirement for repeat water-contact bacteriological monitoring is retained from Order R3-2009-0047 in accordance with California Ocean Plan section III.D.1.b for exceedance of a single sample maximum bacteria standard contained within section IV.A.1 of this Order. This requirement is also footnoted in Table E-7 of section VIII.A of the Monitoring and Reporting Program (Attachment E). The Central Coast Water Board has imposed identical requirements in this Order and the South San Luis Obispo County Sanitation District Order so that such monitoring can be coordinated between the two agencies, minimizing effort and expense.

3. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program**

The 2012 California Ocean Plan establishes guidelines for the Pollutant Minimization Program (PMP). At the time of the proposed adoption of this Order no known evidence was available that would require the Discharger to immediately develop and conduct a PMP. The Central Coast Water Board will notify the Discharger in writing if such a program becomes necessary.

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Biosolids Management**

Provisions regarding sludge handling and disposal ensure that such activity will comply with all applicable regulations.

Section 503 of 40 C.F.R. sets forth U.S. EPA's final rule for the use and disposal of biosolids, or sewage sludge, and governs the final use or disposal of biosolids. The intent of this federal program is to ensure that sewage sludge is used or disposed of in a way that protects both human health and the environment.

U.S. EPA's regulations require that producers of sewage sludge meet certain reporting, handling, and disposal requirements. As the U.S. EPA has not delegated the authority to implement the sludge program to the State of California, the enforcement of sludge requirements that apply to the Discharger remains under U.S. EPA's jurisdiction at this time. U.S. EPA, not the Central Coast Water Board, will oversee compliance with 40 C.F.R. 503.

Section 503.4 of 40 C.F.R. (Relationship to other regulations) states that the disposal of sewage sludge in a municipal solid waste landfill unit, as defined in

40 C.F.R. 258.2, that complies with the requirements in 40 C.F.R. 258 constitutes compliance with section 405 (d) of the CWA. Any person who prepares sewage sludge that is disposed in a municipal solid waste landfill unit must ensure that the sewage sludge meets the applicable requirements of 40 C.F.R. 503.

b. **Pretreatment**

Pretreatment requirements for POTWs are contained within 40 C.F.R. part 403. Per 40 C.F.R. part 403.8, any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards will be required to establish a POTW pretreatment program unless the NPDES state exercises its option to assume local responsibilities as provided for in section 403.10(e). The Executive Officer may require that a POTW with a design flow of 5 MGD or less develop a POTW pretreatment program if he or she finds that the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through as defined in 40 C.F.R. part 403.3.

The Discharger has previously adopted municipal ordinances regarding industrial wastewater sources within their service area. However, the Report of Waste Discharge submitted by the Discharger in support of the permit renewal process did not identify any current significant or categorical industrial users within the service area. Therefore, the effluent discharge limitations do not anticipate significant or categorical industrial contributions. In the event the Discharger identifies new industrial users, the Discharger shall apply to the Central Coast Water Board to amend this permit, as appropriate.

6. Other Special Provisions

a. **Discharges of Storm Water**

This Order does not address discharges of storm water from the treatment and disposal site, except to require coverage by and compliance with applicable provisions of General Permit CAS000001 - *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.*

b. **Sanitary Sewer System Requirements**

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on May 2, 2006. The Monitoring and Reporting Requirements for the General Order were amended by Water Quality Order WQ 2008-0002-EXEC on August 6, 2013 and became effective on September 9, 2013. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans and report all sanitary sewer overflows, among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer

overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. For instance, the 24-hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger enrolled in the General Order effective August 3, 2006.

7. Compliance Schedules

The Order does not establish interim effluent limitations and schedules of compliance with final limitations.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Coast Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

In addition to influent flow monitoring, influent monitoring for BOD_5 ($CBOD_5$ may be substituted with Executive Officer approval) and TSS is required to determine compliance with the Order's 85 percent removal requirement for those pollutants.

B. Effluent Monitoring

Effluent monitoring requirements of the previous permit for Discharge Point 001 (the Ocean outfall) have been retained in this Order, with limited changes. Dichlorobromomethane, copper, and nickel sampling frequencies have been increased from annual to semi-annual as a result of the endpoint 1 conclusion for "reasonable potential" to cause or contribute to an exceedance of a receiving water quality objective. This change in monitoring frequency is consistent with the California Ocean Plan Appendices III and VI procedures.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order retains acute and chronic WET limitations and monitoring requirements from the previous permit for Discharge Point 001. The Order requires WET monitoring be conducted concurrently with Table 1 pollutant monitoring one time in a period of high effluent flow (while no effluent is being recycled) and one time during a period of low effluent flow (while most or all of the effluent is being recycled).

D. Receiving Water Monitoring

1. Bacteria Monitoring

The Order retains the bacteriological receiving water monitoring requirements from the previous permit with clarification added to the duration of bacterial monitoring during upset events or process failures.

2. Groundwater

Groundwater monitoring requirements are not established by this Order.

E. Other Monitoring Requirements

1. Biosolids/Sludge Monitoring

Biosolids monitoring requirements are retained from the previous Order.

2. Pretreatment Monitoring

The Order retains the requirements of the previous permit to conduct pretreatment monitoring and reporting.

3. Outfall Inspection

This Order retains the requirement of the previous permit to conduct visual inspections of the outfall and diffuser system and to conduct a dye study to visually inspect the entire outfall structure to determine whether there are leaks, potential leaks, or malfunctions.

4. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires major and selected minor permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Central Coast Water Board considered the issuance of WDRs that serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Coast Water Board staff developed tentative WDRs and encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Coast Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through posting in the Tribune newspaper.

The public has access to the agenda and any changes in dates and locations through the Central Coast Water Board's website at: http://www.waterboards.ca.gov/centralcoast/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Central Coast Water Board staff received one comment letter during the public comment period.

Public Comment: The Oceano Dunes District of California State Parks expressed concern "that the [California State Parks North Beach Campground Recreational Vehicle Dump Station] continue to be allowed to operate and expand as necessary to address the needs of park users."

Staff Response: The Discharger owns the lift station, sewer collection system, and wastewater treatment plant providing service for the State Parks campground. Any State Parks expansion or operation issues should be addressed and discussed between State Parks and the Discharger. The Discharger has the right to refuse or expand service in their collection system area, provided they comply with the provisions of their NPDES and other applicable permits. If the Discharger wishes to work with the State Parks to increase flow contribution from the campground area, it may do so at its discretion, provided it does not result in a violation of the NPDES permit (e.g., unanticipated wastewater contaminants or treatment capacity problems).

C. Public Hearing

The Central Coast Water Board held a public hearing on these WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	**November 19, 2015**
Time:	**8:30 a.m.**
Location:	**Central Coast Water Board** **895 Aerovista Place, Suite 101** **San Luis Obispo, CA 93401**

Interested persons were invited to attend. At the public hearing, the Central Coast Water Board offered to hear testimony, pertinent to the discharge, WDRs, and permit. No public comment was received and the item was approved on the consent calendar.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Coast Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Coast Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m.,

Monday through Friday. Copying of documents may be arranged through the Central Coast Water Board by calling (805) 549-3147.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Central Coast Water Board, reference the Facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Katie DiSimone at (805) 542-4638 or katie.disimone@waterboards.ca.gov **OR**
Sheila Soderberg at (805) 542-3592 or sheila.soderberg@waterboards.ca.gov.

APPENDIX D. HYDROGEOLOGIC ASESSMENT REPORT

Cleath-Harris Geologists, Inc.
71 Zaca Lane, Suite 140
San Luis Obispo, CA 93401
(805) 543-1413

TECHNICAL MEMORANDUM

PRELIMINARY HYDROGEOLOGIC ASSESSMENT GROUNDWATER RECHARGE WITH RECYCLED WATER

City of Pismo Beach Recycled Water Facilities Planning Study

Water Systems Consulting
P.O. Box 4255
San Luis Obispo, CA 93403

Cleath-Harris Geologists (CHG) herein presents findings reached during this preliminary hydrogeologic assessment of groundwater recharge with recycled water from the City of Pismo Beach Recycled Water Facilities. During this preliminary assessment CHG has:

- Researched relevant data for considering conceptual alternatives to develop a groundwater recharge project to protect the basin through the use of recycled water;
- Evaluated the conceptual feasibility of recharge basins and/or injection wells;
- Developed a conceptual facilities design for an injection well field.

The San Luis Obispo office of Fugro Consultants has reviewed and provided input into this assessment.

RESEARCH

Data for this assessment was obtained from Water Systems Consulting (WSC), the water purveyors of the Northern Cities Management Area (NCMA), and published reports.

WSC has provided input on the available recharge basin facilities, the potential delivery pipelines, and an estimate of available recycled water.

Information was provided by the cities and districts within the study area related to existing infiltration basins and wells and groundwater management. The annual groundwater management reports for the Northern Cities Groundwater Management Area were reviewed to obtain groundwater level and seawater intrusion information. Existing infiltration basins that could act as recharge facilities and their drainage areas and basin sizes were identified and defined with respect to percolation rate, depth to water, and subsurface geology.

Various groundwater investigation reports have been reviewed to establish the hydrogeologic framework for groundwater recharge: the areal and vertical extent of aquifers and aquitards; the hydraulic conductivity and storativity/specific yields; the existing recharge and discharge locations and rates; and the water quality found in each aquifer. The major published groundwater studies include several California Department of Water Resources studies:

- Investigation of Nitrates in Ground Water, Grover City, San Luis Obispo County (Project No. 4103-054, April 1962). This report includes several geologic cross sections within the area of study.
- Sea Water Intrusion: Pismo-Guadalupe Area (Bulleting 63-3, 1970). This report has a good description of the area hydrogeology with cross sections and identifies aquifers with sea water intrusion.
- Water Well Standards, Arroyo Grande Basin, San Luis Obispo County (Bulletin 74-7). This report has a contour map of the elevation of the base of the upper-most aquitard.
- Water Resources of the Arroyo Grande-Nipomo Mesa Area (Southern District Report, 2002). This report is the most recent general overview of groundwater conditions in the region.

Cleath & Associates/CHG has provided input to wastewater reuse studies in South San Luis Obispo County, one prepared by Wallace Group for City of Arroyo Grande (2009) that identified areas for possible inland injection wells. A 12-month residency time setback of 2,300 feet was estimated based on groundwater flow calculations using conservative hydrogeologic assumptions.

The County of San Luis Obispo has had studies prepared on stream flow and infiltration and storm water runoff. The County is in the process of developing a strategic plan for recycled water reuse with Cannon Associates and has contracted for the Santa Maria Groundwater Basin Characterization and Planning Activities Study with Fugro Consultants and a portion of the work has been completed and draft technical memorandums for Tasks 1 and 2 have been submitted to the County of San Luis Obispo.

No groundwater flow/quality models have been published for this area.

HYDROGEOLOGIC FRAMEWORK FOR GROUNDWATER RECHARGE

The aquifers underlying the Santa Maria Groundwater Basin Northern Cities Management Area tapped by the community wells include the Paso Robles Formation gravel zones and the Careaga Formation sand zones. These aquifers underlie the Pismo Creek, Meadow Creek and Arroyo Grande Creek alluvial deposits and the dune sands that cover the Tri-Cities Mesa. The dune sands are fine-grained and permeable. Below

these dune sands, there are aquitards within the Paso Robles Formation that can perch water in the dune sands. These silt and clay aquitards are not everywhere present at this contact and may not totally restrict downward migration of percolated groundwater but can be expected to have some significant affect in many areas. Figure 1 (Figure 10 of the 2013 NCMA annual monitoring report prepared by Fugro) shows the NCMA area with groundwater levels from October 2013 and identifies the coastal monitoring wells.

The 2002 California Department of Water Resources (DWR) Southern District Report, "Water Resources of the Arroyo Grande-Nipomo Mesa Area", and the 1970 DWR Bulletin No. 63-3, "Sea-Water Intrusion: Pismo-Guadalupe Area" provide information on the hydrogeology of the AG/TCM area. The geologic cross section from Bulletin 63-3, as modified by Cleath-Harris Geologists, was used to establish the boundaries within which potential recharge could occur benefiting the public water supply wells (Figure 2). The southern boundary would be the faults located south of Arroyo Grande Creek. Along the north boundary, the Paso Robles and Careaga Formation sedimentary beds rise toward Meadow Creek along an anticline that has been defined herein. To the east, low permeability sedimentary beds appear to rise to a boundary roughly at about Halcyon Road.

The 1970 Water Well Standards report defines the base of the upper-most aquitard (Figure 3) that would perch percolated water from infiltration basins. This contour map and information from City of Arroyo Grande wells at the Elm Street Soto Park complex were used to model the flow of percolated water at infiltration basins in the vicinity.

As a result of pumping from the different aquifers, groundwater levels in specific aquifer zones vary. The groundwater levels and quality in the coastal sentry water wells, as illustrated in Figure 4, provide an indication of which aquifers have been most impacted by pumping. Zone A groundwater levels are high, indicating no significant impact due to pumping. Some wells in Zone C exhibit lower minimum groundwater levels and higher maximum chloride concentration than B, D, or E indicating impacts due to pumping.

Available groundwater storage for recycled water recharge within the Arroyo Grande-TriCities Mesa portion of the Santa Maria Groundwater Basin is limited to the unsaturated portion of basin sediments. The groundwater elevation contours shown in Figure 1 represent the base of the available storage reservoir. The area of focus for recharge studies in this conceptual assessment is bounded by Grand Avenue and Highway 1, where the municipal/public water supply wells are located. Potential surface recharge areas are shown on Figure 1. In this area, groundwater levels vary seasonally and regionally from 10 feet below sea level to 15 feet above sea level with the lower levels closer to the coast. Pumping depressions occur in the close proximities to producing wells. The available groundwater storage in this area is roughly estimated to be 1,000-1,500 acre-feet, assuming a potential rise of groundwater levels over this area of

9 feet (as estimated from the water level decline between 2007 and 2008 at 12 wells) and an average specific yield of the basin sediments of 9 percent.

CONCEPTUAL GROUNDWATER RECHARGE FACILITIES

Groundwater recharge facilities are designed to place water into available storage within groundwater reservoirs where it can be effective in protecting and enhancing groundwater supply wells. This can be accomplished by percolating water into infiltration/recharge basins or by injecting water into specific aquifers via injection wells.

Recharge via Infiltration Basins

Several existing infiltration basins dispose of storm runoff in the Northern Cities Management Area but many are too small for consideration as recharge facilities. The only two infiltration basin facilities that could be considered as having more than a few acre-feet of recharge capacity are the Ash Street infiltration basins and the Poplar Street infiltration basins in Arroyo Grande. In order to be used for recharge of recycled water, State guidelines require that the recharged water must demonstrate a travel time of either 2 months as determined by a tracer study or 8 months based on a groundwater flow calculation. Since the City of Arroyo Grande wells are very close to the Ash Street infiltration basins, it may be difficult to prove that this travel time can be achieved, although the vertical migration of recycled water could be impeded by aquitards such that the travel time may exceed the required duration. The Poplar Street infiltration basin was the only existing facility that appeared to have some potential for recharge.

A MODFLOW groundwater flow model with particle tracking was constructed for the Poplar Street area to quantify the amount of recharge that could occur at this basin and determine the travel distance of the recharged water for the two required time durations. Aquifer parameter values for the dune sand deposit underlying the site were taken from data on dune sands in Los Osos. Assuming availability of the basin for recharge would be during an eight month period, when storm runoff is not likely to occur, an estimated 50-100 acre-feet of water could be recharged, depending on the local hydraulic conductivity of the dune sands. Groundwater flow during an eight month travel time would reach a distance of up to 550 feet from the basin. Figure 5 illustrates the travel time distance in plan view for the Poplar Street infiltration basin. The groundwater percolates to the top of the first clay aquitard (whose depth was determined based on the available cross sections and aquitard contour map) and mounds to just below the bottom of the basin as it flows away from the basin area (Figure 6, Mounding Model Cross Section). While the DWR cross section (Figure 2) suggests there may be an area where the clay bed is less thick within the area beneath the shallow sand bed, the contoured aquitard on Figure 3 still identifies it's presence. Operational constraints at the basin may restrict the recharged amount due to basin maintenance.

Recharge via Injection Wells

Two injection well options are under consideration for the deep recharge of recycled water into the aquifers tapped by water supply wells (Figure 7). One option would be a coastal hydraulic barrier wells along Highway 1 between Grand Avenue and the airport. The other option would be several inland injection wells located throughout the planning area.

The injection wells would be located at sufficient distances from public water supply wells to allow for adequate residence time of the recycled water prior to extraction. In a previous conceptual well field layout, the setback recommended for 12 month travel time was 2300 feet (Wallace Group, 2009). The shorter duration of residency considered within this assessment would be between 2 and 8 months, depending on the level of treatment. This previous estimate was found to be very conservative based on the modeling performed in this current analysis. For an 8-month residency time, the corresponding setback was calculated to be 113 feet. The calculation output was a groundwater velocity of 0.47 feet per day for the Paso Robles Formation aquifers as determined by the groundwater flow simulation when the injection wells recharged 1100 acre-feet per year and the two Pismo Beach wells and the Oceano CSD well pumped 800 acre-feet per year. Rounding off the setback up to the nearest hundred feet, the setback should be 200 feet from existing water supply wells. Without pumping these wells, the setback would be less.

The wells would be designed to inject water below a regional aquitard into the main aquifer zones A-D (see Figures 2 through 4). The depths of the wells will depend upon the depths of the aquifers and aquitards. The total depth of the injection wells will range between 400 and 600 feet depth. The injected zones and the seals would be determined based on the specific conditions encountered in the wells.

Six wells are proposed for injecting recycled water in the inland well field option and three wells are proposed for the coastal injection well field. Each injection well site is assumed to be capable of injecting up to 200 acre-feet per year based on the transmissivity of the aquifers (about 20,000 gallons per day per foot) as determined from a pumping test at City of Pismo Beach Well #5. The estimated cost of an injection well at the Los Angeles County Department of Public Works (LACDPW) Alamitos Barrier project for year 2013 was roughly $500,000 per well. Wells in the Alamitos Barrier are similar in depth to the coastal injection wells discussed in this report.

In addition to the injection wells, monitoring wells would be needed for measuring the groundwater level and groundwater quality. The groundwater levels would be the basis for determining the quantity of water injected in each well (and how variable the injection water flow can be) and the water quality tests would determine the presence/absence of sea water influence and be an indicator of the migration of the injected water and the

resulting groundwater quality from the mixing of injected water with existing groundwater.

The monitoring wells would be designed as pairs of wells (one shallow and one deep) or nested dual aquifer completions with separate casings in the injected aquifers and within the overlying aquifer. Conceptually, the monitoring wells should be placed between the coastal injection wells and also between the injection wells and the production wells. One new monitoring well would be assumed to be required for each injection well (an existing well is assumed to provide a second monitoring location). Monitoring wells would be equipped with water level/water quality measurement instrumentation, as is being used at existing coastal monitoring wells. The costs of observation wells at the LACDPW Alamitos Barrier project in 2012 were $75,000 per casing. Equipping costs with telemetry are estimated to be about $10,000-$15,000 per well completion.

Maintenance of the injection wells would involve cleaning out the well casings and removing microbial build-up once every two years. Well maintenance can be accomplished within two weeks. In 2011-2012, the cost of maintenance services at an LACDPW Alamitos Barrier injection well was about $5,000 to $20,000 depending on the well design (number of aquifer zones injected) and condition.

Coastal Sea Water Intrusion Barrier Wells

Injection with highly treated recycled water along the coast can be an effective barrier to sea water intrusion. The coastal barrier wells would be comprised of three wells along Highway 1 between Grand Avenue and Oceano Airport at a well to well spacing of 4000 feet. The specific locations would depend on site constraints. The well locations on Figure 7 were selected based on the setback distance to existing wells, a general consideration of drill site area requirements, and the well spacing, as determined by mounding analytical modeling.

The quantity of recharged water at each injection well, how many wells are required, the amount of water recoverable/lost to the ocean, and the pressure heads that can be developed from injection are critical values that should be determined for the design of an injection well field. CHG constructed a conceptual groundwater mounding model of the groundwater basin area along the coastline from Pismo Creek to Arroyo Grande Creek in order to estimate these values.

The USGS MODFLOW 2002 groundwater flow simulation software was used for this planning level recycled water injection analysis. This level of analysis has involved very limited hydrogeologic parameter sensitivity analysis and limited analysis of groundwater extraction impacts on the mounding. Further refinement of the groundwater flow parameters will be necessary for more detailed design and groundwater management

objectives. Seawater intrusion modeling for dual density flow will also be an important part of a more detailed flow simulation.

This steady state model predicts the point at which the pressure head within the aquifers reach equilibrium during injection. The model was built with four layers which represent the primary aquifers in the coastal area. The layer number, the aquifer or aquitard it represents, and the aquitard and aquifer properties are described in the table below. The injection wells were screened in layers 3 and 4. The aquifer properties were calculated from available pumping test data included in Fugro Consultants and CHG reports. To simulate the equivalent fresh water head created by the ocean, the general head boundary to the west was set to 10.5 feet in layer 4, 4.5 feet in layer 3 and 1.5 feet in layers 2 and 1. The remaining general head boundaries were set to the October 2013 water levels.

Table1. Aquifer and Aquitard Parameters for Steady-State Model

Layer	Thickness (Feet)	Aquifer Unit *Aquitard	Hydraulic Conductivity (X,Y,Z)	Storativity	Porosity
1	120	Paso Robles	29, 29, 2.9	0.09	30
2	40	*Sandy Clay in Paso Robles	0.01, 0.01, 0.01	0.05	45
3	80	Paso Robles	29, 29, 2.9	0.004	30
4	400	Careaga Sandstone	12, 12, 1.2	0.004	30

Units: Hydraulic conductivity- feet per day; Storativity- dimensionless;
Porosity- percent

After running the model with varying scenarios, it was concluded that three injection wells spaced approximately 4,000 feet apart, recharging a combined 367 acre-feet per year, would create roughly 17 feet above sea level of pressure head along the alignment of the wells in layers 3 and 4. The resulting pressure head in layer 1 was between 15 and 16 feet. These injection wells would be located to the west of existing production wells: Pismo Well 5, Pismo Well 23 and Oceano CSD Well 8 (Figure 8). To create these pressure heads, the injection rate of 367 acre-feet per year was distributed equally into the three injection wells (122 acre-ft/yr per well). The clay layer (layer 2) creates an effective seal, allowing less than a 120 acre-feet per year to leak into overlying layer 1. At steady state, approximately 65 percent of the injected water flows to the east of the injection wells while only three percent flows to the west towards the ocean. The remaining water flows to the north or south. These results indicate with current conditions in the basin approximately 350 acre feet of water can be injected annually into the three proposed injection wells without apparent flooding.

In a second scenario with both injection and extractions, groundwater extractions were increased at Pismo Well 5, Pismo Well 23 and Oceano CSD Well 8. The injection rate was increased to 1,100 acre-feet per year and the pumping rates of the production wells were adjusted to create final pressure heads similar to those in the original steady-state model (Figure 9). A total of 800 acre-ft per year (233 acre-ft/yr at Pismo Wells 5 and 23; 333 acre-ft/yr Oceano CSD Well 8) would need to be produced from these wells in order to limit groundwater pressure heads of at least 15 feet in layers 3 and 4, and 13 feet in layer 1. Approximately 770 acre-ft (70 percent) recovery of the injected water at the three production wells would be expected. As within the original steady-state model, roughly 300 acre-feet of excess water could be introduced into the model without apparent flooding issues.

Inland Injection Wells

The inland injection wells would need to be spaced such that the maximum injected water capture by existing wells could be obtained while keeping the setback distance. Figure 7 shows the location of the purveyor wells and one irrigation well with respect to possible injection well sites. The injection sites shown are areas where drilling site requirements could potentially be met. The specific locations will need to be confirmed based on more detailed review of local constraints and delivery pipeline possibilities. In some areas, the wells are located where infiltration basins are proximate for dual recharge capabilities. In other areas, the wells are located where recycled water use could occur on existing irrigated lands.

The amount of recycled water that can be introduced into the basin with the inland injection wells is greater than the coastal barrier based on the existence of extraction wells adjacent to the proposed injecting wells that maintain a lower water level in localized pumping depressions. The available storage that can be recharged, as discussed earlier, is estimated to be between 1,000 and 1,500 acre-feet but could be more, considering additional unsaturated aquifers within the pumping depression area.

Continued recharge over multiple years would require the extraction of a similar amount to that recharged in order to maintain the storage availability, in light of the limited available storage.

CONCLUSIONS AND RECOMMENDATIONS

Based on our reconnaissance level analysis of groundwater in the Northern Cities Groundwater Management Area, CHG has reached the following conclusions regarding groundwater recharge options for the available highly treated reclaimed water from the City of Pismo Beach:

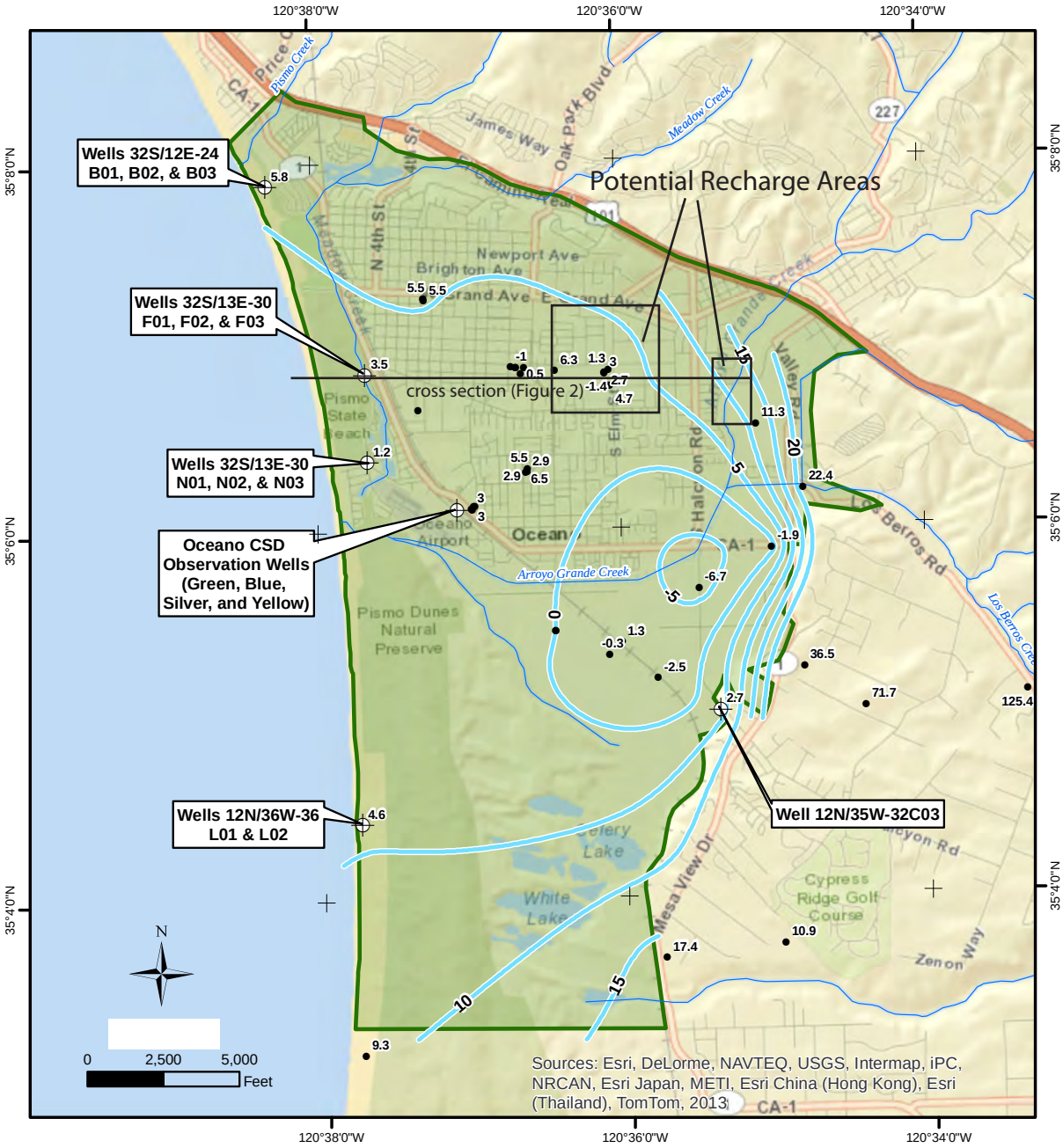
- Existing infiltration basins do not have the capacity to percolate the quantity of water available from reclaimed water.

- Injection wells would be effective at recharging highly treated reclaimed water, if properly designed and spaced.

- Pumpage at existing production water wells has locally lowered groundwater levels in the deeper aquifers (C-E), resulting in available storage for recharged reclaimed water.

- Dual density groundwater flow simulation modeling would be needed to determine injection well field design for optimizing seawater intrusion barrier effect and inland extractions benefits.

- A test injection well would provide critical information for a full scale injection well field.



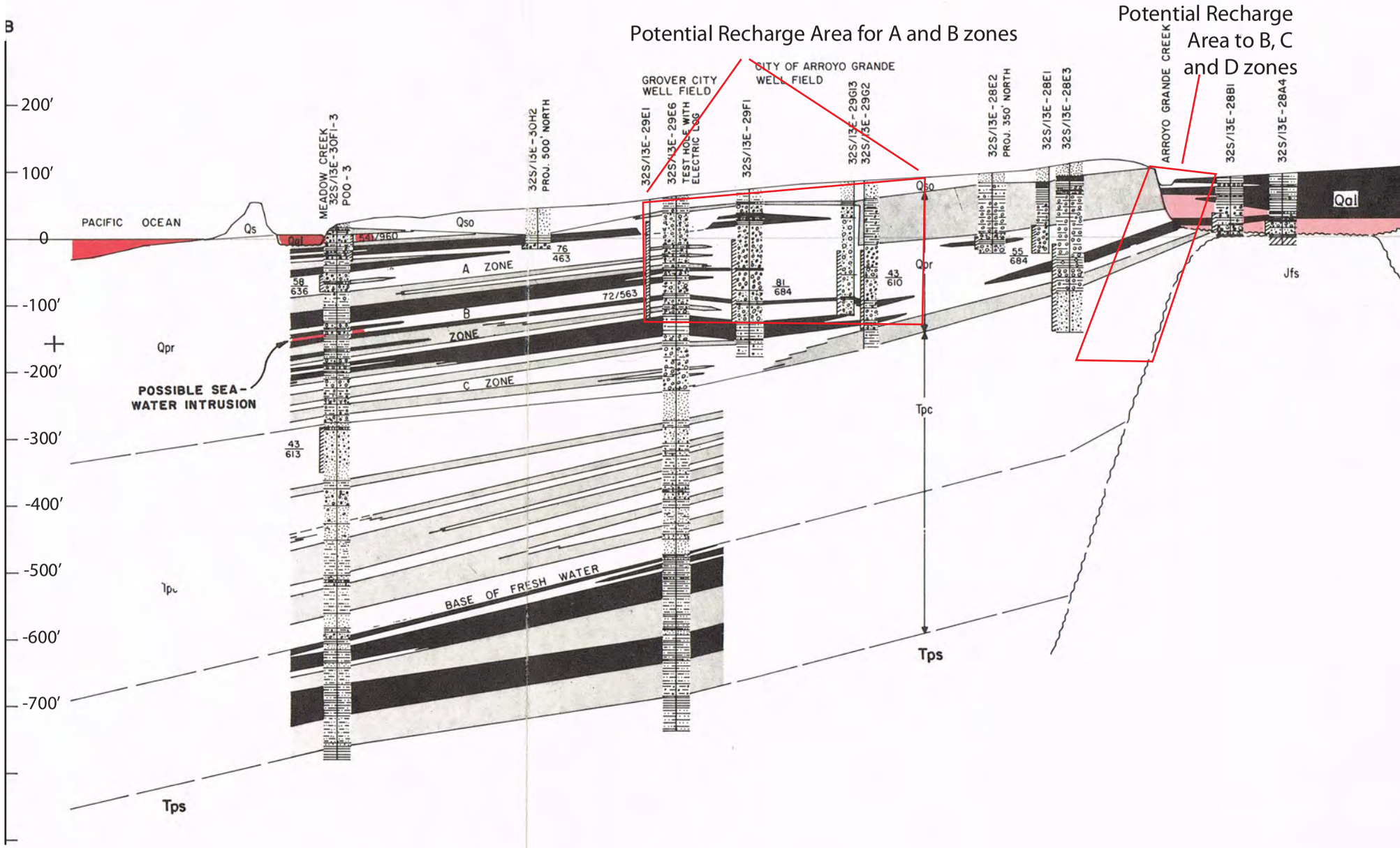
Legend

- NCMA Sentry Wells
- Wells Used in Groundwater Contouring
- 5 Water Level Contours (October 2013)
- Creeks
- Northern Cities Management Area

Sources: Base Map: Fugro Consultants, Northern Cities Management Area 2013 Annual Report Figure 10; Cross section alignment from DWR Bulletin 63-3

Figure 1
Location Map
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists



Cross Section Source: California Department of Water Resources Bulletin 63-3, 1970, Plate 2A, cross section B-B'

Vertical to Horizontal Scales 10:1

Figure 2
Potential Recharge Areas: Arroyo Grande Plain-Tri-Cities Mesa
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists

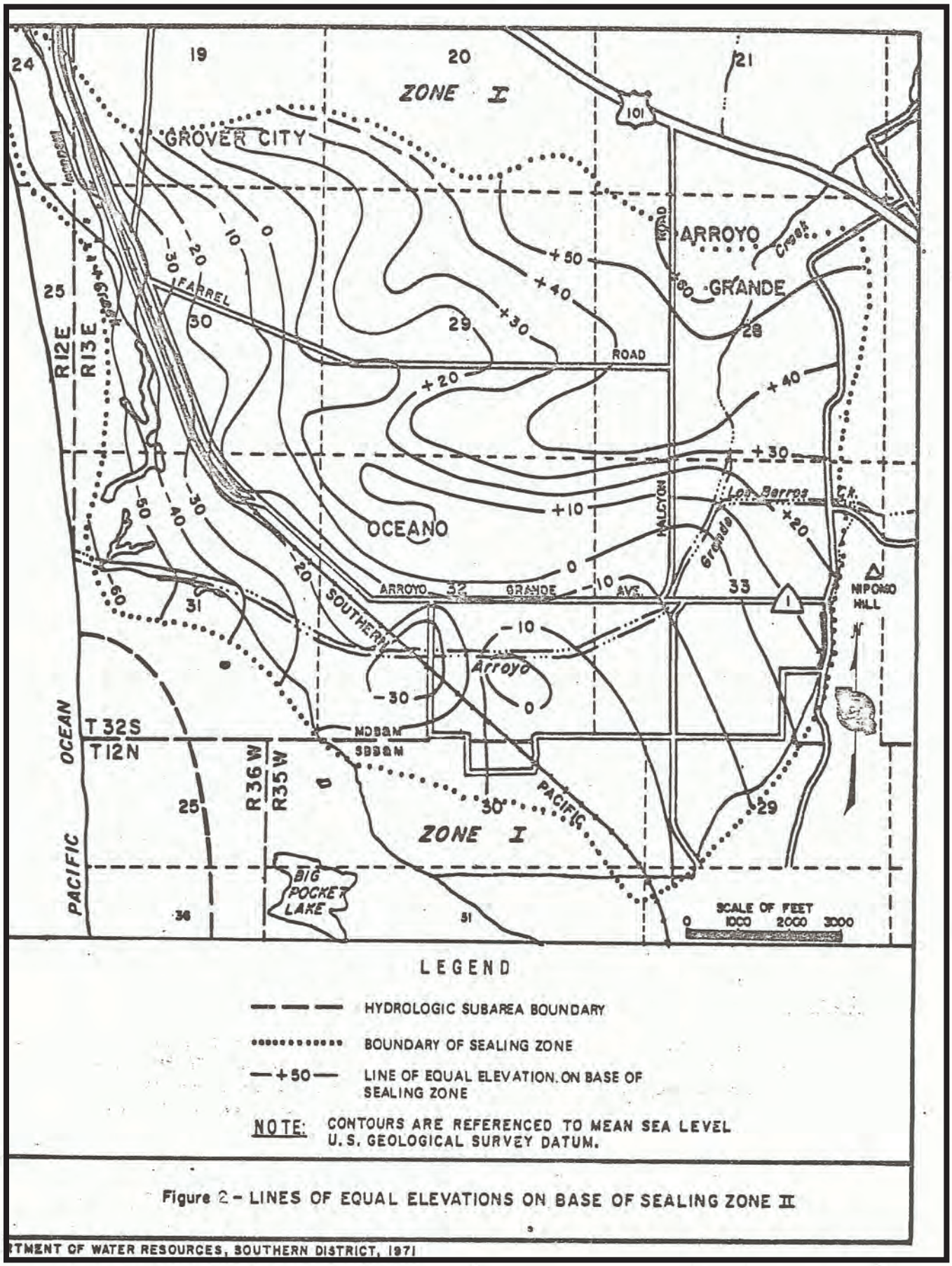


Figure 2 – LINES OF EQUAL ELEVATIONS ON BASE OF SEALING ZONE II

TMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1971

Figure 3
Base of Shallow Aquitard for Perching of Percolated Water
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists

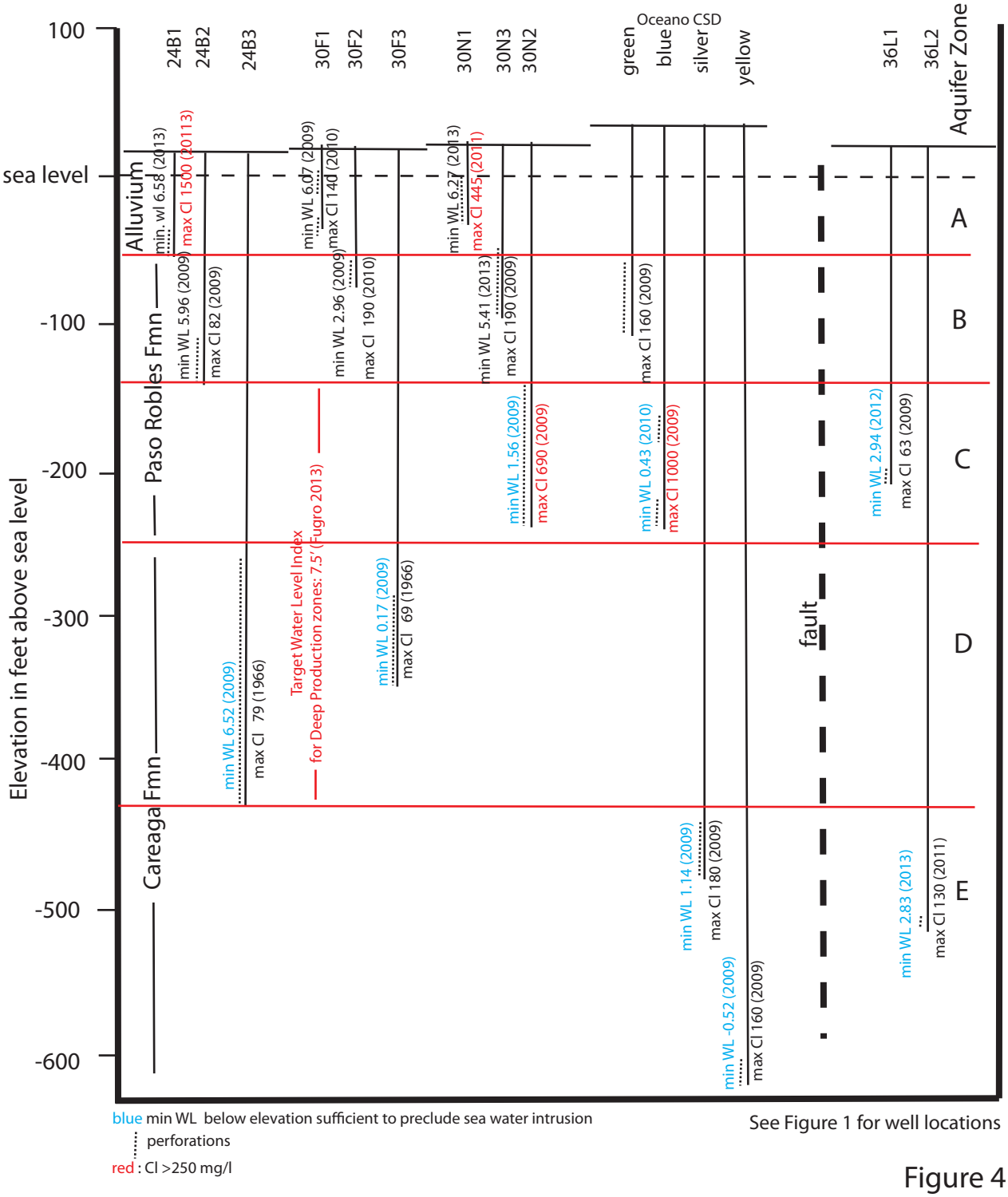


Figure 4
Profile of Well Construction and Water Levels/Quality
Coastal Sentry Wells
Recycled Water Facilities Planning Study
City of Pismo Beach

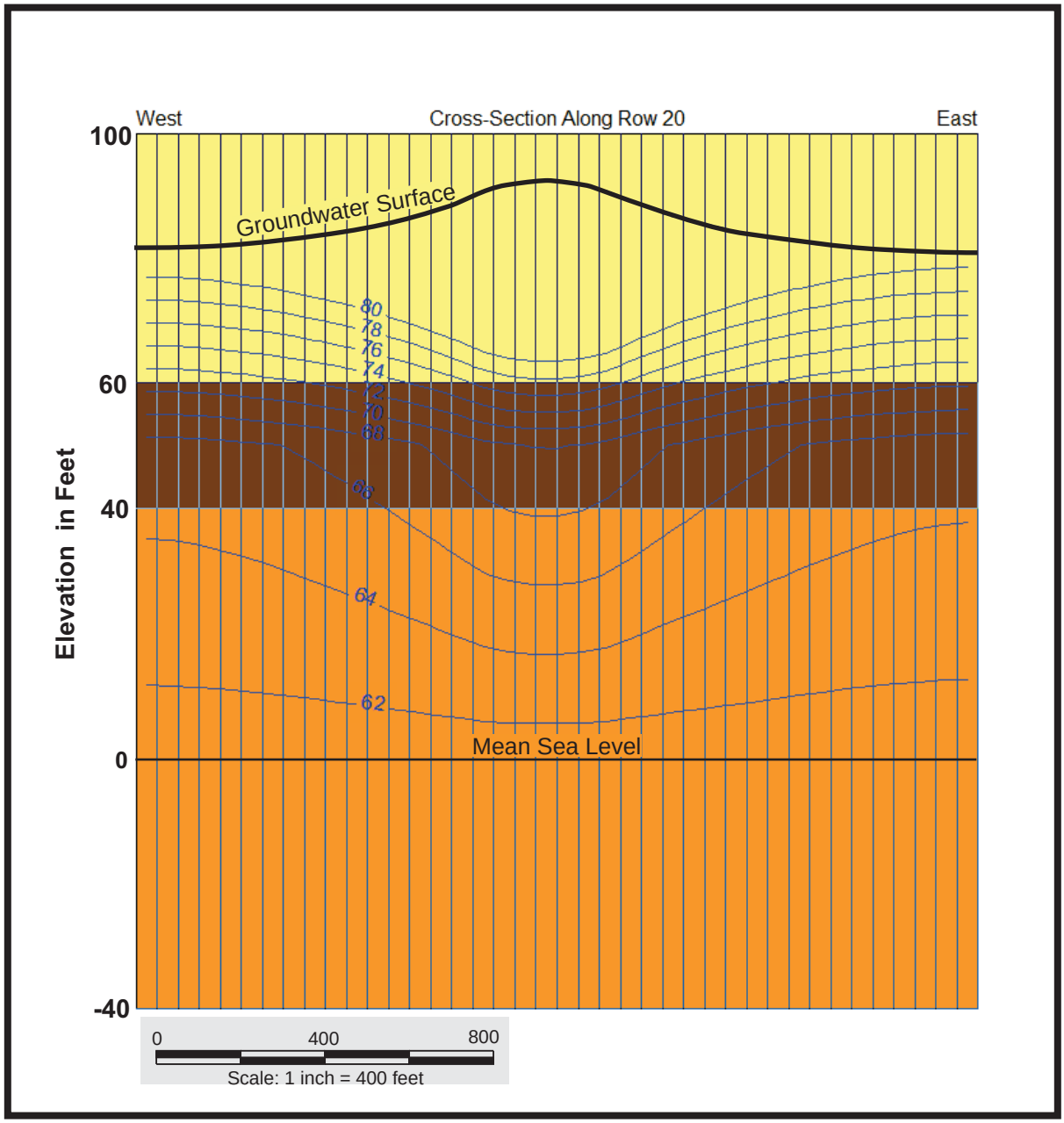
Cleath-Harris Geologists

Base map from Google Earth 2014. Image Date 8/23/13.

Explanation

- Existing on-site well
- Infiltration Pond
- 240 day travel distance from pond (Approx. 550 feet)

Figure 5
Infiltration Pond Particle Travel Distance Model.
Recycled Water Facilities Planning Study
City of Pismo Beach
Cleath-Harris Geologists



Explanation

- Existing on-site well
- Alluvium and Dune Sands
- Clay Aquitard
- Paso Robles Formation
- Equal pressure contours of water in feet (62)

Figure 6
Cross Section of Infiltration Pond
Equal Water Pressure Contours.
Recycled Water Facilities Planning Study
City of Pismo Beach
Cleath-Harris Geologists

Figure 7
Possible Injection Well Locations
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists

Base map modified from Google Earth. Image date 8/23/2013.

Explanation

- ● Production well
- ◎ Proposed Injection well site
- 170 Head Contour of Model Layer 3 and 4
- Model boundary

Figure 8

Steady-State Injection Well Model
Layer 3 and 4 Head Contours
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists

Base map modified from Google Earth. Image date 8/23/2013.

Explanation

- Production well
- Proposed injection well site
- Head Contour of Model Layer 3 and 4 (13.0)
- Model boundary

Figure 9
Steady-State Injection and Pumping Well Model
Layer 3 and 4 Head Contours
Recycled Water Facilities Planning Study
City of Pismo Beach

Cleath-Harris Geologists

APPENDIX E. PLANNING AND DESIGN ASSUMPTIONS

1 PLANNING AND DESIGN ASSUMPTIONS

This section presents the criteria applied to the project alternatives evaluated in this RW Study and includes:

- Facilities planning and design criteria
- Planning level cost estimate assumptions

1.1 FACILITIES PLANNING AND DESIGN CRITERIA

RW systems consist of three primary sets of facilities:

- Advanced Treatment Plant facilities (treatment, concentrate management, storage / equalization, and product water pump station
- Distribution system facilities (pipelines, storage, and booster pump stations)
- Customer facilities (treatment, storage, agriculture connections, and booster pump stations) or Recharge facilities (recharge basins or injection wells)

The basis for sizing RW facilities is presented in Table 1-1.

Table 1-1. RW Facility Planning and Design Criteria

Facilities	Design Criteria
ATP Facilities	
Storage	-Sized to be 25% of the AADF for GW Recharge and 100% of AADF for Agricultural Irrigation
Distribution System Facilities	
Pipelines	-Sized to maintain a headloss gradient of less than 10 ft of headloss per 1000 ft of pipeline during peak hour.
Booster Pump Stations	-Capacity based on peak hour demand (assumes no gravity system storage) -Station efficiency is assumed to be 75% -All pumps will have Variable Frequency Drives (VFDs) -Irrigation system booster stations will be equipped with a hydropneumatic tank to control pressure variations
Injection Well Site Size	50’ x 50’ permanent site; additional construction easements based on site specific requirements
Customer Facilities	
Customer Facilities	Irrigation connections are assumed to be $54,000 per connection based on bids from similar projects.

1.1.1 Customer Conversion Costs

For this RW Study, on-site customer facility costs to convert existing potable water irrigation services to RW irrigation services for agricultural customers are estimated based on average cost per connection for

similar projects. The cost per connection includes a 6" lateral, a 6" 90° bend, and the installation of a service meter.

Actual customer conversion costs will vary depending on the complexity of the existing irrigation systems on each site. Each site will require an individual investigation to determine the retrofits required to separate the RW system from any potable systems and cost estimates should be refined accordingly as the project develops.

1.1.2 Irrigation Demand Peaking Factors

Seasonal irrigation demand peaking factors used were developed based on rainfall and evapotranspiration rates. When sizing the irrigation conveyance and distribution infrastructure it was assumed that irrigation water would be delivered over a 6-hour period.

1.1.3 Injection Well Costs

The estimated cost of each injection well is $500,000 per well and the estimated cost of each monitoring well is $90,000 per well. Based on two monitoring wells, the total cost per injection well is estimated at $680,000. Maintenance of the well should occur every two years which includes cleaning out the well casings and removing microbial build-up. O&M cost per well is estimated to be $10,000 per year.

1.2 PLANNING LEVEL COST ESTIMATES

Planning level cost estimates were developed for each of the alternatives presented in this Study. Assumptions used as the basis of these cost estimates are discussed in this section.

1.2.1 Scope and Accuracy

The cost estimates included in this RW Study are based upon the Class 4 Conceptual Report Classification of Opinion of Probable Construction Cost as developed by the Association for the Advancement of Cost Engineering Cost Estimate Classification System. The purpose of a Class 4 Estimate is to provide a conceptual level effort that has an expected accuracy range from -30% to +50% and the inclusion of an appropriate contingency for planning and feasibility studies. The accuracy range is typical for this level of analysis and the cost estimates developed in the Study are still accurate in relation to each other. In other words, the cost estimates are accurate enough to compare the difference in costs across the alternatives even though the final project costs may vary from the preliminary cost estimates. The cost estimates used for the Study's cost model were developed from the best available information from actual costs of similar projects and adjusted for inflation. The conceptual nature of the design concepts and associated costs presented in this RWFS are based upon limited design information available at this stage of the projects.

These cost estimates have been developed using a combination of data from RS Means CostWorks®, recent bids, experience with similar projects, current and foreseeable regulatory requirements and an understanding of the necessary project components. As the projects progress, the design and associated costs could vary significantly from the project components identified in this RW Study.

For projects where applicable cost data is available in RS Means CostWorks® (e.g. pipeline installation), cost data released in Quarter 3 of 2016, adjusted for San Luis Obispo, California, is used. Material prices were adjusted in some cases to provide estimates that align closer with actual local bid results.

For projects where RS Means CostWorks® data is not available, cost opinions are generally derived from bid prices from similar projects, vendor quotes, material prices, and labor estimates, with adjustments for inflation, size, complexity and location.

Cost opinions are in 2016 dollars (ENR 20 City Average Construction Cost Index of: 10385 for August 2016). When budgeting for future years, appropriate escalation factors should be applied.

Cost opinions are "planning-level" and may not fully account for site-specific conditions that will affect the actual costs, such as soils conditions and utility conflicts.

1.2.2 Markups and Contingencies

For the development of the planning level cost estimates, several markups and contingencies are applied to the estimated construction costs to obtain the total estimated project costs. The markups are intended to account for costs of engineering, design, administration, and legal efforts associated with implementing a project (collectively, Implementation Markup). A 40% Implementation Markups was used for the groundwater recharge and the agricultural irrigation capital costs.

Contingency accounts for additional construction costs that could not be anticipated at the time of this analysis. A summary of the markups and contingencies applied in this RW Study are presented in Table 1-2.

Table 1-2. Capital Cost Estimating Assumptions

	Estimated Construction Cost
+	20% of Construction Subtotal for Contingency
=	**Subtotal 1**
+	40% of Subtotal 1 for Implementation Cost
=	**Total Capital Cost**

1.2.3 Excluded Costs

1. Overall Program Management. If the magnitude of the capital program exceeds the capacity of City staff to manage all of the work, then the services of a program management team may be required.

2. Public Information Program. Depending on the relative public acceptability of a major RW facility or a group of facilities, there may be a need for a public information program, which could take many different forms. It is recommended that the District engage in a proactive public outreach program in coordination with other existing or planned outreach programs.

1.2.4 Capital Cost Estimate Comparison for Alternatives

Unit costs of the various alternatives are compared using the annual payment method. The unit cost is calculated with this method by adding the annual payment for borrowed capital costs to the annual O&M cost and dividing by the annual project yield. This method provides a simple comparison between

alternatives in this RW Study. The factors described below are used to calculate the unit cost with the annual payment method.

The economic factors used to analyze the estimated costs for each of the project concepts are:

- Inflation: Escalation of capital and O&M costs is assumed to be 3.0% based on a combination of California CCI and Western Region Consumer Price Index (CPI) for the past 10 years (June 2004 to June 2014). The average annual escalation rate for California CCI is 3.6%, while the average annual inflation rate for CPI is 2.3%.
- Project Financing: Interest Rate & Payback Period: 5% over 30 years. Note that State Revolving Fund (SRF) loans are at a lower rate and potentially shorter payback period. Refer to Section 9 of this Study for further discussion of SRF and other loan options.
- Useful Life of Facilities: The useful life of facilities will vary based on several factors, including type of facility, operating conditions, design life, and maintenance upkeep. Structural components of most facilities are typically designed to last 50 years or longer. However, mechanical and electrical components tend to have a much shorter lifespan and typically require replacement or rehabilitation at regular intervals. To simplify the lifecycle evaluation, this RW Study assumes that all facilities have a useful life matching the financing payback period of 30 year.

APPENDIX F. REGULATORY OVERVIEW

APPENDIX F. REGULATORY OVERVIEW

RECYCLED WATER REGULATIONS

The SWRCB establishes general policies governing the permitting of RW projects consistent with its role of protecting water quality and sustaining water supplies. The SWRCB Division of Drinking Water (DDW) (formerly under the California Department of Public Health) is charged with protection of public health and drinking water supplies and with the development of uniform water recycling criteria appropriate to particular uses of water. The SWRCB also exercises general oversight over RW projects, including review of Regional Water Quality Control Board (RWQCB) permitting practices. The RWQCB is charged with protection of surface and groundwater resources and with the issuance of permits that implement DDW recommendations.

This section includes an overview of the regulations and policies that pertain to RW use for irrigation and groundwater recharge, including:

- DDW Regulations - Title 22, Division 4, Chapter 3, Section 60301 et seq., California Code of Regulations (Title 22)
- SWRCB Policies – Recycled Water Policy and Antidegradation Policy
- CCRWQCB – Central Coast Basin Plan

California Code of Regulations – Title 22

The primary regulation governing recycling water use is the California Code of Regulations Title 22, which is focused entirely upon public health protection. Title 22, established and administered by DDW, defines four types of RW uses based on the treatment process used and water quality produced. These four types of RW are described as follows and as summarized in Table F-1:

- Undisinfected secondary RW - Oxidized wastewater.
- Disinfected secondary-23 RW - RW that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed an MPN of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.
- Disinfected secondary-2.2 RW - RW that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been 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-day period.
- Disinfected tertiary RW - A filtered and subsequently 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 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-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

Title 22 also establishes approved uses of RW for industrial use, as shown in Table F-2.

Table F-1. Summary of Approved Title 22 Uses of RW for Irrigation

Treatment Level	Approved Uses	Total Coliform (median)
Undisinfected Secondary	Fodder, Fiber and Seed Crops	N/A
Disinfected Secondary 23	Pasture for Milking Animals Landscape Irrigation[1] Landscape Impoundment Soil Compaction, Dust Control on Roads and Streets	23/100 ml
Disinfected Secondary 2.2	Surface Irrigation of Food Crops Restricted Recreational Impoundment Surface Irrigation of Orchards, Vineyards	2.2/100 ml
Disinfected Tertiary	Spray Irrigation of Food Crops Landscape Irrigation[2] Unrestricted Recreational Impoundment	2.2/100 ml

1. Includes restricted access golf courses, cemeteries, freeway landscapes, and landscapes with similar public access.
2. Includes unrestricted access golf courses, parks, playgrounds, schoolyards, and other landscaped areas with similar access.

Table F-2. Summary of Approved Title 22 Industrial RW Uses

Industrial Use	Approved Uses
Supply for Cooling and Air Conditioning	Industrial or commercial cooling or air-conditioning involving cooling tower, evaporative condenser, or spraying that creates mist. Industrial or commercial cooling or air-conditioning not involving cooling tower, evaporative condenser, or spraying that creates mist
Other Allowed Uses	Flushing toilets and urinals Priming drain traps Structural fire fighting Non-structural fire fighting Industrial process water that will not come into contact with workers Industrial process water that may contact workers Industrial boiler feed water Decorative fountains Commercial laundries Consolidation of backfill material around potable water pipelines Dust control on roads and streets Mixing concrete Flushing sanitary sewers Soil compaction Artificial snow making for commercial outdoor use Cleaning roads, sidewalks, and outdoor work areas Commercial car washes, not heating the water, excluding the general public from washing processes

Groundwater Recharge Regulations

In response to current drought conditions in California, Senate Bill 104 was signed into law in March 2014. This bill included a requirement for DDW to adopt emergency regulations for groundwater replenishment using RW by June 30, 2014. The current Groundwater Recharge Regulations were adopted as an emergency regulation and became effective June 18, 2014. These regulations have been incorporated in the California Code of Regulations (CCR), Title 22.

The Groundwater Recharge Regulations define a Groundwater Replenishment Reuse Project (GRRP) as a project using recycled municipal wastewater for the purpose of replenishment of groundwater that is designated a source of water supply in a Water Quality Control Plan, or which has been identified as a GRRP by the RWQCB. GRRPs can employ surface spreading basins or subsurface injection methods. The Groundwater Recharge Regulations address the following types of recharge:

- Surface spreading without full advanced treatment (FAT)
- Subsurface application (FAT required for the entire flow)
- Surface spreading with FAT

FAT is defined as "the treatment of an oxidized wastewater […] using a reverse osmosis (RO) and an oxidation treatment process (AOP) […]". According to the Groundwater Recharge Regulations, FAT is the required treatment process for groundwater augmentation using direct injection, unless an alternative treatment has been demonstrated to DDW as providing equal or better protection of public health and has received written approval from DDW.

Both surface spreading and subsurface application are considered to be indirect potable reuse (IPR). The specific regulations for these different methods of groundwater recharge are different. However, the regulations generally address the following elements:

- Source control
- Emergency response plan
- Pathogen control
- Nitrogen control
- Regulated chemicals control
- Initial RW contribution (RWC)
- Increased RWC
- Advanced treatment criteria
- Application of advanced treatment
- Soil aquifer treatment (SAT) performance (surface application)
- Response retention time

Several of the key regulatory requirements for groundwater recharge are summarized in Table F-3. Additional descriptions of total organic carbon control, pathogen controls, retention time and the RW contribution follows.

Table F-3. Summary the Groundwater Recharge Regulations

Element	Surface Recharge	Subsurface Recharge
Treatment	Disinfected tertiary	100% RO and AOP treatment for the entire waste stream
Retention time[(1)]	Minimum 2 months (however additional treatment may be required for < 6 months)	Minimum 2 months
Recycled Water Max Initial Contribution (RWCmax)	Up to 20% disinfected tertiary Up to 100% with RO and AOP	Up to 100% with RO and AOP
Total Nitrogen	Average <10 mg/L	Average <10 mg/L
Total Organic Carbon	Mound < 0.5 mg/L ÷ RWC	< 0.5 mg/L
Dilution water compliance calculation	Based on 120-month running average	Based on 120-month running average
Notes: Must be verified by a tracer study. An 8 month minimum is required for planning level estimates based on numerical modeling		

The Groundwater Recharge Regulations require that the ratio of purified RW to the total injected water, known as the RWC, be determined periodically, and that it is not to exceed a value determined during the DDW's review of the engineering report and the results of public hearings. Only water that is either a DDW-approved drinking water, or meets certain quality criteria (e.g., does not exceed primary or secondary MCLs or notification levels) may be used as diluent water. The Groundwater Recharge Regulations allow the RWC to be 100% if it can be demonstrated that sufficient protections are afforded within the total project design and proposed operational scheme.

For subsurface applications of RW to a drinking water aquifer, DDW requires that the RW have low level total organic carbon (TOC). For a GRRP that utilizes FAT, 100% injection with no dilution may be permitted as long as the TOC is maintained at or below 0.5 mg/L. Operative RO membranes are readily able to achieve this low level TOC.

Pathogen controls include specific provisions for log reduction of microorganisms and treatment process requirements. The treatment process used to treat recharge water for a GRRP must provide treatment that achieves at least 12-log enteric virus reduction, 10-log Giardia cyst reduction, and 10-log Cryptosporidium oocyst reduction from raw sewage to usable groundwater. The treatment train shall

consist of at least three separate treatment processes. For each pathogen (i.e., virus, Giardia cyst, or Cryptosporidium oocyst), a separate treatment process may be credited with no more than 6-log reduction, with at least three processes each being credited with no less than 1.0-log reduction. When properly coupled, the individual treatment processes (MF/UF, RO, AOP, etc.) for groundwater recharge protect public health. Conservative estimates for pathogen log removal through each treatment process is required because current analytical techniques cannot detect pathogens at the extremely low levels needed to protect public health. The log removal credits through each treatment processes are summed for a confident prediction of the total log removal and prediction of final effluent quality. Table F-4 illustrates the typical breakdown of how the necessary log removal credits are obtained in a "conventional" FAT plant for a GRRP.

Table F-4. Typical Log Reduction Credits in a FAT Plant for a GRRP[1]

Process	6-Month Underground Retention Time			2-Month Underground Retention Time[2]		
	Virus	Giardia	Cryptosporidium	Virus	Giardia	Cryptosporidium
Primary/ Secondary Treatment	0	0	0	1	2	2
MF/UF	0	2	4	2[3]	2	4
RO	0	0	0	1	1	1
UV/AOP	6	6	6	6	6	6
GW Retention Time[4]	6	6	6	2	2	2
Totals	**12**	**14**	**16**	**12**	**13**	**15**
DDW Requirements	**12**	**10**	**10**	**12**	**10**	**10**

Notes:

1. Bradshaw, Greg. "IPR Case Studies and Issues for DPR". 2013. Presentation.
2. Credits given for a 2-month retention time that are not included in a 6-month retention time are conservative estimates based on literature research. There is likely pathogen removal during each of these steps for the 6-month retention time, but they are not counted for the most conservative estimate.
3. Removal is a result of using chlorine as a biocide.
4. For each month underground, 1 log removal is allowed per pathogen.

The Groundwater Recharge Regulations require a minimum "response retention time" or minimum groundwater travel time of two months between the point of surface application or injection, and the point of extraction. Groundwater travel time can be estimated by various methods, including intrinsic

tracer studies, numerical modeling, or analytical modeling. Depending on the method used, the "response time credit" is discounted by different factors. The more rigorous the estimating approach, the more advantageous the discounting factor. Table F-5 presents the response time credit for each of the retention time estimates from the most to least rigorous estimating approach.

Table F-5. Response Time Credit for Various Retention Time Methods

Method used to Estimate the Retention Time	Response Time Credit per Month
Tracer Study Utilizing Added Tracer	1.0 month
Tracer Study Utilizing Intrinsic Tracer	0.67 month
3-D Numerical Model	0.5 month
Academically Accepted equations, such as Darcy's Law	0.25 month

Depending on the general accuracy of estimating approach, the response time credit is used to discount the estimate. For example, if Darcy's Law was used to estimate that the underground retention time for a GRRP is 8 months, the 0.25 month response time credit must be applied, and the response retention time that can be credited to the GRRP is only 2 months.

Recycled Water Policy

The SWRCB adopted the Recycled Water Policy (RW Policy) in February 2009, and subsequently amended it in January 2013. The purpose of the policy was to provide the RWQCBs, RW project proponents, and the public the appropriate criteria to be used in issuing permits for RW projects. The RW Policy established more uniform requirements throughout the State and streamlined the permitting process for the vast majority of RW projects. Key components of the RW Policy are summarized in Table F-6.

Table F-6. Key Components of the RW Policy

Component	Description
Recycled Water Targets	200,000 AFY by 2020 300,000 AFY by 2030
Permitting Process	RW irrigation projects permitted within 120 days (except for unusual requirements) without groundwater monitoring component.
Salt and Nutrient Management Plans	Required for all groundwater basins. Includes identification of salt and nutrient sources, assimilative capacity evaluation, load estimates, fate and transport analysis and implementation measures. Includes antidegradation analysis for RW projects.
Landscape Irrigation Project Requirements	Requirements related to controlling water runoff, salt, and soil nutrients. Provisions for streamlined permitting for projects that meet specific criteria related to application rates, oversight, and controls.
RWQCB Groundwater Requirements	Allows RWQCB to impose more stringent requirements for groundwater recharge projects to address site specific conditions.
Anti-degradation Analysis	Requirements for anti-degradation analysis for groundwater recharge and landscape irrigation projects based on the amount of assimilative capacity use by the project.
CEC Monitoring	Requirements for Constituent of Emerging Concern (CEC) monitoring for groundwater recharge projects.

Salt and Nutrient Management Plan

One of the key components of the SWRCB's RW Policy is the requirement for a Salt and Nutrient Management Plan (SNMP). The RW Policy states that SNMPs should be developed to facilitate basin-wide or watershed-wide management of salts and nutrients from all sources in a manner that optimizes RW use while ensuring protection of groundwater supply and beneficial uses, agricultural beneficial uses, and human health. Each SNMP should be tailored to address the water quality concerns in each basin/sub-basin and should include collaboration from local water agencies, wastewater agencies, and contributing stakeholders. The SNMP includes the following tasks:

- Identify the SNMP work group and develop the SNMP work plan.
- Establish and manage a stakeholder process.

- Develop salt/nutrient management goals and objectives.
- Characterize groundwater basin geology, hydrology, and hydrogeology.
- Summarize existing groundwater and surface water monitoring programs and water quality.
- Develop salt and nutrient source identification.
- Estimate assimilative capacity and loading estimates for each sub-basin.
- Characterize the fate and transport of salts/nutrients
- Develop implementations measures to manage salt/nutrient loading.

Currently, an SNMP does not exist for the SMGB; however, the NCMA Strategic Plan identifies development of an SNMP as a key strategic initiative and NCMA agencies have begun to appropriate funds for preparation of an SNMP. It is anticipated a SNMP would be developed in conjunction with the permitting process for the RGSP, and be incorporated into the project implementation plan.

The SNMP will consider Basin Plan water quality objectives, existing groundwater quality data and the assimilative capacity of the basin. The findings of the SNMP are anticipated to aid in establishing the minimum treatment requirements for RW irrigation projects. A GRRP can typically move forward without the need for a SNMP because it will use potable water standards, and with the addition of FAT salts, CECs, and the nutrient content of the recharge water will be extremely low, thus protecting the groundwater basin. A GRRP may even be identified as a mitigation measure in a SNMP developed for RW irrigation projects.

General Order for Recycled Water Use

The SWRCB adopted a General Order on June 3, 2014 to streamline permitting for RW. The General Order took effect immediately following adoption. This General Order was developed in response to the Governor's Jan. 17, 2014 proclamation of a Drought State of Emergency.

The General Order establishes standard conditions for the use of RW and is intended to relieve producers, distributors and users of RW from the sometimes lengthy permit approval process and provide them with certainty around the requirements that they will be expected to meet. To obtain coverage under the Order, applicants must submit a Notice of Intent and an application fee to the appropriate RWQCB.

Coverage under this General Order is limited to treated municipal wastewater for non-potable uses. It does not apply to the use of RW for groundwater recharge, or the disposal of treated wastewater by means of percolation ponds. Specifically, the General Order allows the use of tertiary disinfected, secondary disinfected and, in some cases, secondary undisinfected recycled municipal wastewater for Title 22 approved non-potable uses such as agricultural irrigation, landscape irrigation, dust control and cooling tower make-up water. RW use for irrigation is limited to agronomic application rates; therefore, the amount of RW that could potentially reach groundwater will be limited. All uses of RW allowed by the General Order must be consistent with SNMPs.

The SWRCB recently adopted Water Reclamation Requirements for Recycled Water Use (Order WQ 2016-0068-DWQ) on June 7, 2016 that supplements the General Order. It further encourages recycled water projects by streamlining permitting and delegates responsibility to an administrator. It also authorizes the use of recycled water by producers, distributors, and users that complies with Title 22, with the exception

of IPR and DPR. For consistency across California, the RWQCBs are required to terminate other regulation of non-potable uses of recycled water and adopt this General Order by June, 2019.

Basin Plan Objectives

The Water Quality Control Plan for the Central Coast Basin (2016) (Basin Plan) identifies the beneficial uses for surface waters and groundwater and the water quality objectives established to protect those uses. The District service area is located within the very northern boundary of the Santa Maria Valley Groundwater Basin (SMGB) in the Lower Nipomo Mesa Subarea as shown in Figure F-1. This groundwater basin underlies the Santa Maria Valley in the coastal portion of northern Santa Barbara and southern San Luis Obispo Counties. The basin also underlies Nipomo and Tri-Cities Mesas, Arroyo Grande Plain, and the Nipomo, Arroyo Grande and Pismo Creek Valleys (1).

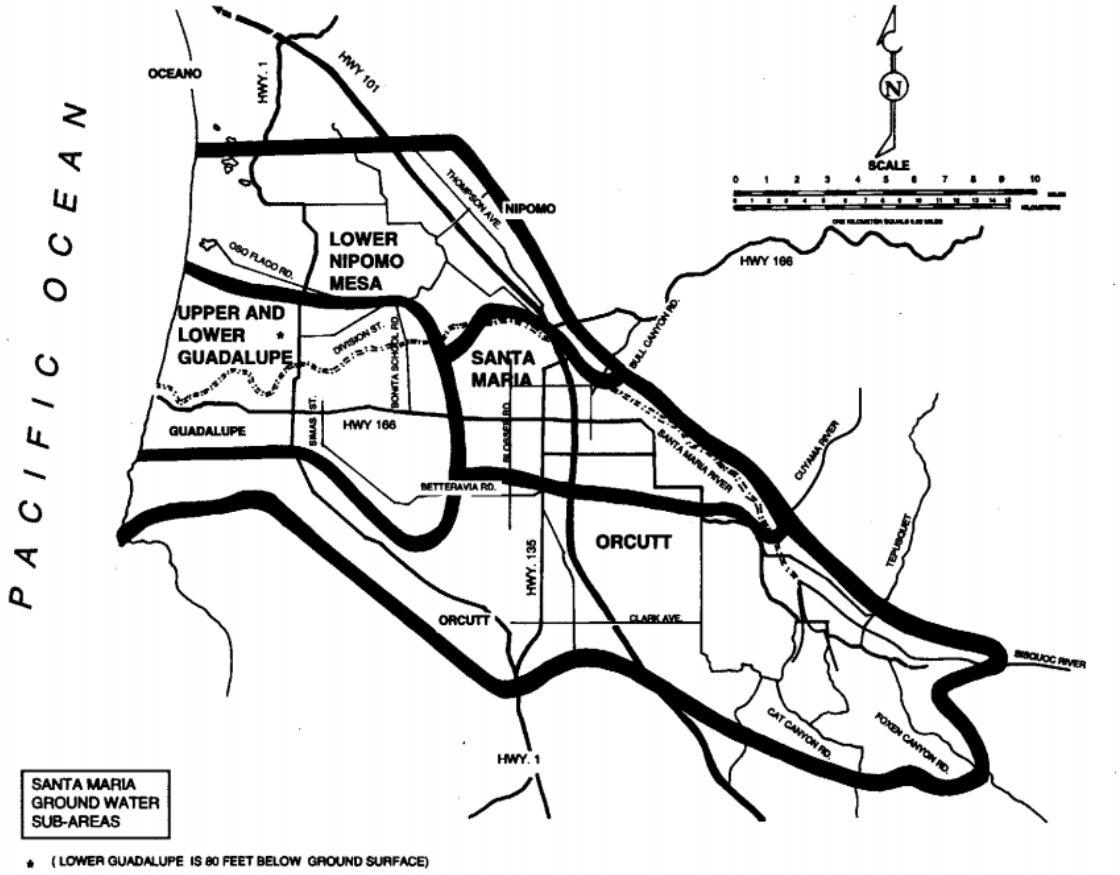


Figure F-1. Santa Maria Groundwater Subareas (2)

The Basin Plan has general narrative objectives for taste and odor that apply to all groundwater. The plan also imposes criteria for bacteria and DDW primary and secondary maximum contaminant levels (MCLs) that apply to groundwaters designated as municipal drinking water supplies; narrative groundwater objectives to protect agricultural beneficial uses and soil productivity; and sub-basin specific numeric objectives for total dissolved solids (TDS), chloride, sulfate, boron, sodium, and nitrogen. The numeric objectives for the Lower Nipomo Mesa are presented in Table F-7.

Table F-7. Groundwater Quality Objectives for the Lower Nipomo Mesa

Parameter	Objective
Total Dissolved Solids	710 mg/L
Chloride	95 mg/L
Sulfate	250 mg/L
Boron	0.15 mg/L
Sodium	90 mg/L
Nitrogen	5.7 mg/L as N [1]
Notes: **1.** The basin exceeds useable mineral quality. (Footnote provided in the Basin Plan)	

Anti-Degradation Policy

The SWRCB's RW Policy addresses implementation of the Anti-Degradation Policy (Policy), as it relates to RW projects (see Section 0. In general, the Anti-Degradation Policy requires protection of groundwaters and surface waters having quality that is better than that established in effective policies. The Policy states that high quality waters shall be maintained unless any change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses and will not result in water quality less than that prescribed in the policies.

The RW Policy requires an antidegradation study be conducted and submitted to the RWQCB prior to the implementation of a GRRP that demonstrates the input of RW will not negatively impact the groundwater basin. This study can also be included with the IPR permitting processing. Because a GRRP requires FAT, the resulting treated recharge water will have extremely low salts, nutrients, and other contaminants. A post-treatment program will add essential minerals to stabilize the RW before injection, and the groundwater quality may improve due to the high quality of the injected water.

CEC Monitoring

The SWRCB's RW Policy was amended by the SWRCB to establish monitoring requirements for CECs in recycled water used for groundwater recharge. Specific CECs required to be monitored by the RW Policy are outlined in Table F-8. These required CECs shall be monitored over a three phase process: an initial assessment phase conducted over a one-year period, a baseline monitoring phase conducted over a three year period, and a standard operation monitoring phase that will continue on an annual or semi-annual basis. The RWQCB cannot require additional CEC monitoring in recycled water beyond what is required in the RW Policy unless recommended by the DDW.

Table F-8. CECs to be Monitored under the Recycled Water Policy

Constituent	Constituent Group	Relevance/ Indicator Type	Reporting Limit[1] (µg/L)
17β-estradiol	Steroid Hormones	Health	0.001
Caffeine	Stimulant	Health & Performance	0.05
NDMA	Disinfection Byproduct	Health & Performance	0.002
Triclosan	Antimicrobial	Health	0.05
DEET	Personal Care Product	Performance	0.05
Sucralose	Food Additive	Performance	0.1
1. Limits included in the State Water Board Resolution 2013-003, Table 1-CECs to be Monitored			

RECYCLED WATER QUALITY OBJECTIVES

Specific uses of RW as well as the Basin Plan objectives can define water quality requirements. Water quality requirements may be established based on the specific use of RW or based on the objectives established in the Basin Plan to be protective of the groundwater.

Water Quality Targets – Basin Plan

The Basin Plan stipulates that discharges to groundwater (including groundwater recharge projects) cannot cause or contribute to an exceedance of the water quality objectives. As discussed previously, the high quality RW from a GRRP may actually improve the groundwater quality. Based on a review of FAT process performance at other advanced Water Treatment Plants, we anticipate the RW will be of higher quality than the Lower Nipomo Mesa basin groundwater quality objectives shown in Table F-7.

1.1.1 Water Quality Targets- Agricultural Irrigation

Water quality guidelines for general agricultural irrigation are based on practical limits for different types of irrigation approaches and the tolerance of various plants for specific constituents found in irrigation water. The Central Coast Basin plan includes guidelines for irrigation water that includes a range of constituents, ranging from the acceptable to severe level of each constituent in the irrigation water, and what problem may arise if the constituent is too high. This guideline, provided in Table F-9, can be used for general irrigation, but should be adjusted if used with more sensitive crops. The Central Coast Basin Plan also includes agricultural water quality objectives provided in Table F-10. Since the District is excepted to pursue FAT for their advanced treatment plant, the RW should meet all these water quality objectives and will be of good quality for agricultural irrigation.

Table F-9. Guidelines for Interpretation of Quality of Water for Irrigation from the Central Coast Basin Plan (3)

Guidelines for Interpretation of Quality of Water for Irrigation[1]			
	Water Quality Guidelines		
Problem and Related Constituent	No Problem	Increasing Problems	Severe
Salinity[2]			
EC of irrigation water, mmho/cm	<0.75	0.75-3.0	>3.0
Permeability			
EC of irrigation water, mmho/cm	>0.5	<0.5	<0.2
SAR, adjusted[3]	<6.0	6.0-9.0	>9.0
Specific ion toxicity from root absorption[4]			
Sodium (evaluate by adjusted SAR)	<3	3.0-9.0	>9.0
Chloride			
me/l	<4	4.0-10	>10
mg/l	<142	142-355	>355
Boron, mg/l	<0.5	0.5-2.0	2.0-10.0
Specific ion toxicity from foliar absorption[5] (sprinklers)			
Sodium			
me/l	<3.0	>3.0	--
mg/l	<69	>69	--
Chloride			
me/l	<3.0	>3.0	--
mg/l	<106	>106	--
Miscellaneous[6]			
NH4 - N, mg/l for sensitive crops	<5	5-30	>30
NO3 - N, mg/l for sensitive crops	<5	5-30	>30
HCO3 (only with overhead sprinklers)			
me/l	<1.5	1.5-8.5	>8.5
mg/l	<90	90-520	>520
pH	Normal Range	6.5-8.4	--

[1] Interpretations are based on possible effects of constituents on crops and/or soils. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

[2] Assumes water for crop plus needed water for leaching requirement (LR) will be applied. Crops vary in tolerance to salinity. Refer to tables for crop tolerance and LR. The mmho/cm x 640 = approximate total dissolved solids (TDS) in mg/l or ppm; mmho x 1,000 = micromhos.

[3] Adjusted SAR (sodium adsorption ratio) is calculated from a modified equation developed by U.S. Salinity Laboratory to include added effects of precipitation and dissolution of calcium in soils and related to CO3 + HCO3 concentrations. To evaluate sodium (permeability) hazard: Adjusted SAR = Na/[1/2 (Ca + Mg)] 1/2[1+ (8.4 - pHc)]. Refer to Appendix for calculation assistance.
SAR can be reduced if necessary by adding gypsum. Amount of gypsum required (GR) to reduce a hazardous SAR to any desired SAR (SAR desired) can be calculated as follows:

$$GR = \left[\frac{2(Na)^2}{SAR^2 desired} - (Ca + Mg\right] 234$$

Note: Na and Ca + Mg should be in me/L. GR will be in lbs. of 100 percent gypsum per acre foot of applied water.

[4] Most tree crops and woody ornamentals are sensitive to sodium and chloride (use values shown). Most annual crops are not sensitive (use salinity tolerance tables). For boron sensitivity, refer to boron tolerance tables.

[5] Leaf areas wet by sprinklers (rotating heads) may show a leaf burn due to sodium or chloride absorption under low humidity/high evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads.)

[6] Excess N may affect production or quality of certain crops; e.g., sugar beets, citrus, avocados, apricots, etc. (1 mg/l NO3 - N = 2.72 lbs. N/acre foot of applied water.) HCO3 with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.

Table F-10. Agricultural Water Quality Objectives from the Central Coast Basin Plan (3)

Parameter	Maximum Concentration[1]
Aluminum (mg/L)	5.0
Arsenic (mg/L)	0.1
Beryllium (mg/L)	0.1
Boron (mg/L)	0.75
Cadmium (mg/L)	0.01
Chromium (mg/L)	0.10
Cobalt (mg/L)	0.05
Copper (mg/L)	0.2
Fluoride (mg/L)	1.0
Iron (mg/L)	5.0
Lead (mg/L)	5.0
Lithium (mg/L)	2.5[2]
Manganese (mg/L)	0.2
Molybdenum (mg/L)	0.01
Nickel (mg/L)	0.2
Selenium (mg/L)	0.02
Vanadium (mg/L)	0.1
Zinc (mg/L)	2.0

[1] Values based primarily on "Water Quality Criteria 1972" National Academy of Sciences-National Academy of Engineers, Environmental Study Board, ad hoc Committee on Water Quality Criteria furnished as recommended guidelines by University of California Agriculture Extension Service, January 7, 1974; maximum values are to be considered as 90 percentile values not to be exceeded. Values provided will normally not adversely affect plants or soils; no data available for mercury, silver, tin, titanium, and tungsten.

[2] Recommended maximum concentration for irrigation citrus is 0.075 mg/l.

There are operational techniques associated with RW for agricultural irrigation that can improve and sustain a specific use. The successful long-term use of irrigation water depends on rainfall, leaching, soil drainage, irrigation water management, salt tolerance of plants, soil management practices, as well as water quality. Since salinity problems may eventually develop from the use of any water, the following guidelines are given, should they be needed, to assist water users to better manage salinity:

- Irrigate more frequently to maintain an adequate soil water moisture.
- Select plants that are tolerant of an existing or potential salinity level.
- Routinely use extra water to satisfy the leaching requirements and to drive salts below the root zone.

- If possible, direct the spray pattern of sprinklers away from foliage. To reduce foliar absorption, try not to water during periods of high temperature and low humidity or during windy periods. Change time of irrigation to early morning, late afternoon, or night.
- Maintain good downward water percolation by using deep tillage or artificial drainage to prevent the development of a perched water table.
- Salinity may be easier to control under sprinkler and drip irrigation than under surface irrigation. However, sprinkler and drip irrigation may not be adapted to all qualities of water and all conditions of soil, climate, or plants.

OPERATIONAL AND ON-SITE REQUIREMENTS – AGRICULTURAL IRRIGATION

If an irrigation project is implemented, permit prohibitions and operational requirements will be directly from Title 22 and will be included in the District's RW permit. In addition, for RW irrigation use, the District will need to establish a "recycled water ordinance" and "rules and regulations for recycled water". Additional operational and site requirements for RW irrigation use may also be included in these documents.

Incidental Runoff

The SWRCB's RW Policy defines incidental runoff as unintended small amounts of runoff from RW use areas, such as unintended, minimal over-spray from sprinklers that escapes the RW use area. Water leaving a RW use area is not considered incidental if it is part of the following:

- Facility Design.
- Excessive Application
- Intentional Overflow or Application
- Negligence

Incidental runoff may be regulated by waste discharge requirements, or when necessary, through an NPDES permit. Regardless of the regulatory instrument, any RW project shall include the following practices:

- Implementation of an operations and management plan that provides for detection of leaks, and correction within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever occurs first;
- Proper design and aim of sprinkler heads;
- Refraining from application during precipitation events; and
- Management of any ponds containing RW such that no discharge occurs unless discharge is a result of a 25-year, 24-hour storm event or greater, and there is notification of the appropriate RWQCB Executive Officer of the discharge.

Title 22 Use Area Requirements

Title 22 includes two main requirements that will need to be considered during the design phase. Per Title 22, no irrigation with disinfected tertiary RW shall take place within 50 feet of any domestic water supply well unless the well meets certain criteria including:

- An annular seal;
- Well housing to prevent RW spray from contacting the wellhead; and
- The District approves of the elimination of the buffer zone.

Also per Title 22, no impoundment of disinfected tertiary RW shall occur within 100 feet of any domestic water supply well.

Recycled Water Ordinance

The purpose of a RW ordinance is to establish a water recycling policy and criteria for its use within the sphere of influence (SOI). In general, a RW ordinance will accomplish the following:

- Establish Administrative Authority
- Establish approved uses of RW
- Define areas of potential eligibility for RW service
- Specify mandatory and voluntary uses of RW, depending on user classifications
- Require installation of transmission and distribution infrastructure
- Provide enforcement and severability clauses

Recycled Water Rules and Regulations

The Recycled Water Rules and Regulations will govern the design, construction, and use of both the distribution system, to be operated by the District, and on-site RW systems to be operated by the users. In general, the Rules and Regulations document will include the following elements:

- Responsibilities for the District and Users
- Requirements for the design, installation, and inspection of the distribution systems and on-site RW systems
- Application procedures and the District approval process
- Operation, Maintenance, and Management responsibilities for Users and the City
- Cross connection control test procedures
- Employee training requirements
- Prohibitions and Enforcement

APPENDIX G. COST MODEL

Alternative Information	Phase 1						Phase 2						Phase 1						Phase 2					
Alternative Information	**Offsite B - GWR**						**Offsite B - GWR**						**Offsite B - Hybrid**						**Offsite B - Hybrid**					
Average Annual Flow																								
ATP Capacity		1.05	MGD					4.12	MGD					1.05	MGD					4.12	MGD			
ATP Effluent		0.80	MGD					3.15	MGD					0.80	MGD					3.15	MGD			
Capital Cost Estimates																								
		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost
Treatment																								
Advanced Adder		1.40	MGD			$ 7,300,000		4.20	MGD			$ 15,000,000		1.40	MGD			$ 7,300,000		4.20	MGD			$ 15,000,000
Secondary Effluent Conveyance																								
2° Effluent Pipeline to ATP		16	in	5,229	LF	$ 1,650,000		16	in	5,229	LF	$ 1,650,000		16	in	5,229	LF	$ 1,650,000		16	in	5,229	LF	$ 1,650,000
2° Effluent PS		972	gpm			$ 600,000		2917	gpm			$ 1,400,000		972	gpm			$ 600,000		2917	gpm			$ 1,400,000
Subtotal						*$ 2,250,000*						*$ 3,050,000*						*$ 2,250,000*						*$ 3,050,000*
Conveyance to Outfall																								
Outfall Pipeline		8	in	5,229	LF	$ 650,000		8	in	5,229	LF	$ 650,000		8	in	5,229	LF	$ 650,000		8	in	5,229	LF	$ 650,000
Effluent/Brine PS		228	gpm			$ 200,000		685	gpm			$ 400,000		228	gpm			$ 200,000		685	gpm			$ 400,000
Subtotal						*$ 850,000*						*$ 1,050,000*						*$ 850,000*						*$ 1,050,000*
Recycled Water Infrastructure																								
GW Recharge Pump Station		744	gpm			$ 500,000		2231	gpm			$ 1,200,000		744	gpm			$ 500,000		2231	gpm			$ 1,200,000
Irr Pump Station														2160	gpm			$ 1,100,000		4821	gpm			$ 2,200,000
RW Pipelines	**RW Pipelines**						**RW Pipelines**						**RW Pipelines**						**RW Pipelines**					
	A0	10	in	430	LF	$ 61,000	B0	10	in	430	LF	$ 61,000	B0	10	in	430	LF	$ 61,000	B0	10	in	430	LF	$ 61,000
	A1	12	in	2,312	LF	$ 502,000	B1	12	in	2,312	LF	$ 502,000	B1	12	in	2,312	LF	$ 502,000	B1	12	in	2,312	LF	$ 502,000
	A2						B2	6	in	4,541	LF	$ 509,000	B2						B2	6	in	4,541	LF	$ 509,000
	A3						B3	6	in	4,968	LF	$ 556,000	B3						B3	6	in	4,968	LF	$ 556,000
	A4						B4	6	in	5,545	LF	$ 621,000	B4						B4	6	in	5,545	LF	$ 621,000
	A5	6	in	799	LF	$ 89,000	B5	6	in	799	LF	$ 89,000	B5	6	in	799	LF	$ 89,000	B5	6	in	799	LF	$ 89,000
	A6	6	in	498	LF	$ 56,000	B6	6	in	498	LF	$ 56,000	B6	6	in	498	LF	$ 56,000	B6	6	in	498	LF	$ 56,000
	A7	8	in	252	LF	$ 32,000	B7	8	in	252	LF	$ 32,000	B7	8	in	252	LF	$ 32,000	B7	8	in	252	LF	$ 32,000
	A8						B8	10	in	2,599	LF	$ 369,000	B8						B8	10	in	2,599	LF	$ 369,000
	A9	6	in	857	LF	$ 96,000	B9	6	in	857	LF	$ 96,000	B9	6	in	857	LF	$ 96,000	B9	6	in	857	LF	$ 96,000
	A10	12	in	1,077	LF	$ 234,000	B10	12	in	1,077	LF	$ 234,000	B10	12	in	1,077	LF	$ 234,000	B10	12	in	1,077	LF	$ 234,000
	A11						B11	8	in	2,267	LF	$ 283,000	B11						B11	8	in	2,267	LF	$ 283,000
	A12						B12	6	in	99	LF	$ 11,000	B12						B12	6	in	99	LF	$ 11,000
	A13						B13	6	in	2,366	LF	$ 265,000	B13						B13	6	in	2,366	LF	$ 265,000
	A14	6	in	3,072	LF	$ 344,000	B14	6	in	3,072	LF	$ 344,000	B14	6	in	3,072	LF	$ 344,000	B14	6	in	3,072	LF	$ 344,000
	A15						B15	6	in	4,544	LF	$ 509,000	B15						B15	6	in	4,544	LF	$ 509,000
													Irr0	18	in	10,653	LF	$ 3,942,000	Irr0	18	in	10,653	LF	$ 3,942,000
													Irr1	8	in	2,674	LF	$ 334,000	Irr1	8	in	2,674	LF	$ 334,000
													Irr2						Irr2	12	in	7,183	LF	$ 1,559,000
													Irr3	10	in	3,512	LF	$ 499,000	Irr3	10	in	3,512	LF	$ 499,000
Pipeline Totals				19,755	LF					46,684	LF					36,594	LF					70,706	LF	
Customer Conversion														qty	19	$ 54,000	ea	$ 1,026,000		qty	61	$ 54,000	ea	$ 3,294,000
Injection Wells																								
FI1,FI2,FI3,FI4,FI5		4	qty	$ 680,000	ea	$ 2,700,000		11	qty	$ 680,000	ea	$ 7,500,000		4	qty	$ 680,000	ea	$ 2,700,000		11	qty	$ 680,000	ea	$ 7,500,000
Storage																								
RW Storage		0.26	MG			$ 1,600,000		1.03	MG			$ 6,200,000		1.05	MG			$ 1,600,000		4.12	MG			$ 6,200,000
Land Acquisition																								
Acres		2.00	AC			$ 400,000		2.00	AC			$ 400,000		2.00	AC			$ 400,000		2.00	AC			$ 400,000
Auxiliary Facilities																								
Admin and Maintenance Spaces		3,155	ft^2			$ 689,000		3,155	ft^2			$ 689,000		3,155	ft^2			$ 689,000		3,155	ft^2			$ 689,000
Subtotal						*$ 7,303,000*						*$ 20,526,000*						*$ 14,204,000*						*$ 32,354,000*
Construction Subtotal						**$ 17,700,000**						**$ 39,600,000**						**$ 24,600,000**						**$ 51,500,000**
Contingency						$ 3,540,000						$ 7,920,000						$ 4,920,000						$ 10,300,000
Unaccounted for Costs						$ -						$ -						$ -						$ -
Implementation Costs						$ 8,496,000						$ 19,008,000						$ 11,808,000						$ 24,720,000
Total Capital Cost						**$ 29,700,000**						**$ 66,500,000**						**$ 41,300,000**						**$ 86,500,000**

	Phase 1						Phase 2						Phase 1						Phase 2					
	Offsite B - GWR						Offsite B - GWR						Offsite B - Hybrid						Offsite B - Hybrid					
O&M Cost Estimates																								
		Capacity/Size		Length				Capacity/Size		Length				Capacity/Size		Length				Capacity/Size		Length		
Treatment																								
Advanced Adder/MF		1.05	MGD			$ 700,000		4.12	MGD			$ 2,900,000		1.05	MGD			$ 500,000		4.12	MGD			$ 2,200,000
Conveyance to Offsite ATP																								
2o Effluent Pipeline to ATP		16	in	5,229	LF	$ 16,500		16	in	5,229	LF	$ 16,500		16	in	5,229	LF	$ 16,500		16	in	5,229	LF	$ 16,500
Influent PS Maintenance		972	gpm			$ 30,000		2917	gpm			$ 70,000		972	gpm			$ 30,000		2917	gpm			$ 70,000
Influent PS Power						$ 10,000						$ 30,100						$ 10,000						$ 30,100
Conveyance to Outfall																								
Outfall Pipeline		8	in	5,229	LF	$ 6,500		8	in	5,229	LF	$ 6,500		8	in	5,229	LF	$ 6,500		8	in	5,229	LF	$ 6,500
Effluent/Brine PS Maintenance		228	gpm			$ 10,000		685	gpm			$ 20,000		228	gpm			$ 10,000		685	gpm			$ 20,000
Effluent/Brine PS Power						$ 2,200						$ 6,500						$ 2,200						$ 6,500
GW Recharge Conveyance Infrastructure																								
RW PS Maintenance		744	gpm			$ 25,000		2231	gpm			$ 60,000		744	gpm			$ 25,000		2231	gpm			$ 60,000
RW PS Power						$ 34,000						$ 102,100						$ 18,400						$ 67,200
Irrigation Conveyance Infrastructure																								
Irr PS Maintenance														2160	gpm			$ 55,000		4821	gpm			$ 110,000
Irr PS Power																		$ 1,200						$ 1,200
RW Distribution Pipelines																								
		19755	LF			$ 14,140		46684	LF			$ 45,370		36594	LF			$ 61,890		70706	LF			$ 108,710
Injection Wells																								
						$ 40,000						$ 110,000						$ 40,000						$ 110,000
Storage																								
RW Storage						$ 16,000						$ 62,000						$ 16,000						$ 62,000
FTE		0.5	qty			$ 62,500		0.5	qty			$ 62,500		0.5	qty			$ 62,500		0.5	qty			$ 62,500
Total O&M Cost						**$ 970,000**						**$ 3,490,000**						**$ 860,000**						**$ 2,930,000**
Annual Cost Method																								
Annual Capital Payment						$ 1,930,000						$ 4,330,000						$ 2,690,000						$ 5,630,000
Annual O&M						$ 970,000						$ 3,490,000						$ 860,000						$ 2,930,000
Total Annual Cost						$ 2,900,000						$ 7,820,000						$ 3,550,000						$ 8,560,000
Annual Yield (AFY) - Before Injection						**900**						**3,530**						**943**						**3,658**
Unit Cost ($/AF) - Before Injection						**$ 3,200**						**$ 2,200**						**$ 3,800**						**$ 2,300**
Annual Yield (AFY) - After Injection						**657**						**2,577**						**812**						**3,031**
Unit Cost ($/AF) - After Injection						**$ 4,400**						**$ 3,000**						**$ 4,400**						**$ 2,800**

Alternative Information	Phase 1						Phase 2						Phase 1						Phase 2					
Alternative Information	**Onsite A - GWR**						**Onsite A - GWR**						**Onsite A - Hybrid**						**Onsite A - Hybrid**					
Average Annual Flow																								
ATP Capacity		1.05	MGD					4.12	MGD					1.05	MGD					4.12	MGD			
ATP Effluent		0.80	MGD					3.15	MGD					0.80	MGD					3.15	MGD			
Capital Cost Estimates																								
		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost		Capacity/Size		Length		Cost
Treatment																								
Advanced Adder		1.40	MGD			$ 7,300,000		4.20	MGD			$ 15,000,000		1.40	MGD			$ 7,300,000		4.20	MGD			$ 15,000,000
Secondary Effluent Conveyance																								
2° Effluent Pipeline to ATP			in		LF				in		LF				in		LF				in		LF	
2° Effluent PS			gpm						gpm						gpm						gpm			
Subtotal																								
Conveyance to Outfall																								
Outfall Pipeline			in		LF				in		LF				in		LF				in		LF	
Effluent/Brine PS			gpm						gpm						gpm						gpm			
Subtotal																								
Recycled Water Infrastructure																								
GW Recharge Pump Station		744	gpm			$ 500,000		2231	gpm			$ 1,200,000		744	gpm			$ 500,000		2231	gpm			$ 1,200,000
Irr Pump Station														2160	gpm			$ 1,100,000		4821	gpm			$ 2,200,000
RW Pipelines	**RW Pipelines**						**RW Pipelines**						**RW Pipelines**						**RW Pipelines**					
	C0	12	in	2,556	LF	$ 555,000	C0	12	in	2,556	LF	$ 555,000	D0	12	in	2,556	LF	$ 555,000	D0	12	in	2,556	LF	$ 555,000
	C1	16	in	513	LF	$ 162,000	C1	16	in	513	LF	$ 162,000	D1	16	in	513	LF	$ 162,000	D1	16	in	513	LF	$ 162,000
	C2						C2	6	in	4,804	LF	$ 538,000	D2						D2	6	in	4,804	LF	$ 538,000
	C3	16	in	3,976	LF	$ 1,256,000	C3	16	in	3,976	LF	$ 1,256,000	D3	16	in	3,976	LF	$ 1,256,000	D3	16	in	3,976	LF	$ 1,256,000
	C4						C4	6	in	5,539	LF	$ 620,000	D4						D4	6	in	5,539	LF	$ 620,000
	C5	6	in	799	LF	$ 89,000	C5	6	in	799	LF	$ 89,000	D5	6	in	799	LF	$ 89,000	D5	6	in	799	LF	$ 89,000
	C6	6	in	476	LF	$ 53,000	C6	6	in	476	LF	$ 53,000	D6	6	in	476	LF	$ 53,000	D6	6	in	476	LF	$ 53,000
	C7						C7	6	in	505	LF	$ 57,000	D7						D7	6	in	505	LF	$ 57,000
	C8						C8	10	in	2,616	LF	$ 371,000	D8						D8	10	in	2,616	LF	$ 371,000
	C9	6	in	880	LF	$ 99,000	C9	6	in	880	LF	$ 99,000	D9	6	in	880	LF	$ 99,000	D9	6	in	880	LF	$ 99,000
	C10	10	in	1,128	LF	$ 160,000	C10	10	in	1,128	LF	$ 160,000	D10	10	in	1,128	LF	$ 160,000	D10	10	in	1,128	LF	$ 160,000
	C11						C11	8	in	2,267	LF	$ 283,000	D11						D11	8	in	2,267	LF	$ 283,000
	C12						C12	6	in	99	LF	$ 11,000	D12						D12	6	in	99	LF	$ 11,000
	C13						C13	6	in	2,366	LF	$ 265,000	D13						D13	6	in	2,366	LF	$ 265,000
	C14	6	in	3,072	LF	$ 344,000	C14	6	in	3,072	LF	$ 344,000	D14	6	in	3,072	LF	$ 344,000	D14	6	in	3,072	LF	$ 344,000
	C15						C15	6	in	4,544	LF	$ 509,000	D15						D15	6	in	4,544	LF	$ 509,000
													Irr0	18	in	8,808	LF	$ 3,259,000	Irr0	18	in	8,808	LF	$ 3,259,000
													Irr1	8	in	2,674	LF	$ 334,000	Irr1	8	in	2,674	LF	$ 334,000
																			Irr2	12	in	7,183	LF	$ 1,559,000
													Irr3	10	in	3,512	LF	$ 499,000	Irr3	10	in	3,512	LF	$ 499,000
Pipeline Totals				13,400	LF					36,140	LF					28,394	LF					58,317	LF	
Customer Conversion														qty	19	$ 54,000	ea	$ 1,026,000		qty	61	$ 54,000	ea	$ 3,294,000
Injection Wells																								
FI1,FI2,FI3,FI4,FI5		4	qty	$ 680,000	ea	$ 2,700,000		11	qty	$ 680,000	ea	$ 7,500,000		4	qty	$ 680,000	ea	$ 2,700,000		11	qty	$ 680,000	ea	$ 7,500,000
Storage																								
RW Storage		0.26	MG			$ 1,600,000		1.03	MG			$ 6,200,000		1.05	MG			$ 1,600,000		4.12	MG			$ 6,200,000
Land Acquisition																								
Acres																								
Auxiliary Facilities																								
Admin and Maintenance Spaces																								
Subtotal						*$ 7,518,000*						*$ 20,272,000*						*$ 13,736,000*						*$ 31,417,000*
Construction Subtotal						**$ 14,800,000**						**$ 35,300,000**						**$ 21,000,000**						**$ 46,400,000**
Contingency						$ 2,960,000						$ 7,060,000						$ 4,200,000						$ 9,280,000
Unaccounted for Costs						$ -						$ -						$ -						$ -
Implementation Costs						$ 7,104,000						$ 16,944,000						$ 10,080,000						$ 22,272,000
Total Capital Cost						**$ 24,900,000**						**$ 59,300,000**						**$ 35,300,000**						**$ 78,000,000**

	Phase 1						Phase 2						Phase 1						Phase 2					
	Onsite A - GWR						Onsite A - GWR						Onsite A - Hybrid						Onsite A - Hybrid					
O&M Cost Estimates																								
		Capacity/Size		Length				Capacity/Size		Length				Capacity/Size		Length				Capacity/Size		Length		
Treatment																								
Advanced Adder/MF		1.05	MGD			$ 700,000		4.12	MGD			$ 2,900,000		1.05	MGD			$ 500,000		4.12	MGD			$ 2,000,000
Conveyance to Offsite ATP																								
2o Effluent Pipeline to ATP		0	in	0	LF	$ -		0	in	0	LF	$ -		0	in	0	LF	$ -		0	in	0	LF	$ -
Influent PS Maintenance		0	gpm			$ -		0	gpm			$ -		0	gpm			$ -		0	gpm			$ -
Influent PS Power						$ -						$ -						$ -						$ -
Conveyance to Outfall																								
Outfall Pipeline		0	in	0	LF	$ -		0	in	0	LF	$ -		0	in	0	LF	$ -		0	in	0	LF	$ -
Effluent/Brine PS Maintenance		0	gpm			$ -		0	gpm			$ -		0	gpm			$ -		0	gpm			$ -
Effluent/Brine PS Power						$ -						$ -						$ -						$ -
GW Recharge Conveyance Infrastructure																								
RW PS Maintenance		744	gpm			$ 25,000		2231	gpm			$ 60,000		744	gpm			$ 25,000		2231	gpm			$ 60,000
RW PS Power						$ 42,500						$ 127,600						$ 23,000						$ 84,000
Irrigation Conveyance Infrastructure																								
Irr PS Maintenance														2160	gpm			$ 55,000		4821	gpm			$ 110,000
Irr PS Power																		$ 9,800						$ 21,800
RW Distribution Pipelines																								
		13400	LF			$ 27,180		36140	LF			$ 53,720		28394	LF			$ 68,100		58317	LF			$ 110,230
Injection Wells																								
						$ 40,000						$ 110,000						$ 40,000						$ 110,000
Storage																								
RW Storage						$ 16,000						$ 62,000						$ 16,000						$ 62,000
FTE		0.5	qty			$ 62,500		0.5	qty			$ 62,500		0.5	qty			$ 62,500		0.5	qty			$ 62,500
Total O&M Cost						**$ 910,000**						**$ 3,380,000**						**$ 800,000**						**$ 2,620,000**
Annual Cost Method																								
Annual Capital Payment						$ 1,620,000						$ 3,860,000						$ 2,300,000						$ 5,070,000
Annual O&M						$ 910,000						$ 3,380,000						$ 800,000						$ 2,620,000
Total Annual Cost						$ 2,530,000						$ 7,240,000						$ 3,100,000						$ 7,690,000
Annual Yield (AFY) - Before Injection						**900**						**3,530**						**943**						**3,658**
Unit Cost ($/AF) - Before Injection						**$ 2,800**						**$ 2,100**						**$ 3,300**						**$ 2,100**
Annual Yield (AFY) - After Injection						**657**						**2,577**						**812**						**3,031**
Unit Cost ($/AF) - After Injection						**$ 3,900**						**$ 2,800**						**$ 3,800**						**$ 2,500**