STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

ORDER NO. R3-2014-0050

WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS

FOR THE

CAMBRIA COMMUNITY SERVICES DISTRICT
EMERGENCY WATER TREATMENT FACILITY
RECYCLED WATER RE-INJECTION PROJECT

ISSUED TO

Cambria Community Services District

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

I. BACKGROUND

1. The Cambria Community Services District (CCSD) provides water supply to residents in and around the unincorporated area of Cambria, San Luis Obispo County.

2. The CCSD's potable water is supplied solely from groundwater wells in the San Simeon Creek and Santa Rosa Creek aquifers. The San Simeon Creek and Santa Rosa Creek aquifers (coastal stream aquifers) are relatively shallow and highly porous, with the groundwater typically depleted during the dry season and recharged during the rainy season.

3. For water year 2013/2014, the total rainfall in the Cambria community was approximately 80 percent of the minimum rainfall needed to fully recharge the two coastal stream aquifers. This below-average rainfall follows two years of below-average rainfall (2012, 2013). This severe drought condition has placed the water supply for the Cambria community in immediate jeopardy.

4. The CCSD, in response to the ongoing severe drought emergency, owns and operates the Cambria Emergency Water Supply Project (emergency water supply facilities) at the District's existing San Simeon well field and effluent percolation ponds property. Figure 1 shows the location of the Emergency Water Supply Project.

5. The emergency water supply system treats impaired groundwater to recharge the San Simeon well field aquifer with treated water. The groundwater includes a blend of creek underflow, percolated wastewater treatment plant effluent, and a mix of the lower seawater wedge where it blends with freshwater.

6. The CCSD proposes to produce up to 700,000 gallons per day (gpd) of advanced treated reverse osmosis (RO) recycled water for injection into the shallow and porous aquifer to replenish the drinking water supply.

7. In addition to re-injection of 700,000 gpd of RO water, the CCSD proposes to supply 144,000 gpd of membrane filtrate (MF) product water to San Simeon Creek to prevent dewatering of the fresh water lagoon, 65,000 gpd of RO concentrate and cleaning solutions sent to a Title 27 impoundment (evaporation pond), and 90,000 gpd of MF backwash returned to the CCSD percolation ponds.

II. PURPOSE OF ORDER

8. This is a new facility, with multiple new orders to address the proposed discharges. This Order addresses the treatment of recycled water at the CCSD's effluent percolation pond site and injection of the treated water into the aquifer. Discharge to the wastewater treatment plant percolation pond will be permitted separately through WDR Order No. 01-100, discharge to the evaporation pond will be permitted separately through Title 27 Order No. R3-2014-0047, and discharge to San Simeon Creek will be permitted separately through an NPDES permit.

9. On August 22, 2014, the CCSD submitted a Report of Waste Discharge requesting new waste discharge requirements and water recycling requirements (WDRs/WRRs) to reflect a proposal to operate the Facility and inject recycled water into the San Simeon aquifer.

10. On September 10, 2014, the CCSD submitted an addendum to the Title 22 Engineering Report (Cambria Emergency Water Supply Title 22 Engineering Report) for operation of the Facility to the Regional Water Board and the State Water Resources Control Board Division of Drinking Water (DDW). The CCSD later revised the Engineering Report in response to comments received from DDW and Regional Water Board staff. The CCSD submitted the final version on September 8, 2014, for review by DDW and the Regional Water Board. The amended Engineering Report was approved by DDW on September 9, 2014.

    On July 14, 2014, DDW held a public hearing in Cambria to consider the planned Facility and conditions to be imposed on the Project to ensure protection of public health and ensure that the Project will not degrade groundwater quality as a source of domestic water supply. DDW submitted a letter to the Regional Water Board with conditions for the Project adopted by DDW on September 9, 2014. The DDW found that the Project will not degrade the quality of the water in the receiving aquifers as a source of domestic water supply provided all of the conditions are met.

11. The DDW conditions are incorporated into the provisions of this Order.

III. CCSD EMERGENCY WATER SUPPLY PROJECT

12. The Cambria Community Service District (hereafter "Discharger") owns and operates

the Emergency Water Supply Project located 990 San Simeon-Monterey Creek Road, north of Cambria in San Luis Obispo County, Figure 1. The facility is adjacent to both San Simeon and Van Gordon Creeks.

13. The primary Emergency Water Supply Project components are:

    1. Source water extraction of up to 1,000,000 gallons per day from well 9P7 (Figures 2 and 3). Water in well 9P7 consists of secondary treated wastewater discharge to percolation ponds, creek underflow, and deep basin brackish water.
    2. Advanced Water Treatment Plant (AWTP)
        - Membrane Filtration (MF)
        - Reverse Osmosis (RO)
        - Advanced Oxidation Process (AOP)
    3. Aquifer recharge by injection of recycled water.
    4. Fresh water lagoon protection discharge.
    5. Discharge of RO water to a Title 27 impoundment.
    6. Discharge of MF backwash water to CCSD percolation ponds.

    Figure 4 shows a conceptual figure of the product water and waste streams.

    The emergency water supply advanced treatment facilities include multiple unit processes providing redundant levels of treatment, including MF, RO, advanced oxidation with ultra violet (UV) and hydrogen peroxide, chlorination, and product water stabilization. Equipment will be pre-packaged and mounted in shipping containers for each of the primary unit processes. Figure 5 is a process flow diagram for the advanced water treatment system.

A. **Membrane Filtration** - The MF system provides pretreatment for the RO system to reduce the particulate and biological fouling of the RO membranes. The MF system will remove inert particulates, organic particulates, colloidal particulates, pathogenic organisms, bacteria and other particles by the size-exclusion sieve action of the membranes.

    - Strainers - Strainers will be provided immediately upstream of the membrane system to protect the membranes from damage and/or fouling due to larger particles. The strainers are typically provided by the membrane manufacturers as part of a complete MF system package and are required by the membrane system warranty.

    - MF Systems - The MF system will be a containerized system utilizing an open configuration that can be installed with membranes from multiple different suppliers. MF system layout is based on the 33 gfd[1] instantaneous flux rate using Toray UF membranes. Membrane integrity will be confirmed using an online turbidimeter and by

[1] Flux or water flux is typically expressed as volume per area per unit of time. Flux is used to express the rate at which water permeates a reverse osmosis membrane. Typical units of measurement are gallons per square foot per day (GFD or GSFD) or litres per square meter per hour (l/m2/hr). The flux of a RO membrane is directly proportional to temperature and pressure. As a rule of thumb, flux decreases by about 1.5% per 1^{o}F.

daily pressure decay tests. The system will be fully automated for flow control, backwashing, daily maintenance cleaning, and periodic chemical cleaning in place.

- Break Tank - The MF break tank will serve as a flow equalization reservoir for the MF product prior to its being supplied to the RO system. The MF filtrate will be conveyed to the MF break tank with residual pressure from the MF system. The MF break tank will mitigate the impact of the variations in the MF filtrate flow (resulting from backwashes, cleanings, and integrity tests), by providing equalization volume between the MF and RO processes equivalent to approximately 15 minutes of the maximum RO feed flow. To prevent the excessive accumulation of the particles on the membrane surface, membrane backwashes will be performed every 25 to 30 minutes. Overflow from the break tank will be directed back to the secondary effluent percolation ponds.

B. **Reverse Osmosis System** - The RO facility includes the following processes:
- RO feed supply pump
- RO pre-treatment chemical addition (sodium hypochlorite, ammonia, anti-scalant and sulfuric acid for scale control)
- Cartridge filters
- Primary RO feed pumps
- RO systems with interstage booster pumps

Pre-Treatment Chemical Addition - Ammonium hydroxide and sodium hypochlorite will be added downstream of the membrane filtration system for chloramination to control biological fouling of the RO membranes and pretreatment cartridge filters. The target combined chlorine concentration (chloramines) is 3 to 5 mg/L. The chemicals will be flow-paced based on the MF feed flow rate and trimmed based on the combined chlorine concentration.

The RO feed supply pumps MF filtrate from the MF break tank through the RO cartridge filters to the RO feed pumps. A three-stage RO configuration will increase recovery and reduce brine flow. The RO system is designed with target recovery of 92 percent.

The system uses three separate containers, one for each primary RO system and a separate container for the third stage system. The system includes two identical primary RO trains, equipped in separate containers and each treating half the flow. The primary RO has a two-stage design operating at approximately 85 percent recovery. The third stage RO container is equipped with one duty and one redundant third stage RO train. The third stage RO system targets approximately 50 percent recovery. The three RO containers share a common chemical cleaning system.

The cartridge filters, located upstream of the RO, help protect the RO membranes from particulates that may be introduced to the MF filtrate in the MF break tank or through chemical addition.

Anti-scalant is added to control scaling of the RO membranes. Anti-scalant is fed upstream of the RO cartridge filters. Sulfuric acid is added to lower the pH of the RO feed water to prevent calcium carbonate and calcium phosphate from limiting the RO recovery.

The concentrate from the two primary RO trains is combined and delivered to a third stage RO system, located in a separate container. The third stage RO booster pump provides additional pressure required by the third stage RO to the primary RO concentrate stream. A redundant RO membrane train will be supplied for the third stage RO system to allow continued operation during a membrane cleaning.

Membrane integrity is monitored continuously through conductivity and intermittently through weekly sampling for sulfate.

C. **UV/Advanced Oxidation System** - The final advanced water purification process is disinfection and advanced oxidation, which are required for projects to comply with pathogenic microorganism reduction requirements included in DDW's groundwater recharge regulations.

Advanced oxidation is required to complete the full advanced treatment, achieving a minimum 0.5-log reduction of 1,4-dioxane. The UV reactors serve the dual purpose of disinfection and advanced oxidation with addition of hydrogen peroxide upstream.

The UV disinfection process will provide 6-log enteric virus reduction (towards the overall requirement of 12-log removal), 6-log Giardia cyst reduction (towards the overall requirement of 10-log removal), and 6-log Cryptosporidium oocyst reduction (towards the overall requirement of 10-log removal).

Advanced oxidation is considered the best available technology to address the destruction of trace organic compounds that are not fully removed by the RO membranes, notably NDMA, flame retardants, and 1,4-dioxane. UV/peroxide destroys trace organic compounds through two simultaneous mechanisms:

- The first mechanism is through UV photolysis (exposure to UV light) where UV photons are able to break the bonds of certain chemicals if the bond's energy is less than the photon energy.

- The second mechanism is through UV light's reacting with hydrogen peroxide to generate hydroxyl radicals. The peroxide is added to the RO permeate upstream of the UV process at a dose of approximately 3.0 mg/L.

As noted above, the UV/peroxide system is the most common advanced oxidation technology for indirect portable reuse (IPR), and has been used extensively for the removal of trace organic compounds found in treated water. The UV/peroxide system has been designed to meet the groundwater recharge regulations, providing a minimum 0.5-log reduction of 1,4-dioxane, which serves as a an indicator compound for other trace organic compounds.

D. **Chemical Systems** - Chemicals used at the AWTP include sodium hypochlorite, ammonia, sulfuric acid and anti-scalant used with the RO system, hydrogen peroxide used with the UV disinfection, and caustic soda and calcium chloride used for product water stabilization. In addition, citric acid, sodium hypochlorite, and caustic soda will be used intermittently for chemical cleaning of the membranes. Each of the chemicals and their related uses is shown in Table 1 below.

Table 1 – Chemicals Used at the AWTP

	Raw Water	Membrane Filtrate Water	Reverse Osmosis Product Water	Product water for Groundwater Injection
	Before Membrane Filtration	After Membrane Filtration – Before Reverse Osmosis	Before Ultra-violet Disinfection	After Ultra-violet Disinfection
Sodium hypochlorite	No	Yes	No	Yes
Aqueous ammonia	No	Yes	No	No
Sulfuric acid	No	Yes	No	No
Antiscalant (Acid)	No	Yes	No	No
Hydrogen peroxide	No	No	Yes	No
Sodium hydroxide	No	No	No	Yes
Calcium chloride	No	No	No	Yes

E. **Post-Treatment Systems** - The post-treatment product water is pumped to the reinjection well, approximately 3,400 feet northeast of the AWTP. Product water quality must be controlled to minimize corrosion of the conveyance pipeline and the pumping equipment, requiring product water stabilization using caustic soda and calcium chloride.

The post-treatment strategy includes the addition of calcium chloride to increase hardness and the addition of caustic soda to increase pH. This strategy allows operators to control hardness and pH independently, producing stable product water that can be matched to any desired combination of pH, hardness, and alkalinity.

14. **Waste Discharge** - Major waste streams for the AWTP include MF backwash, RO concentrate, and miscellaneous cleaning and analytical wastes. MF backwash waste and strainer backwash is returned to the CCSD's secondary effluent percolation ponds by gravity flow, without additional treatment or flow equalization. All chemical cleaning waste, RO concentrate, and analytical waste flows are disposed of in the Van Gordon Evaporation Pond under separate (Title 27) permit.

    There are four water/waste streams produced by this project (Table 2):

Table 2 - Water/Waste Streams of the Cambria Emergency Water Supply Project

Water Streams	Waste Streams	Gallons Per Day	Regulatory Mechanism
	Membrane filter backwash wastewater returned to the percolation ponds	90,000 gpd	Revised Existing WDRs Order No. 01-100
Membrane Filtrate product water discharged to San Simeon Creek to prevent dewatering of the freshwater lagoon		144,000 gpd	National Pollutant Discharge Elimination System Permit

	Reverse Osmosis concentrate and cleaning solutions sent to brine disposal impoundment	65,000 gpd	Waste Discharge Requirements (Title 27)
Advanced treated product water, recharge to groundwater		700,000 gpd	Waste Discharge Requirements (Title 22)

The project pumps up to one million gallons per day (gpd) from well 9P7 and can produce approximately 844,000 gpd of product water of varying quality and 155,000 gpd of wastewater of varying quality.

15. The water quality of each water/waste stream (including source water) is shown below in Table 3:

Table 3 - Water Quality of Product Water and Waste Streams

Parameter	Units	Source Water	Membrane Filtrate Backwash (Discharge to Percolation Pond)	Membrane Filtrate product (Lagoon protection water)	Reverse Osmosis Advanced Treated Product Water (Injection water)	Reverse Osmosis Brine Disposal (Title 27 Impoundment)
Alkalinity	mg/L as $CaCO_3$	210	210	210	70	1400
Aluminum	mg/L	<0.01	<0.01	<0.01		
Ammonia – N (NH_3)	mg/L	0.3	0.3	0.3	0.08	2.8
Arsenic	mg/L	<0.002	<0.002	<0.002		
Barium (Ba)	mg/L	0.08	0.08	0.08	0.01	1.1
Bicarbonate (HCO_3)	mg/L	260	260	260	85	1,600
Boron (B)	mg/L	0.32	0.32	0.32	0.10	2.9
Carbon Dioxide(CO_2)	mg/L	12	12	12	38	38
Carbonate (CO_3)	mg/L	0	0	0	0	1.1
Calcium (Ca)	mg/L	72	72	72	4.1	940
Chloride (Cl)	mg/L	347	347	347	62.8	6,000
Cyanide	mg/L	<0.004	<0.004	<0.004		
Fluoride (F-)	mg/L	0.1	0.1	0.1	0.03	0.90
Iron	mg/L	0.15	0.15	0.15	<0.01	1.7
Lead	mg/L	0.0017	0.0017	0.0017	<0.0005	0.021
Magnesium (Mg)	mg/L	58	58	58	3.3	760
Manganese	mg/L	0.0069	0.0069	0.0069	<0.002	0.084
Nitrate-N (NO_3)	mg/L	4	4	4	2.3	17
Nitrite-N (NO_2)	mg/L					
pH		7.6	7.6	7.6	6.6	7.8
Phosphate (PO_4)	mg/L	18	18	18	0.2	220
Potassium (K)	mg/L	26	26	26	7.8	268
Salinity						
Silicon Dioxide	mg/L	20	20	20	6.76	200

(SiO_2)						
Sodium (Na)	mg/L	247	247	247	62	2,700
Strontium (Sr)	mg/L	0.58	0.58	0.58	0.03	7.1
Sulfate (SO_4)	mg/L	107	107	107	6.3	1,800
TDS	mg/L	1,110	1,110	1,110	242	14,000
TOC	mg/L	3.9	3.9	3.9	0.1	47
Total Coliform	MPN/100ml					
Total Nitrogen	mg/L					
Turbidity	NTU	0.5	10	<0.2	<0.2	
Caffeine	µg/L	0.67	0.67	0.67		
Sucralose	µg/L	45	45	45		
NDMA	µg/L	<0.002	<0.002	<0.002	ND	

16. **Evaporation Pond** - The RO concentrate, chemical cleaning waste, and analytical instrument waste are sent to the Van Gordon Evaporation Pond for disposal via evaporation. The Van Gordon reservoir, originally constructed for percolation of secondary effluent from the CCSD's wastewater treatment plant, is now lined with an impermeable liner to meet Title 27 Class II waste discharge standards. In addition, to accelerate evaporation of the disposed RO brine, five (four on-duty and one standby) mechanical spray evaporators will be installed. The mechanical spray evaporators will be located along the west berm in order to provide the greatest setback from the Van Gordon Creek corridor and will be enclosed with noise barriers.

17. **Time and Hours of Operation** - The AWTP is assumed to operate continuously for six months of the year when drought conditions are most severe. The spray evaporator operation will be controlled by weather stations and will operate only when wind direction, wind velocity, temperature and humidity are within preset ranges. Considering the foggy weather in the area and the nearby Hearst San Simeon State Park campgrounds, it is assumed that the spray evaporators will be operated approximately 12 hours per day, during day time, and year round (i.e., approximately 50 percent of time on annual average).

IV. RECYCLED WATER INJECTION SYSTEM

18. **Injection Facilities** - Injection well RIW-1 is located on the east side of the CCSD property approximately 300 feet north of San Simeon Creek and 500 feet south of San Simeon Creek Road (Figure 3). Well RIW-1 is approximately 1,300 feet west of wells SS-1 and SS-2 and approximately 1,700 feet northeast of the proposed water treatment facility and existing effluent ponds. The property is a 92-acre, unimproved, open field vegetated with grass, shrubs and some trees and varies in elevation from approximately 20 to 25 feet above mean sea level. The CCSD production wells, SS-1, SS-2 and SS-3, are located on the eastern end of the property, and a gravel road connects the wells and transverses this portion of the property.

19. **Injection Well -** Well RIW-1 is 100 feet deep and constructed of 10-inch diameter mild steel well casing with 45 feet of type 304L stainless steel, wire-wrap screen with 0.08-inch wide slot openings. There is mechanical coupler for dissimilar metals separating the mild steel casing and stainless steel screen. The well is screened from 50 to 95 feet bgs, and has a 5-foot stainless steel sediment trap below the well screen. The CCSD will inject 454 gpm into the well.

The wellhead facilities will be above grade. Wellhead facilities include steel pipe, a flow control valve, a flow meter, and isolation valves to remove above-ground equipment. There will be no pumps or noise-generating equipment installed at the injection well site. A small panel will be above grade and adjacent to the well for the controls of the foot valves, which are located below ground in the well to maintain a backpressure on the well piping.

20. **Extraction Wells -** CCSD has three production wells in the basin: SS-1, SS-2, and SS-3 (Figure 3). They are screened between 30 to 75 feet below ground surface (bgs) (SS-2) and 30 to 105 feet bgs (SS-1 and SS-3). The wells pump at 400 gpm. Well SS-3 is seldom used. The 2013 annual volume of water extracted from the CCSD wells was 354 acre-ft (A.F.). Well SS-3 will not be operated during the emergency water supply operations. Well 9P7 is a gradient control well adjacent to the effluent percolation ponds. It will supply water to the advanced water plant. After treatment, the estimated pumping rate is 691 gpm (one million gpd), with 484 gpm (700,000 gpd) pumped into RIW-1 and 100 gpm (144,000 gpd) pumped membrane filtrate product water discharged to San Simeon Creek to prevent dewatering of the freshwater lagoon.

V. SURFACE WATER STUDIES

21. Table 4 below summarizes the water quality in San Simeon Creek, and site locations are shown on Figure 1. The data in Table 4, collected by the Central Coast Ambient Monitoring Program (CCAMP) from 2001 through 2013, shows that water quality at monitoring site 310SSC is degraded. The data also show water at monitoring site 310SSU (the upstream station) is of high quality.

Table 4 – Surface Water Quality in San Simeon Creek (Source CCAMP)

Pollutants in mg/L	Surface Water Monitoring Sites	
	310SSC (downstream)	310SSU (upstream)
Chloride	123 [A]	11.7 [C1]
Nitrogen (Total) – TN	7.82 [A]	0.43 [C]
TN – (Range)	0.298 – 28.4	0.076 – 3.91
Nitrate as N	7.45 [A]	0.11 [C]
Nitrate as N (Range)	0.021 - 28 [D]	0.01 - 0.88 [F]
Phosphorus (Total) – TP	0.68 [A]	0.05 [C]
Orthophosphate	0.63 [A]	0.01 [C]
Salinity (ppt)	0.56 [B]	0.24 [C]
Sodium	99 [A]	16 [C1]
TDS	659 [A]	300 [C]

A = Mean for all years (2001-2013); B = Mean for all years (2001-2012 through August); C = Mean for years (2002, 2003, 2009); D = years 2001-2013; E = years 2001-2012 through August; F = years 2002, 2003, 2009; 1 = no data for 2003; 2 = 2012 complete year; G = CCAMP webpage data

Land use In the San Simeon Creek watershed includes a state campground, a gravel mining facility, range land, natural landscapes, various agriculture operations (row crops, orchard, and vineyard). Throughout the watershed, there are approximately 53 parcels with houses, septic systems, and domestic wells.

VI. GROUNDWATER STUDIES

22. **Hydrogeology of Project Area -** Groundwater occurs in the alluvial deposits beneath San Simeon Creek, which drains the western flanks of the Santa Lucia Range in San Luis Obispo County and discharges into the Pacific Ocean. The alluvial aquifer is recharged primarily by seepage from San Simeon Creek, which typically flows during the winter and spring rainy season. The CCSD uses wells along San Simeon Creek in a thin, narrow groundwater basin within the alluvium.

    The CCSD's San Simeon well field consists of three potable water supply wells located approximately one mile inland from the ocean. The CCSD also utilizes a series of percolation ponds between the well field and the ocean where secondary treated waste water is recharged back to the aquifer. Pumping during the dry season results in seasonal declines in groundwater levels since production is supported by removal of water from storage in the aquifer when the stream is not flowing. In addition to the CCSD water supply wells and effluent discharge, there are privately operated water wells for both domestic and agricultural uses.

23. **Groundwater Quality** - Groundwater quality data prior to the CCSD's discharging in the watershed are shown below in Table 5 (Boyle 1977)[2]. These data imply groundwater in lower San Simeon Creek was supportive of beneficial uses, and it should be noted that nitrate in the Bonomi Ranch irrigation well had an average concentration of 5.4 mg/L NO3 as N prior to 1969. This concentration is similar to the average annual concentration for the period 2001-2012 of 4.8 mg/L from well 9P7.

Table 5 - Groundwater Quality in San Simeon Creek Watershed pre-1980

Parameter	Bonomi Ranch** Irrigation Well 1975 (mg/L)	Average* of Analyses Prior to 1969 Concentration (mg/L)		
		Average	Maximum	Minimum
Ca	34	46.8	58	26
Mg	29	36.3	40	33
Na	21	17.6	21	14
K	0.8	1.25	4	1
HCO3	220	277	307	203
SO4	44	40.2	47	35
CO3	0	1.3	14	0
Cl	20	22.3	53	16
NO3 (N)	10	5.4	30	1.8
F	0.1	0.25	0.9	0.1
B	0.33	0.18	0.22	0.13
Fe	0.10	No Data	No Data	No Data
Mn	Less than 0.01	No Data	No Data	No Data
TDS	350	323	396	260
Total Hardness	269	266	297	209

[2] Boyle Engineering Corporation, 1977, Second Supplemental Report for County of San Luis Obispo on Cambria Wastewater Disposal Facilities, San Luis Obispo County, California, January 1977

* Concentrations are averages based on Department of Water Resources (Memorandum 282.31, 1969) test results (12 samples per well).
**Bonomi Ranch is now CCSD's wastewater disposal sprayfileds/percolation ponds (State of California, 1977). Data here appears to be a single sample (not specified in source report).

A. CCSD groundwater data for years 2001 through 2012 from water supply and monitoring wells are presented below in Table 6. These data indicate groundwater in upper San Simeon Creek (upstream of the wastewater discharge) is supportive of beneficial uses, and it should be noted that the nitrate concentrations in well SS3 have an average concentration of 0.8 mg/L NO3 as N. The data for well 9P7 show that pollutant concentrations in groundwater are elevated when compared to samples from SS3, but the water quality is supportive of beneficial uses. Finally, the data for well 16D1 (down gradient of the CCSD wastewater discharge) show that pollutant concentrations in groundwater are elevated when compared to samples from SS3 and 9P7, and the water quality is not supportive of beneficial uses. In samples from well 16D1, nitrate, sodium, and chloride exceed water quality objectives.

Table 6 - Groundwater Quality in the San Simeon Basin

Annual Average (mg/L)	Groundwater Quality Ave for years 2001 -2012*		
	SS3	9P7	16D1
Nitrate as N*	0.8	4.8	12.1
TDS	357	501	769
Sodium (Na)	20	54	123
Chloride (Cl)	21	72	170
SO4	43	56	85
B	0.2	0.2	0.3

*Sample size range = 19-26 samples depending on well and constituent

B. A report by Jones & Stokes (1991)[3] confirms that groundwater below the CCSD discharge is seeping into surface waters adjacent to sprayfield operations. The Jones & Stokes report states, "the lagoon is formed by seepage of groundwater into the creek, principally near the upstream end of the lagoon," which is adjacent to the wastewater disposal area. This same report goes on to state that locating the proposed percolation ponds[4] toward the downstream end of the sprayfields would maximize the likelihood that infiltrated pond water would seep into the creek and lagoon.

C. In July 1999, the CCSD submitted a Surface Water Monitoring Report (CCSD 1999)[5] to the Water Board. This report confirms that "elevated levels of nitrate downstream of the effluent disposal ponds indicate water quality degradation in the surface water and in the groundwater at well 9P7." This report goes on to state there is a need to lower nitrate impacts associated with the CCSD effluent and that the effluent discharge should use an average level of "5.0 mg/L nitrate as

[3] Jones & Stokes Associates, Inc., 1991, Hydrologic Evaluation of the Design and Impacts of the Cambria Community Services District's Proposed Groundwater Recharge Project, Prepared for John Carollo Engineers
[4] Sprayfield converted to percolation ponds in approximately 2000
[5] Cambria Community Services District, 1999, Surface Water Monitoring Study, Report of Preliminary Findings

nitrogen."

D. Groundwater quality is degraded as a result of the CCSD point source discharge. Three reports (Boyle 1977, Jones and Stokes 1991, and CCSD 1999) developed for the CCSD confirm that the CCSD discharge is seeping into groundwater and the 1999 report states that the CCSD needs to lower nitrate impacts associated with wastewater discharge.

24. **Recycled Water Retention Time -** Based on the Groundwater Model Technical Memorandum (Cambria Emergency Water Supply Title 22 Engineering Report), the predicted recycled water retention time is no less than 120 days before it enters wells SS-1 and SS-2. Wells SS-3 and SS-4 will not be used during the emergency supply system operation.

The CCSD conducted a tracer test to determine the retention time of injected treated water. The test shows how much time elapses between treated water injection and mixing with the CCSD water supply wells. The tracer test involves injecting water from well SS-2 into the newly constructed RIW-1 approximately 1,800 feet to the southwest. The tracer is a bromide ion, in the form of potassium bromide. This tracer does not have a notification level, public health goal, or MCL for drinking water systems in California. The bromide ion is conservative and does not sorb to the aquifer matrix, so its rate of movement is the same as groundwater. This compound is commonly used to assess groundwater velocities and residence times. A tracer concentration of 10 mg/L of bromide was used to provide adequate concentrations for assessing breakthrough. The intermediate injection well, MIW-1 and well SS-2 were sampled and analyzed for the bromide ion to establish retention time.

Results from the tracer study show the bromide ion reached well SS2 in approximately 58 days using detection of two percent (2%) of the initially introduced tracer concentration. The same analysis showed the tracer reaching well SS1 in 67 days. The CCSD proposes a well pumping program to ensure a minimum of 61 days travel time to well SS2. Once the facility is operating and injecting water, the Discharger will repeat the tracer study to confirm travel times under normal operating conditions. Conditions of operation are included in the Operations, Maintenance and Monitoring Plan (OMMP).

VII. REGULATION OF RECYCLED WATER

25. Legislation was adopted, effective July 1, 2014, that transferred personnel in the CDPH Drinking Water Program, which includes those working on permitting of recycled water projects, to the State Water Board as the new Division of Drinking Water (DDW). The Regional Water Boards are responsible for issuing water reclamation requirements for the beneficial use of recycled water. The State Water Board and Regional Water Boards are responsible for issuing waste discharge requirements for the beneficial use of recycled water that includes a discharge to waters of the State.

26. State authority to oversee recycled water use is shared by the State Water Board, the Division of Drinking Water, and the Regional Water Boards. DDW is the division with the primary responsibility for establishing water recycling criteria under

Title 22 of the Code of Regulations to protect the health of the public using the groundwater basins as a source of potable water.

27. The State Water Board adopted Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, which includes principles that encourage and recommend funding for water recycling and its use in water-short areas of the state. On September 26, 1988, the Regional Water Board also adopted Resolution No. 88-012, which encourages the beneficial use of recycled water and supports water recycling projects.

28. The State Water Board adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) on February 3, 2009, and amended the Policy on January 22, 2013. The purpose of the Recycled Water Policy is to protect groundwater resources and to increase the beneficial reuse of recycled water from municipal wastewater sources in a manner consistent with state and federal water quality laws and regulations. The Recycled Water Policy describes the respective authority of DDW and the Regional Water Boards as follows:

> *Regional Water Boards shall appropriately rely on the expertise of DDW for the establishment of permit conditions needed to protect human health.* (section 5.b)
>
> *Nothing in this paragraph shall be construed to limit the authority of a Regional Water Board to protect designated beneficial uses, provided that any proposed limitations for the protection of public health may only be imposed following regular consultation by the Regional Water Board with DDW, consistent with State Water Board Orders WQ 2005-0007 and 2006-0001.* (section 8.c)
>
> *Nothing in this Policy shall be construed to prevent a Regional Water Board from imposing additional requirements for a proposed recharge project that has a substantial adverse effect on the fate and transport of a contaminant plume or changes the geochemistry of an aquifer thereby causing dissolution of constituents, such as arsenic, from the geologic formation into groundwater.* (section 8.d)

In addition, the Policy notes the continuing obligation of the Regional Water Boards to comply with the state's anti-degradation policy, Resolution No. 68-16:

> *The State Water Board adopted Resolution No. 68-16 as a policy statement to implement the legislature's intent that waters of the state shall be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state.* (section 9.a)

29. Section 13523(a) of the Water Code provides that a Regional Water Board, after consulting with and receiving recommendations from DDW, and after any necessary hearing, shall, if it determines such action to be necessary to protect the health, safety, or welfare of the public, prescribe water recycling requirements (WRRs) for water that is used or proposed to be used as recycled water. Pursuant to Water Code section 13523, the Central Coast Regional Water Board has consulted with

DDW and received its recommendations. On July 14, 2014, DDW participated in a public hearing to consider the proposed Cambria Emergency Water Supply Project. On September 9, 2014, DDW transmitted to the Regional Water Board its conditions concerning the Cambria Emergency Water Supply Project.

30. Section 13540 of the Water Code requires that recycled water may only be injected into an aquifer used as a source of domestic water supply if DDW finds the recharge will not degrade[6] the quality of the receiving aquifer as a source of water supply for domestic purposes. In its conditions, DDW determined that "provided that WRR meets all of the above conditions DDW finds that the Cambria Emergency Water Supply Project can provide injection recharge water that will not degrade groundwater basins as a source of water supply for domestic purposes."

31. Section 13523(b) of the Water Code provides that reclamation requirements shall be established in conformance with the uniform statewide recycling criteria established pursuant to Water Code section 13521. Section 60320 of Title 22 currently includes requirements for groundwater recharge projects. The State Water Resources Control Board adopted uniform water recycling criteria for groundwater recharge on July 15, 2014.

VIII. OTHER APPLICABLE PLANS, POLICIES AND REGULATIONS

A. Regional Board Water Quality Control Plan (Basin Plan)

32. The Regional Water Board has adopted the *Water Quality Control Plan for the Central Coastal Basin* (Basin Plan). The Basin Plan designates beneficial uses for surface and groundwater; establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated (existing and potential) beneficial uses and to conform with the state's anti-degradation policy; and includes implementation provisions, programs, and policies to protect all waters in the region. In addition, the Basin Plan incorporates applicable State Water Board and Regional Water Board plans and policies and other pertinent water quality policies and regulations.

33. The Basin Plan incorporates the California Code of Regulations (CCR) Title 22 primary Maximum Contaminant Levels (MCLs) by reference. This incorporation is prospective, including future changes to the incorporated provisions as the changes take effect. The Basin Plan states that groundwater designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents and radionuclides in excess of the MCLs. The Basin Plan also specifies concentrations that cause nuisance or adversely affect beneficial uses.

34. The Basin Plan contains beneficial uses and water quality objectives for the San Simeon Groundwater Basin, which is the receiving water affected by the injection of recycled water from the project. The beneficial uses and water quality objectives of the San Simeon Groundwater Basin are as follows:

[6] Groundwater will be degraded; however, the degraded water will support beneficial uses.

Table 7 - Beneficial Uses of Groundwater

Receiving Water			**Beneficial Uses**	
San Simeon Valley (3-35) – An Alluvial Aquifer			Municipal and domestic water supply (MUN) Industrial service supply (IND) Industrial process supply (PROC) Agricultural supply (AGR)	
Water Quality Objectives for San Simeon Valley (3-35)				
		Units	**Source Basin Plan Table 3.3**	**Source Basin Plan Table 3.4**
Aluminum	5	mg/L		X
Ammonia (NH4-N)	5	mg/L	X	
Arsenic	0.1	mg/L		X
Bicarbonate (HCO3)	90	mg/L	X	
Beryllium	0.1	mg/L		X
Boron	0.5	mg/L	X	
Cadmium	0.01	mg/L		X
Chloride	106	mg/L	X	
Chromium	0.1	mg/L		X
Cobalt	0.05	mg/L		X
Copper	0.2	mg/L		X
Fluoride	1.0	mg/L		X
Iron	5.0	mg/L		X
Lead	0.1	mg/L		X
Lithium	2.5[d]	mg/L		X
Manganese	0.2	mg/L		X
Mercury	0.01	mg/L		X
Molybdenum	0.01	mg/L		X
Nickel	0.2	mg/L		X
Nitrate	5	mg/L	X	
Nitrite	10	mg/L		X
pH			X	
Salinity	0.75	mmho/cm	X	
Selenium	0.02	mg/L		X
Sodium	69	mg/L		
Sulfate				
TDS				
Vanadium	0.1	mg/L		X
Zinc	2.0	mg/L		X

d – Recommended maximum concentration for irrigation of citrus is 0.075 mg/L

Although not designated as water quality objectives for San Simeon Valley (3-35), Table 8 below shows the existing groundwater quality in the San Simeon Valley from the CCSD water supply well (SS3) and Basin Plan water quality objectives for an adjacent alluvial aquifer, Santa Rosa Valley (3-36). The CCSD uses water from both San Simeon Valley (3-35) and Santa Rosa Valley (3-36) for domestic supply.

Table 8 - Existing Groundwater Quality in the San Simeon Valley (3-35) and Groundwater Quality Objectives for Santa Rosa Valley (3-36)

Existing Groundwater Quality from Well SS3 in the San Simeon Valley (3-35)					
TDS	**Nitrate**	**Sodium**	**Chloride**	**Sulfate**	**Boron**
357	0.8 mg/L	20 mg/L	21 mg/L	43	0.2
Groundater Quality Objectives for Santa Rosa Valley (3-36)					
TDS	**Nitrate**	**Sodium**	**Chloride**	**Sulfate**	**Boron**
700	5 mg/L	50 mg/L	100 mg/L	80	0.2

35. The Basin Plan contains the following specific water quality objectives:
    - **MUNICIPAL AND DOMESTIC SUPPLY (MUN)**
        - Bacteria - The median concentration of coliform organisms over any seven-day period shall be less than 2.2/100 ml.
        - Organic Chemicals - Ground waters shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5,Table 5 and listed in Basin Plan Table 3-1.
        - Chemical Constituents - Ground waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 3.
        - Radioactivity - Ground waters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Basin Plan Table 4.

    - **AGRICULTURAL SUPPLY (AGR)**
        - Ground waters shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Basin Plan Table 3-3.

          In addition, water used for irrigation and livestock watering shall not exceed the concentrations for those chemicals listed in Basin Plan Table 3-4. No controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity. The salinity control aspects of ground water management will account for effects from all sources.

B. State Water Resources Control Board Policies

36. The Sources of Drinking Water Policy (Resolution No. 88-63) provides that all waters of the state, with certain exceptions, are to be protected as existing or potential sources of municipal and domestic supply. Exceptions include waters with existing high dissolved solids (i.e., greater than 3,000 mg/L), low sustainable yield (less than 200 gallons per day for a single well), waters with contamination that cannot be

treated for domestic use using best management practices or best economically achievable treatment practices, waters within particular municipal, industrial and agricultural wastewater conveyance and holding facilities, and regulated geothermal groundwaters.

37. A goal of the Recycled Water Policy (State Water Board Resolution No. 2009-0011) is to increase the beneficial use of recycled water from municipal wastewater sources in a manner consistent with state and federal water quality laws and regulations. The Policy directs the Regional Water Boards to collaborate with generators of municipal wastewater and interested parties in the development of salt and nutrient management plans (SNMPs) to manage the loading of salts and nutrients to groundwater basins in a manner that is protective of beneficial uses, thereby supporting the sustainable use of local waters.

38. DDW has established a notification level of 10 nanograms per liter (ng/L) for N-Nitrosodimethylamine (NDMA). The notification level is the concentration level of a contaminant in drinking water delivered for human consumption that DDW has determined, based on available scientific information, does not pose a significant health risk but warrants notification. Notification levels are established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum contaminant levels and are not drinking water standards. DDW has established a response level of 300 ng/L for NDMA. The response level is the concentration of a contaminant in drinking water delivered for human consumption at which DDW recommends that additional steps, beyond notification, be taken to reduce public exposure to the contaminant.

C. California Water Code

39. Pursuant to California Water Code (Water Code) section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking and sanitary purposes.

40. Pursuant to Water Code section 13263(g), discharges of waste into waters of the state are privileges, not rights. Nothing in this Order creates a vested right to continue the discharge. Water Code section 13263 authorizes the Regional Water Board to issue waste discharge requirements that implement any relevant water quality control plan.

41. Section 13267(b) of the Water Code states, in part:

> *In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region shall furnish under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports shall bear a reasonable relationship to the need for the reports and the benefits*

to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

Section 13267(d) of the Water Code states, in part:

[A] regional board may require any person, including a person subject to waste discharge requirements under section 13263, who is discharging, or who proposes to discharge, wastes or fluid into an injection well, to furnish the state board or regional board with a complete report on the condition and operation of the facility or injection well, or any other information that may be reasonably required to determine whether the injection well could affect the quality of the waters of the state.

42. On October 28, 1968, the State Water Board adopted Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California (Resolution 68-16), establishing an anti-degradation policy for the State Water Board and Regional Water Boards. Resolution No. 68-16 requires that existing high quality of waters be maintained unless a change is demonstrated to be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of waters, and will not result in water quality less than that prescribed in applicable policies. Resolution No. 68-16 also prescribes waste discharge requirements for discharges to high quality waters that will result in the best practicable treatment or control of the discharge necessary to ensure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained. The Regional Water Board's Basin Plan implements, and incorporates by reference, the state anti- degradation policy.

43. This Order is consistent with Resolution No. 68-16 (Anti-degradation policy). Groundwater recharge with recycled water for later extraction and use in accordance with the Recycled Water Policy and state and federal water quality laws is to the benefit of the people of the State of California. Nonetheless, groundwater recharge projects using recycled water have the potential to lower water quality within a basin. This Order is in the maximum benefit to the people of the State because it will assist the Discharger to maintain drinking water service for existing development by recharging the groundwater supplies, in part by using recycled water, and thus ensuring adequate drinking water supplies during times of drought. There is no evidence that the project will result in costs to affected users that outweigh the need for the project. As described in the findings herein, the CCSD is implementing the best practicable treatment or control of the recycled water to be injected into the basin for groundwater recharge. Compliance with this Order will protect present and anticipated beneficial uses of the groundwater, ensure attainment of water quality prescribed in applicable policies, and avoid any conditions of pollution or nuisance. Although this Order may allow some degradation to water quality, it will not cause exceedances of applicable water quality objectives for the basin. Thus, the Regional Water Board finds that, based on available information and monitoring data, any change in the existing high quality of the groundwater basin as a result of groundwater recharge allowed by this Order will be consistent with maximum benefit

to the people of the State, will not unreasonably affect beneficial uses, and will not cause exceedances of applicable water quality objectives for the basin.

44. The need for the technical and monitoring reports required by this Order, including the Monitoring and Reporting Program, is based on the Report of Waste Discharge (ROWD) and Engineering Report; the DDW Conditions; the California Environmental Quality Act (CEQA) Initial Study; and other information in the Regional Water Board's files for the Facility. The technical and monitoring reports are necessary to ensure compliance with these waste discharge requirements and water recycling requirements. The burden, including costs, of providing the technical reports required by this Order bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

45. This Order includes limits on quantities, rates, and concentrations of chemical, physical, biological, and other pollutants in the advanced treated recycled water that is injected into groundwater.

46. 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 requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all applicable requirements of the Endangered Species Acts.

IX. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND NOTIFICATION

47. By proclamations dated January 17, 2014, and April 25, 2014, the Governor declared a state of emergency in California due to the ongoing extraordinary drought. Each proclamation included a directive that suspended the environmental review required by the California Environmental Quality Act (CEQA) to allow certain directive from the Governor to take place as quickly as possible. The project is consistent with the following directive from the April 25, 2014, proclamation: Directive 12: The California State Water Resources Control Board, Department of Drinking Water (DDW), the Office of Emergency Services, and the Office of Planning and Research will assist local agencies that the Department of Public Health has identified as vulnerable to acute drinking water shortages in implementing solutions to those water shortages. Under Directive 19 of the April 25, 2014 Proclamation, environmental review required by CEQA is suspended for actions taken pursuant to Directive 12, and for all necessary permits needed to implement those actions, when the Office of Planning and Research "concurs that local action is required."

    DDW has identified the Cambria Community Services District (district) as having critical drinking water shortages, meaning that the city will deplete its available supplies within 60 to 90 days. The Office of Emergency Services has indicated that the project described in the attached Notices of Exemption is necessary to solve this critical drinking water shortage. The Office of Planning and Research concurred that local action is required on September 12, 2014. Therefore, the project is exempt from CEQA because the Governor suspended CEQA for this project pursuant to Directives 19 and 12 of the April 25, 2014 proclamation.

48. The project is also consistent with the statutory exemption for an emergency project. CEQA defines emergency as follows: "'Emergency' means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. 'Emergency' includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage." [Public Resources Code Section 21060.3.] Specific actions necessary to prevent or mitigate an emergency are exempt from CEQA. Emergency activities do not include long-term projects undertaken for the purpose of preventing or mitigating a situation that has a low probability of occurrence in the short-term. [Title 14 California Code of Regulations, Section 15269(c).] The basis for the exemption is that the Discharger's water situation is dire. The District currently has less than a six month drinking water supply. The Emergency Water Supply Project will avoid potentially disastrous consequences from not having adequate water for health, safety, sanitation, and fire protection. These impacts are likely to occur in the very near future and continue as long as drought conditions persist. The project is necessary to prevent or mitigate a water shortage emergency, prevent seawater intrusion that could make current supplies unusable, and will otherwise mitigate the effects of the drought emergency declared by the Governor and emergencies that result from future critical water shortages.

49. Any person aggrieved by this action may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, Title 23, section 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at:

    http://www.waterboards.ca.gov/public_notices/petitions/water_quality/

50. The Regional Water Board has notified the CCSD and interested agencies and persons of its intent to issue this Order for the production and use of recycled water and has provided them with an opportunity to submit written comments. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to these WDRs/WRRs.

THEREFORE, IT IS HEREBY ORDERED that Order No. R3-2014-0050, with MRP No. R3-2014-0050, is effective as of the date of this Order, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations and guidelines adopted thereunder, and California Code of Regulations Title 22, division 4, chapter 3, the CCSD shall comply with the requirements in this Order.

I. INFLUENT SPECIFICATIONS

The influent to the CCSD Advanced Water Treatment Plant shall consist of secondary treated wastewater discharge to percolation ponds in basin storage, creek underflow,

and deep basin brackish water with limited recharge as described in the approved 2014 Title 22 Engineering Report.

II. RECYCLED WATER TREATMENT SPECIFICATION

Treatment of the recycled water shall be as described in the findings of this Order and the conditions issued by DDW.

III. RECYCLED WATER DISCHARGE LIMITS

1. The advanced treated recycled water injected at well RIW-1 shall not contain pollutants in excess of the following limits:

Table 9 – Reverse Osmosis Recycled Water Discharge Limits, Groundwater Reinjection

Constituents	Units	Concentration[7]	Monitoring Frequency	Compliance Interval
Ammonia as N	mg/L	0.1	Weekly grab or 24 hour composite	Sample Result: no averaging
Boron	mg/L	0.32	Monthly	Running Annual Average
Chloride	mg/L	70	Monthly	Running Annual Average
Nitrate as N	mg/L	2.3	Weekly grab or 24 hour composite	Sample Result: no averaging
Sodium	mg/L	62	Monthly	Running Annual Average
Sulfate	mg/L	43	Monthly	Running Annual Average
TDS	mg/L	357	Monthly	Running Annual Average
Total Coliform	MPN/ 100ml	<2.2	Daily grab	Weekly Maximum

2. Compliance with the recycled water discharge limits shall be determined after the injection point for sodium hypochlorite and before injection into the San Simeon Creek alluvial aquifer.

MEMBRANE FILTER BACKWASH WATER TREATMENT SPECIFICATION

Treatment of the membrane filter backwash water shall be as described in the findings of this Order and the Conditions issued by DDW.

IV. GENERAL REQUIREMENTS

1. Recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.

[7] Source, CCSD Emergency Water Supply Title 22 Report

2. Bypass, discharge, or delivery to the use area of inadequately treated recycled water, at any time, is prohibited.

3. The Facility and injection wells shall be adequately protected from inundation and damage by storm flows.

4. Recycled water use or disposal shall not result in earth movement in geologically unstable areas.

5. Odors of sewage origin shall not be perceivable at any time outside the boundary of the Facility.

6. The CCSD shall at all times properly operate and maintain all treatment facilities and control systems (and related appurtenances) that are installed or used by the CCSD to achieve compliance with the conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls (including appropriate quality assurance procedures).

7. A copy of these requirements shall be maintained at the Facility and available at all times to operating personnel.

8. For any material change or proposed change in character, location, or volume of recycled water or its uses, the CCSD shall submit at least 120 days prior to the proposed change an engineering report or addendum to the existing engineering report to the Regional Water Board and DDW (pursuant to Water Code Division 7, Chapter 7, Article 4, section 13522.5 and CCR Title 22, Division 4, Chapter 3, Article 7, section 60323) for approval. The Engineering Report shall be prepared by a qualified engineer registered in California.

9. Any pipeline or brine conveyance from the AWTP to the surface impoundment shall be equipped with secondary containment.

V. PROVISIONS

1. Injection of the advanced treated recycled water shall not cause or contribute to an exceedance of water quality objectives in groundwater.

2. Groundwater Well Replacement: Replacement or addition of injection wells to the Cambria Emergency Water Supply Project will not require a report of material change, filing of a new Report of Waste Discharge, or submitting an updated Engineering Report, provided:

   a. The additional injection capacity does not violate any requirement in this Order;

   b. At least 30 days prior to installation of an additional well, the CCSD submits, in writing, the purpose, design, and location of the well to DDW and the Regional Water Board;

c. The Regional Water Board, in consultation with DDW, approves the location of the additional well (If the Regional Water Board fails to approve or deny the proposed construction within thirty days of receipt of the proposal, the proposal shall be deemed approved). The new CCSD wells described in the DDW Conditions are exempt from this requirement.

d. Within 90 days after the installation or replacement of the well, the CCSD submits, in writing, the complete geologic and electrical logs and as-built construction diagrams of the injection wells to DDW and the Regional Water Board.

3. The CCSD shall submit to the Regional Water Board, under penalty of perjury, self-monitoring reports according to the specifications contained in the MRP, as directed by the Executive Officer and signed by a designated responsible party.

4. The Discharger must evaluate and field validate the operating assumptions for the AWTP (quality of: water supply, membrane filter backwash discharge, membrane filtrate discharge, reverse osmosis product water re-injection, and lagoon condition) and compare the pre-project assumptions to documented operating data. The Discharger must submit a report detailing differences between documented operating values and concentrations/conditions. The report must be submitted within 10 days following the first 30 days of AWTP operation.

5. The CCSD shall notify this Regional Water Board and DDW by telephone or electronic means within 24 hours of knowledge of any violations of this Order or any adverse conditions as a result of the use of recycled water from this facility; written confirmation shall follow within five working days from date of notification. The report shall include, but not be limited to, the following information, as appropriate:

   a. The nature and extent of the violation;

   b. The date and time when the violation started, when compliance was achieved, and when injection was suspended and restored, as applicable;

   c. The duration of the violation;

   d. The cause(s) of the violation;

   e. Any corrective and/or remedial actions that have been taken and/or will be taken with a time schedule for implementation to prevent future violations; and,

   f. Any impact of the violation.

6. This Order does not exempt the CCSD from compliance with any other laws, regulations, or ordinances which may be applicable; it does not legalize the recycling and use facilities; and it leaves unaffected any further constraint on the

use of recycled water at certain site(s) that may be contained in other statutes or required by other agencies.

7. This Order does not alleviate the responsibility of the CCSD to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order, nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.

8. This Order may be modified, revoked and reissued, or terminated for cause, including but not limited to, failure to comply with any condition in this Order; endangerment of human health or environment resulting from the permitted activities in this Order; obtaining this Order by misrepresentation or failure to disclose all relevant facts; or acquisition of new information that could have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the CCSD for modification, revocation and reissuance, or termination of the Order or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

9. The CCSD shall furnish, within a reasonable time, any information the Regional Water Board or DDW may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The CCSD shall also furnish the Regional Water Board, upon request, with copies of records required to be kept under this Order for at least three years.

10. In an enforcement action, it shall not be a defense for the CCSD that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the CCSD shall, to the extent necessary to maintain compliance with this Order, control production of all discharges until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.

11. This Order includes the attached *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*. If there is any conflict between the provisions stated in this Order and the Standard Provisions, the provisions stated in this Order shall prevail.

12. This Order includes the attached MRP No. R3-2014-0050. If there is any conflict between provisions stated in the MRP and the Standard Provisions, those provisions stated in the MRP prevail.

13. The DDW conditions that are not explicitly included in this Order are incorporated herein by this reference, and are enforceable requirements of this Order. Any violation of a term in this Order that is identical to a DDW Condition will constitute a single violation.

VI. STATE WATER RESOURCES CONTROL BOARD DIVISION OF DRINKING WATER (DDW) REQUIREMENTS

- For the first six months of operation, the CCSD will provide a trained operator at the AWTP site at all times when the facility is in operation producing water. Following the first six months of operation, the CCSD may submit a request to the DDW and the RWQCB for an alternative operator schedule and if approved, update the OMMP. The DDW recommends the treatment facility be classified as a T3, which would require a Grade T3 chief operator and Grade T2 shift operator. The chief operator is the person who has overall responsibility for the day-to-day operation of the treatment facility. The shift operator is the person in direct charge of the operation of the treatment facility for a specific period of a day.

- The CCSD will collect quarterly samples from each monitoring well for the pollutants in Tables 64449-A and B, secondary standards.

- The AWTP contains a multi-barrier treatment facility in order to comply with the Groundwater Replenishment Regulations. The following monitoring and reporting requirements must be included in the OMMP and reported to the DDW and the RWQCB monthly.

    - To demonstrate the log reduction credit given to the CCSD Wastewater Treatment Plant (WWTP) and facilities up to the influent of the AWTP, the WWTP effluent shall be monitored continuously for turbidity and daily for coliform concentrations. The CCSD will report monthly to the DDW and RWQCB the daily WWTP effluent coliform analysis, the daily WWTP effluent average turbidity, daily WWTP effluent maximum turbidity and the percent of time the WWTP effluent turbidity is greater than 5 NTU.
    - The CCSD will monitor and report the AWTP influent for turbidity continuously, TOC and total coliform weekly. If a sample of the influent to the AWTP is positive for total coliform, the sample shall be analyzed for E.coli. Turbidity measurements shall be recorded every 15 minutes and the daily average and daily maximum shall be reported.
    - The micro filtration membrane (MF) effluent will be monitored for turbidity continuously. The daily average and maximum turbidity reading and the percent of time that the turbidity is greater than 0.2 NTU needs to be reported.
    - Membrane integrity testing (MIT) shall be performed on the MF membrane unit a minimum of once every 24 hours of operation.
        - The log removal value (LRV) for Cryptosporidium shall be calculated and the value reported after the completion of each MIT.
        - The MIT shall have a resolution that is responsive to an integrity breach on the order of 3 µm or less.
        - Calculations of the LRV shall be based on a pressure decay rate (PDR) value with an ending pressure that provides a resolution of 3 microns or less.
        - The MIT shall have a sensitivity to verify a LRV equal to or greater than 4.0.

- The Reverse Osmosis (RO) system will not be credited pathogen reduction at this facility; however, minimal monitoring will be required to ensure the integrity of the system. CCSD needs to monitor the effluent of each RO unit (Stage 1 and 2) and the third stage RO unit (Stage 3) continuously for conductivity. The CCSD will report the average and maximum conductivity from the effluent of each unit daily. The RO effluent will be monitored for TOC weekly and reported in the monthly report.
- The UV/peroxide system shall be operated as has been designed to meet the groundwater recharge regulations, providing a minimum 0.5-log reduction of 1,4-dioxane. The UV system is a Trojan UVPhOx 72AL75, which was pilot-tested at the City of San Diego IPR Demonstration Facility at a 1.0 mgd flow rate. Based upon this testing, power level shall be 13 kW or greater; and UV intensity shall be 21 mW/cm^2 or higher.
- The UV system must be operated with online monitoring and built-in automatic reliability features that must trigger automatic diversion of effluent to waste by the following critical alarm setpoints.
  - UV intensity below 21 mW/cm^2
  - Power level below 13 kW
  - ballast failure
  - multiple lamp failure and
  - complete UV reactor failure
- On-line monitoring of UV intensity, flow, UVT, and power must be provided at all times. Flow meters UV intensity sensors, and UVT monitors must be properly calibrated to ensure proper disinfection. At least monthly, all duty UV intensity sensors must be checked for calibration against a reference UV intensity sensor. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
- The monitoring and reliability features, including automatic shutdown capability, shall be demonstrated to DDW during a plant inspection prior to final approval.
- Chlorine will be added to the effluent stream of the RO along with caustic soda and calcium chloride. A free chlorine residual shall be provided from the AWTP to the injection well. The log reduction of virus and Giardia will be calculated and reported daily. The CCSD will monitor the free chlorine residual continuously and report the daily average and minimum concentration. The CCSD will monitor and report the minimum water temperature and the maximum pH of the water daily. Also, the CCSD will report the minimum contact time from the AWTP to the injection well daily.
- Based on the calculation of log reduction achieved daily by the entire treatment facility, from the WWTP to the public water supply wells, the CCSD will report a "Yes" or "No" for each day as to whether the necessary log reductions (12-logs virus, 10-logs for Giardia and Cryptosporidium) have been achieved. An overall log reduction calculation will be provided only for those days when a portion of the treatment facility does not achieve the credits listed in Table 5-1 of the ER.
- CCSD shall sample the monitoring well for general mineral/physicals, inorganics, radioactivity (gross alpha and uranium) and volatile organic chemicals. CCSD shall take these samples monthly for the first year of operation. CCSD may request, from the Division, a reduction in this monitoring after the first year.

- The CCSD will submit the required annual and five-year reports per Section 60320.228.

The CCSD has limited time during this emergency situation to design, construct, and begin operation of the AWTP. The conditional approval of this project is contingent upon completion of some remaining requirements of the Groundwater Replenishment Regulation. For the continued use of the facility, the CCSD will be required to complete the following requirements within the given time frame.

- Section 60320.200(f) - The CCSD shall demonstrate adequate managerial and technical capability to ensure compliance. The CCSD has proposed contracting the initial operations of the facility. By June 30, 2015, the CCSD will provide a report to the DDW and the RWQCB describing compliance with Section 60320.200(f) for the future of the project.

- Section 60320.200(g) - Demonstration that all treatment processes have been installed and can be operated by the CCSD to achieve their intended function. By October 30, 2014, the CCSD will provide a start-up testing protocol to the DDW and the RWQCB. The start-up testing protocol may be included in the OMMP.

- Section 60320.222 - Operations Optimization Plan criteria must be included in the OMMP.

- The CCSD must operate the treatment facility in compliance with an OMMP approved by the DDW and the Water Board. The DDW or Water Board may require that the CCSD review and revise the OMMP following six months of operation of the facility. The OMMP must comply with Section 60320.

- Section 60320.206 - Wastewater Source Control Plan. The current source control program was briefly mentioned in the ER. A complete description of the enhanced source control program required by Section 60320.206 must be submitted to the DDW and the RWQCB by December 31, 2015, along with a plan for implementation.

- The pathogen log reduction credit for the WWTP described in Section 5.2.1 of the ER has been further investigated. The study conducted referenced in the ER is a small amount of data to provide significant pathogen reduction credit using secondary treatment. WateReuse is conducting an additional study, WRRF-14-02, to determine secondary treatment pathogen reduction. The CCSD pathogen credit to the influent of the AWTP is provided by secondary treatment at the WWTP and includes percolation and extraction from a well, Well 9P7. The DDW is confident the removal credit in Section 5.2.1 of the ER can be achieved. By December 31, 2016, the CCSD shall utilize additional research data to enhance the description and monitoring of the WWTP to insure adequate pathogen reduction or the CCSD shall develop a testing protocol to determine the actual pathogen log reduction from raw sewage to the effluent of Well 9P7. The DDW recommends the CCSD conduct its own study or participate in research to determine the actual pathogen log reduction.

- The final report for the tracer study was submitted to the DDW and the RWQCB on October 15, 2014. The tracer study, recalibrated model, and the operation of the CCSD wells did not show at least two months (61 days) of travel time between the injection well and the nearest potable extraction well being used. The CCSD shall be required to conduct additional tracer studies following operation of the AWTP.

- The initial sampling requirements for the two monitoring wells in Section 60320.226(b) can be satisfied by historical monitoring of Well SS3. CCSD shall summarize and submit the water quality data to the Division by December 31, 2014.

VII. REOPENER

1. This Order may be reopened to include the most scientifically relevant and appropriate limitations for this discharge, including a revised Basin Plan limit based on monitoring results, anti-degradation studies, or other Regional Water Board or State Water Board policy, or the application of an attenuation factor based upon an approved site-specific attenuation study.

2. The WDRs/WRRs may be reopened to modify limitations for pollutants to protect beneficial uses, based on new information not available at the time this Order was adopted.

3. After additional monitoring, reporting and trend analysis documenting aquifer conditions, this Order may be reopened to ensure the groundwater is protected in a manner consistent with state and federal water quality laws, policies and regulations.

4. This Order may be reopened to incorporate any new regulatory requirements for sources of drinking water or injection of recycled water for groundwater recharge to aquifers that are used as a source of drinking water, that are adopted after the effective date of this Order.

5. This Order may be reopened upon a determination by DDW that treatment and disinfection of the Cambria Community Services District emergency advanced treated product water is not sufficient to protect human health.

VIII. ENFORCEMENT

The requirements of this Order are subject to enforcement under Water Code sections 13261, 13263, 13264, 13265, 13268, 13350, 13300, 13301, 13304, 13350, and enforcement provisions in Water Code, Division 7, Chapter 7 (Water Reclamation).

IX. EFFECTIVE DATE OF THE ORDER

This Order takes effect on November 14, 2014.

I, Kenneth A. Harris Jr., Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the Regional Water Quality Control Board, Central Coast Region on November 14, 2014.

Digitally signed by Kenneth A Harris Jr.
DN: cn=Kenneth A Harris Jr., o=Central Coast Regional Water Quality Control Board, ou=Executive Officer, email=Ken.Harris@waterboards.ca.gov, c=US
Date: 2014.11.24 17:28:43 -08'00'

_____

Kenneth A. Harris Jr.
Executive Officer

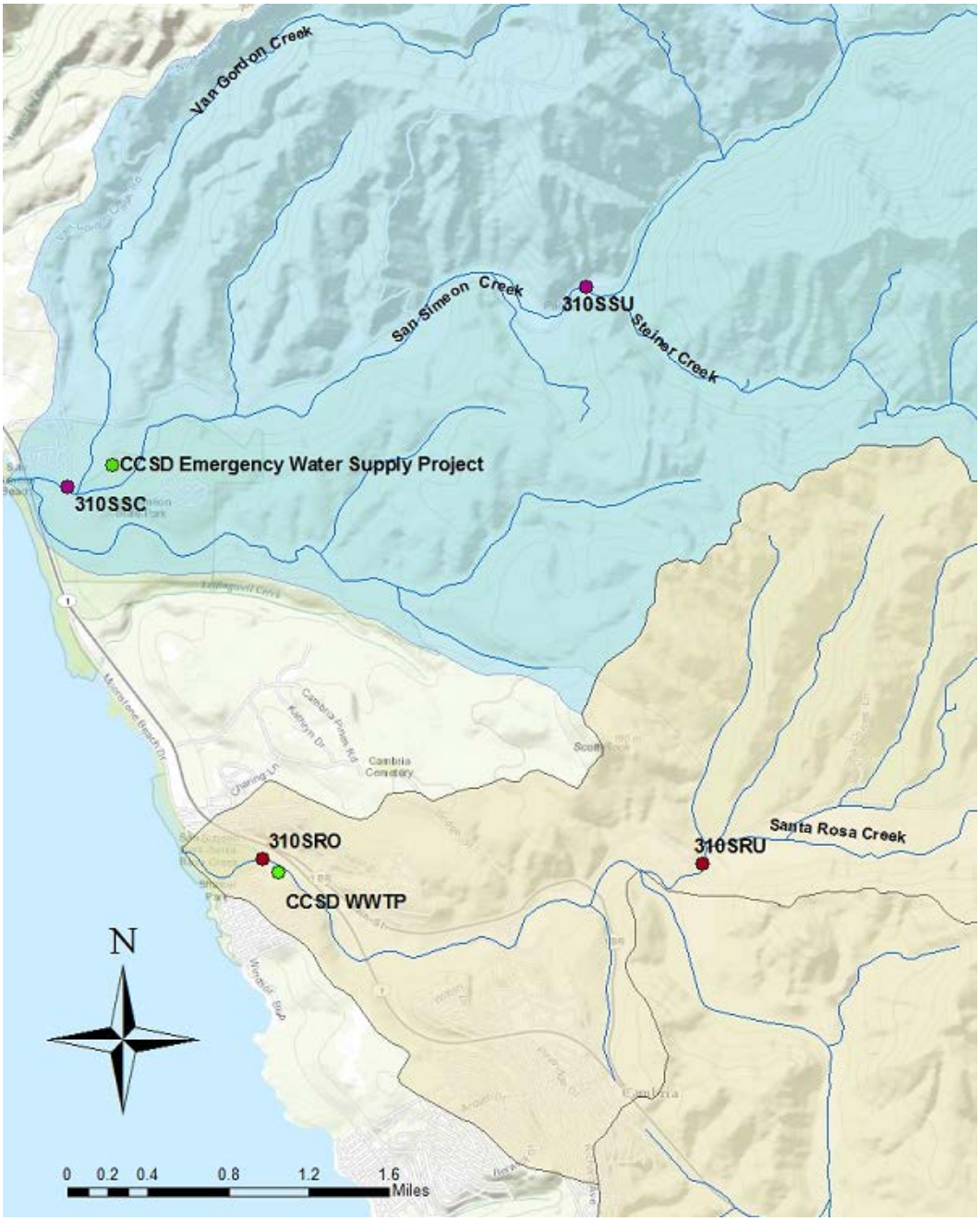


Figure 1 - Location of the Cambria Emergency Water Supply Project

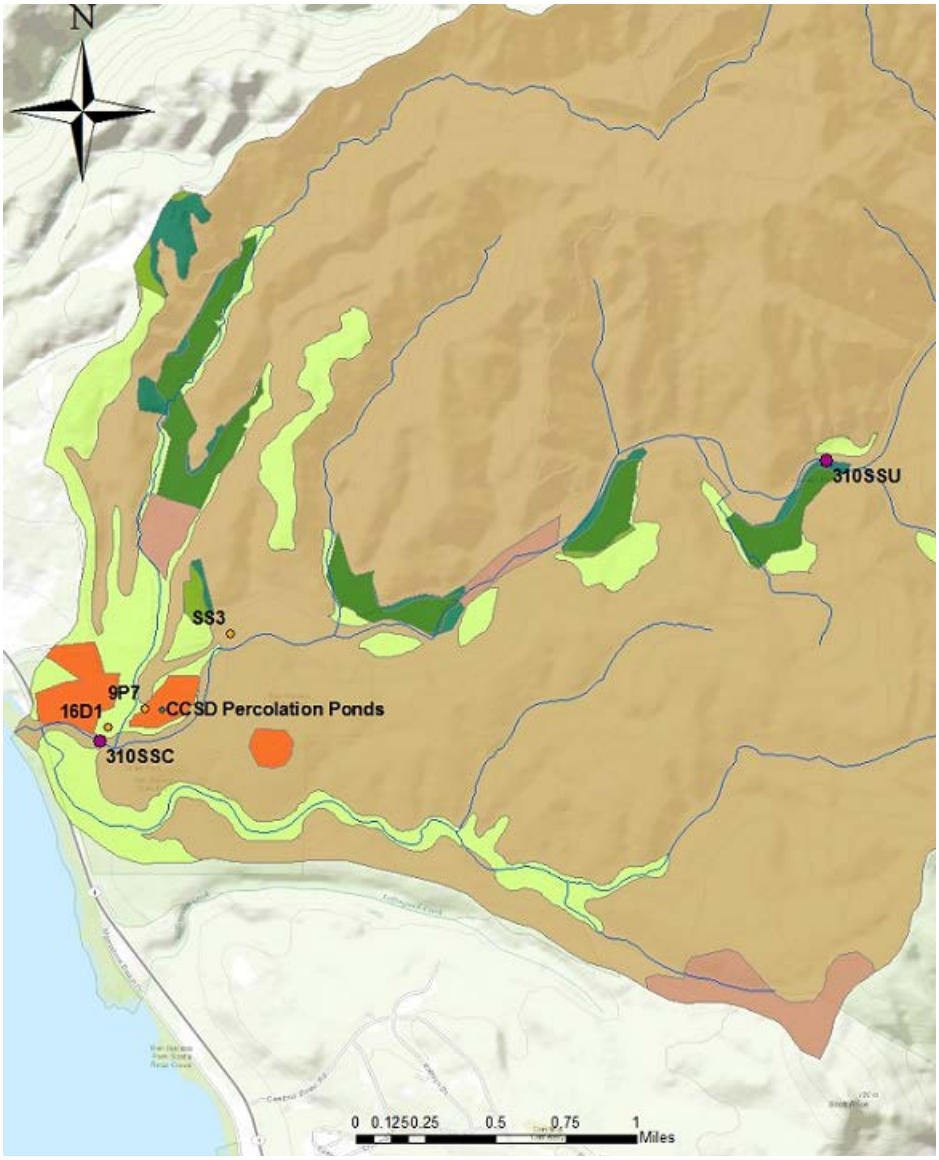


Figure 2 - CCSD Percolation Ponds and Water Supply/Monitoring Wells

Figure 3 - Emergency Water Supply Project (Extraction Well, Treatment Plant, Percolation Ponds, Title 27 Impoundment, Groundwater Injection Site, Water Supply Wells)

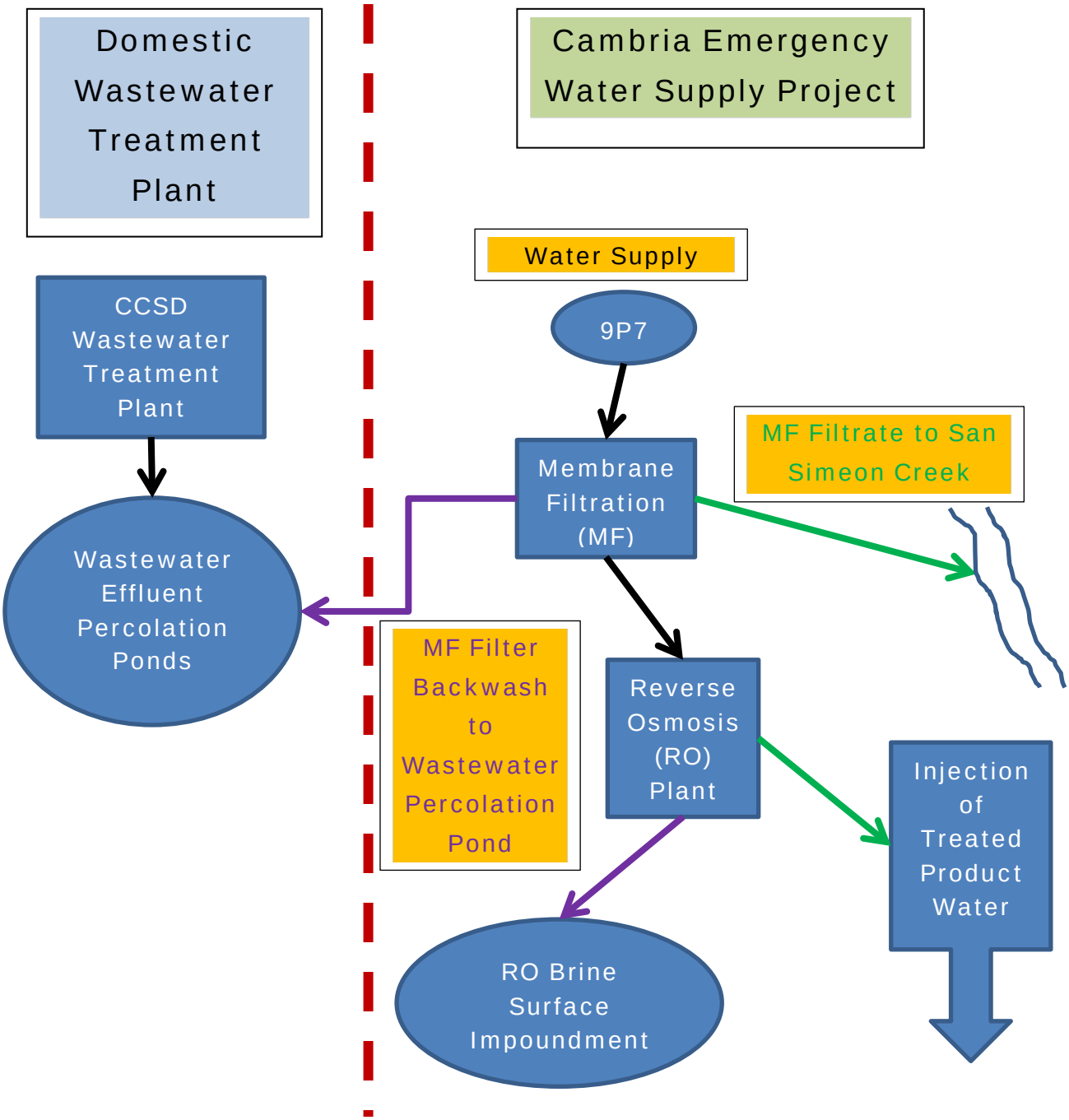
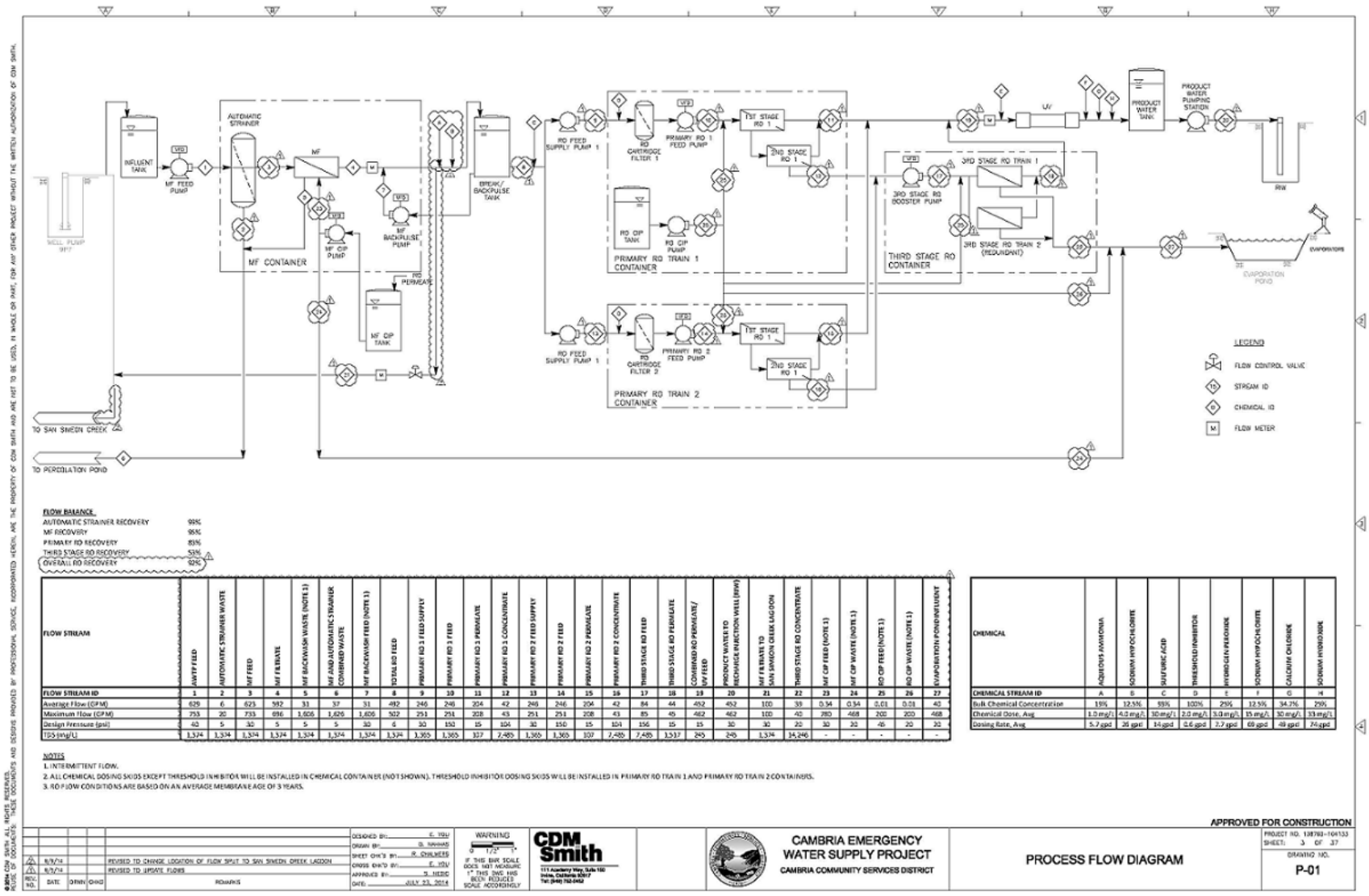


Figure 4 - Cambria Emergency Water Supply Project Water and Waste Streams



FLOW BALANCE

AUTOMATIC STRAINER RECOVERY	99%
MF RECOVERY	95%
PRIMARY RO RECOVERY	85%
THIRD STAGE RO RECOVERY	53%
OVERALL RO RECOVERY	92%

FLOW STREAM	1 INFF FEED	2 AUTOMATIC STRAINER WASTE	3 MF FEED	4 MF FILTRATE	5 MF BACKWASH WASTE (NOTE 1)	6 MF AND AUTOMATIC STRAINER COMBINED WASTE	7 MF BACKWASH FEED (NOTE 1)	8 TOTAL RO FEED	9 PRIMARY RO 1 FEED SUPPLY	10 PRIMARY RO 1 FEED	11 PRIMARY RO 1 PERMEATE	12 PRIMARY RO 1 CONCENTRATE	13 PRIMARY RO 2 FEED SUPPLY	14 PRIMARY RO 2 FEED	15 PRIMARY RO 2 PERMEATE	16 PRIMARY RO 2 CONCENTRATE	17 THIRD STAGE RO FEED	18 THIRD STAGE RO PERMEATE	19 COMBINED RO PERMEATE/ MF FEED	20 PRODUCT WATER TO RECHARGE INJECTION WELL (RIW)	21 MF FILTRATE TO SAN SIMEON CREEK LAGOON	22 THIRD STAGE RO CONCENTRATE	23 MF CIP FEED (NOTE 1)	24 MF CIP WASTE (NOTE 1)	25 RO CIP FEED (NOTE 1)	26 RO CIP WASTE (NOTE 1)	27 EVAPORATION POND/INFLUENT
FLOW STREAM ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Average Flow (GPM)	629	6	623	592	31	37	31	492	246	246	204	42	246	246	204	42	84	44	492	492	100	55	0.54	0.54	0.01	0.01	40
Maximum Flow (GPM)	753	20	733	696	1,606	1,626	1,606	502	251	251	208	43	251	251	208	43	85	45	462	462	100	40	280	468	202	202	468
Design Pressure (psi)	40	5	30	5	5	5	30	6	30	150	15	104	30	150	15	104	156	15	15	30	30	20	30	30	45	20	20
TDS (mg/L)	1,374	1,374	1,374	1,374	1,374	1,374	1,374	1,374	1,365	1,365	327	7,485	1,365	1,365	327	7,485	7,485	3,537	245	245	1,374	34,246	-	-	-	-	-

CHEMICAL	A AQUEOUS AMMONIA	B SODIUM HYPOCHLORITE	C SULFURIC ACID	D THRESHOLD INHIBITOR	E HYDROGEN PEROXIDE	F SODIUM HYPOCHLORITE	G CALCIUM CHLORIDE	H SODIUM HYDROXIDE
CHEMICAL STREAM ID	A	B	C	D	E	F	G	H
Bulk Chemical Concentration	19%	12.5%	93%	100%	25%	12.5%	34.7%	25%
Chemical Dose, Avg	1.0 mg/L	4.0 mg/L	30 mg/L	2.0 mg/L	3.0 mg/L	15 mg/L	30 mg/L	33 mg/L
Dosing Rate, Avg	5.7 gpd	26 gpd	14 gpd	0.6 gpd	2.7 gpd	69 gpd	49 gpd	74 gpd

NOTES
1. INTERMITTENT FLOW.
2. ALL CHEMICAL DOSING SKIDS EXCEPT THRESHOLD INHIBITOR WILL BE INSTALLED IN CHEMICAL CONTAINER (NOT SHOWN). THRESHOLD INHIBITOR DOSING SKIDS WILL BE INSTALLED IN PRIMARY RO TRAIN 1 AND PRIMARY RO TRAIN 2 CONTAINERS.
3. RO FLOW CONDITIONS ARE BASED ON AN AVERAGE MEMBRANE AGE OF 3 YEARS.

APPROVED FOR CONSTRUCTION

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	8/5/14			REVISED TO CHANGE LOCATION OF FLOW SPLIT TO SAN SIMEON CREEK LAGOON
1	8/5/14			REVISED TO UPDATE FLOWS

DESIGNED BY: C. YOU
DRAWN BY: D. NAHHAS
SHEET CHK'D BY: R. CHILMERS
CROSS CHK'D BY: C. YOU
APPROVED BY: S. HEDID
DATE: JULY 23, 2014

WARNING: IF THIS BAR SCALE DOES NOT MEASURE 1" THIS DWG HAS BEEN REDUCED SCALE ACCORDINGLY

CDM Smith
111 Academy Way, Suite 150
Irvine, California 92617
Tel: (949) 753-0452

CAMBRIA EMERGENCY WATER SUPPLY PROJECT
CAMBRIA COMMUNITY SERVICES DISTRICT

PROCESS FLOW DIAGRAM

PROJECT NO. 10780-104133
SHEET: 3 OF 37
DRAWING NO. P-01

Figure 5 - CCSD Advanced Water Treatment Flow Process Diagram

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

MONITORING AND REPORTING PROGRAM NO. R3-2014-0050

FOR THE

CAMBRIA COMMUNITY SERVICES DISTRICT
EMERGENCY WATER TREATMENT FACILITY
RECYCLED WATER RE-INJECTION PROJECT

ISSUED TO

Cambria Community Services District

Table of Contents

The Cambria Community Services District (CCSD) shall implement this Monitoring and Reporting Program (MRP) on the effective date of Order No. R3-2014-0050.

I. SUBMITTAL OF REPORTS

1. The CCSD shall submit the required reports outlined in the following paragraphs to the State Water Resources Control Board (State Water Board)'s Geotracker database (in Electronic Data Format[1]) and to the Division of Drinking Water (DDW), Drinking Water Field Operations, by the dates indicated.

   a. Startup 30 day report:

   The Discharger must evaluate and field validate the operating assumptions for the AWTP (quality of: water supply, membrane filter backwash discharge, membrane filtrate discharge, reverse osmosis product water re-injection, and lagoon condition) and compare the pre-project assumptions to documented operating data. The Discharger must submit a report detailing differences between documented operating values and assumed concentrations/conditions. The report must be submitted within 10 days following the first 30 days of AWTP operation.

   b. Monthly Reports:

   Consistent with section III.REPORTING REQUIREMENTS, monthly reports for monitoring and reporting requirements included in the Operations Maintence and Monitoring Plan shall be received by the 15th day of each month following the first monthly monitoring period.

   c. Quarterly Monitoring: Quarterly Monitoring Reports shall be received by the 15th day of the second month following the end of each quarterly monitoring period according to Table M-1.

Table M-1: Quarterly Report Periods and Due Dates

Reporting Period	Report Due
January – March	May 15
April – June	August 15
July – September	November 15
October – December	February 15

The contents of the Geotracker Quarterly Monitoring Report shall include a

[1] For help with EDF go to http://www.waterboards.ca.gov/ust/electronic_submittal/

one-page summary of operational concerns that addresses changes in reporting conditions, including influent, recycled water, and groundwater monitoring results, since the last report.

d. Annual Summary: The Annual Summary Report shall be received by April 15 of each year. This Annual Summary Report shall contain a discussion of the previous calendar year's analytical results, as well as graphical and tabular summaries of the monitoring analytical data.

   Public water systems and owners of small water systems and other active production wells having downgradient sources potentially affected by the CCSD groundwater injection project or within 10 years groundwater travel time from the CCSD groundwater injection project shall be notified by direct mail and/or electronic mail of the availability of the annual report.

e. Operation Plan: Prior to startup of the Cambria Advanced Water Treatment Plant (AWTP), the CCSD shall submit an Operations Maintence and Monitoring Plan (OMMP) to DDW and the Regional Water Board for approval. After six months of operation of the Plant, the OMMP shall be updated as necessary and submitted to the Regional Water Board and the DDW for review and approval.

   i. The OMMP covers critical operational parameters to include routine testing procedures for the microfiltration (MF), reverse osmosis (RO), and ultraviolet (UV)/advanced oxidation process (AOP) systems, optimization of the UV dose for disinfection and AOP for reduction of light-sensitive contaminants, and all treatment processes, maintenance and calibration schedules for all monitoring equipment, process alarm set points, and response procedures for all alarms in each treatment process of the Cambria AWTP, including criteria for diverting recycled water if water quality requirements are not met, start-up, emergency response and contingency plans. During the first year of operation of the Cambria AWTP, all treatment processes shall be operated in a manner to provide optimal reduction of microbial, regulated and nonregulated contaminants. Based on this experience and anytime operational changes are made, the OMMP shall be updated.

   ii. The OMMP includes staffing levels with applicable certification levels for Facility operations personnel. Significant changes in the operation of any of the treatment processes shall be reported to the DDW and Regional Water Board. Significant changes in the approved OMMP must be approved by the DDW and the Regional Water Board prior to instituting changes. The CCSD is responsible for ensuring that the OMMP is, at all times, representative of the current operations, maintenance, and monitoring of the Cambria AWTP.

f. Five-Year Engineering Report: CCSD shall update the 2013 Title 22 Engineering Report and submit the updated report to the State Water Board's Geotracker and the DDW five years after the startup of the Cambria AWTP,

and every five years thereafter.

2. All reports to the State Water Board's Geotracker shall reference the Order No. R3-2014-0050. Compliance monitoring reports shall be submitted separately from other technical reports.

3. All reports shall be submitted as a pdf file and uploaded electronically to the State Water Board's Geotracker and provided via email to the DDW (if the file exceeds 10 MB, either a CD containing the file shall be mailed to DDW, or a link for downloading an electronic copy of the file shall be provided). Upon request the data shall be provided in excel format

4. By the reporting due dates specified in Table M-1, groundwater data shall be uploaded electronically to the State Water Board's Geotracker in an electronic deliverable format specified by the State Water Board[2]. Upon request the data shall be provided in excel format.

II. MONITORING REQUIREMENTS

1. CCSD shall monitor the flow and quality of the following according to the manner and frequency specified in this MRP:

    a. Influent to the Cambria AWTP;

    b. Recycled water from Cambria AWTP after the injection point for sodium hypochlorite and calcium chloride and before injection into the San Simeon Valley (3-35) groundwater basin;

    c. If potable water is used, blend of recycled water and diluent water;

    d. Receiving groundwater (monitoring wells specified in Table M-15); and,

    e. For production well SS3, nearest to the CCSD groundwater injection project, the CCSD shall review and evaluate the publicly available Title 22 monitoring data.

2. Monitoring reports shall include, but not limited to, the following:

    a. Analytical results;

    b. Location of each sampling station where representative samples are obtained, including a map, at a scale of 1 inch equals 1,200 feet or less, that clearly identifies the locations of all injection wells, monitoring wells, and production wells;

    c. Analytical test methods used and the corresponding minimum reporting levels

[2] http://www.waterboards.ca.gov/ust/electronic_submittal/

(MRLs);

d. Name(s) of the laboratory, which conducted the analyses;

e. Copy of laboratory certifications by the DDW's Environmental Laboratory Accreditation Program (ELAP);

f. Quality assurance and control information, including documentation of chain of custody; and,

g. Maximum contaminant level (MCL), notification level, response level, DDW Condition or Recycled Water Discharge Limit.

3. Though not required to be submitted in the monitoring reports unless specifically requested by the Regional Water Board or the DDW, the CCSD shall have in place written sampling protocols. For groundwater monitoring, the sampling protocols shall outline the methods and procedures used for measuring water levels; purging wells; collecting samples; decontaminating equipment; containing, preserving, and shipping samples, and maintaining appropriate documentation. Also, the sampling protocols shall include the procedures for handling, storing, testing, and disposing of purge and decontamination waters generated from the sampling events.

4. Where multiple EPA approved methods are available, drinking water (500 series) or wastewater (600 series) may be used as appropriate.

5. The samples shall be analyzed using analytical methods described in 40 Code of Federal Regulations (CFR) Part 141, or where no methods are specified for a given pollutant, by methods approved by the DDW, Regional Water Board and/or State Water Board. The CCSD shall select the analytical methods that provide Minimum Reporting Levels (MRLs) lower than the limits prescribed in this Order or as low as possible that will provide reliable data.

6. The CCSD shall instruct its laboratories to establish calibration standards so that the MRLs (or its equivalent if there is a different treatment of samples relative to calibration standards) are the lowest calibration standard. At no time shall analytical data derived from extrapolation beyond the lowest point of the calibration curve be used, except as stated in section III.1.B of this MRP.

7. Upon request by the CCSD, the Regional Water Board, in consultation with the DDW and the State Water Board Quality Assurance Program, may establish MRLs, in any of the following situations:

   a. When the pollutant has no established method under 40 CFR 141;

   b. When the method under 40 CFR 141 for the pollutant has an MRL higher than the limit specified in this Order; or,

   c. When the CCSD agrees to use a test method that is more sensitive than those specified in 40 CFR Part 141.

8. For regulated constituents, the laboratory conducting the analyses shall be certified by ELAP or approved by the DDW, Regional Water Board, or State Water Board, for a particular pollutant or parameter.

9. Samples shall be analyzed within allowable holding time limits as specified in 40 CFR Part 141. All Quality Assurance/Quality Control (QA/QC) analyses shall be run on the same dates that samples are actually analyzed. The CCSD shall retain the QA/QC documentation in its files for three years and make available for inspection and/or submit them when requested by the Regional Water Board or the DDW. Proper chain of custody procedures shall be followed, and a copy of this documentation shall be submitted with the quarterly report.

10. For all bacterial analyses, sample dilutions shall be performed so the range of values extends from 1 to 800. The detection methods used for each analysis shall be reported with the results of the analyses.

11. Quarterly monitoring for recycled water and groundwater shall be performed during the months of February, May, August, and November. Semiannual monitoring for recycled water shall be performed during the months of February and August. Semiannual monitoring for groundwater shall be performed during the months of May and November. Should there be instances when monitoring can not be done during these specified months, the CCSD shall conduct the monitoring as soon as it can and state in the monitoring report the reason monitoring could not be conducted during the specified month. Results of quarterly analyses shall be reported in the quarterly monitoring report following the analysis.

12. For unregulated chemical analyses, the CCSD shall select methods according to the following approach:

    a. Use the drinking water methods or waste water method sufficient to evaluate all water quality objectives and protect all beneficial uses;

    b. Use DDW-recommended methods for unregulated chemicals, if available;

    c. If there is no DDW-recommended drinking water method for a chemical, and more than a single United States Environmental Protection Agency (USEPA)-approved method is available, use the most sensitive of the USEPA-approved methods;

    d. If there is no USEPA-approved method for a chemical, and more than one method is available from the scientific literature and commercial laboratory, after consultation with DDW, use the most sensitive method;

    e. If no approved method is available for a specific chemical, the Project Sponsors' laboratory may develop or use its own methods and should provide the analytical methods to DDW for review. Those methods may be used until DDW-recommended or USEPA-approved methods are available.

f. For constituents of emerging concern (CECs) subject to the State Water Board Recycled Water Policy as amended January 22, 2013, analytical methods for laboratory analysis of CECs shall be selected to achieve the reporting limits (RLs) presented in Table 1 of Attachment A of the Recycled Water Policy. The analytical methods shall be based on methods published by the USEPA, methods certified by the DDW, or peer review reviewed and published methods that have been reviewed by DDW, including those published by voluntary consensus standards bodies such as the Standards Methods Committee and the American Society for Testing and Materials International. Any modifications to the published or certified methods shall be reviewed by DDW and subsequently submitted to the Regional Water Board in an updated quality assurance project plan.

III. REPORTING REQUIREMENTS

1. Monthly Reports
   The following monitoring and reporting requirements must be included in the OMMP and reported to the DDW and the RWQCB monthly.

   - Effluent Monitoring - To demonstrate the log reduction credit given to the CCSD Wastewater Treatment Plant (WWTP) and facilities up to the influent of the AWTP, the WWTP effluent shall be monitored continuously for turbidity and daily for coliform concentrations. The CCSD will report monthly to the DDW and RWQCB the daily WWTP effluent coliform analysis, the daily WWTP effluent average turbidity, daily WWTP effluent maximum turbidity and the percent of time the WWTP effluent turbidity is greater than 5 NTU.
   - Influent Monitoring - The CCSD will monitor and report the AWTP influent for turbidity continuously, Total Organic Carbon (TOC) weekly, and total coliform weekly. If a sample of the influent to the AWTP is positive for total coliform, the sample shall be analyzed for E.coli. Turbidity measurements shall be recorded every 15 minutes and the daily average and daily maximum shall be reported.
   - The micro filtration membrane (MF) effluent will be monitored for turbidity continuously. The daily average and maximum turbidity reading and the percent of time that the turbidity is greater than 0.2 NTU needs to be reported.
   - Membrane integrity testing (MIT) shall be performed on the MF membrane unit a minimum of once every 24 hours of operation.
     - The log removal value (LRV) for Cryptosporidium shall be calculated and the value reported after the completion of each MIT.
     - The MIT shall have a resolution that is responsive to an integrity breach on the order of 3 µm or less.
     - Calculations of the LRV shall be based on a pressure decay rate (PDR) value with an ending pressure that provides a resolution of 3 microns or less.
     - The MIT shall have a sensitivity to verify a LRV equal to or greater than 4.0.

- The Reverse Osmosis (RO) system will not be credited pathogen reduction at this facility; however, minimal monitoring will be required to ensure the integrity of the system. CCSD needs to monitor the effluent of each RO unit (Stage 1 and 2) and the third stage RO unit (Stage 3) continuously for conductivity. The CCSD will report the average and maximum conductivity from the effluent of each unit daily. The RO effluent will be monitored for TOC weekly and reported in the monthly report.
- The UV/peroxide system shall be operated as has been designed to meet the groundwater recharge regulations, providing a minimum 0.5-log reduction of 1,4-dioxane. The UV system is a Trojan UVPhOx 72AL75, which was pilot-tested at the City of San Diego IPR Demonstration Facility at a 1.0 mgd flow rate. Based upon this testing, power level shall be 13 kW or greater; and UV intensity shall be 21 mW/cm^2 or higher.
- The UV system must be operated with online monitoring and built-in automatic reliability features that must trigger automatic diversion of effluent to waste by the following critical alarm setpoints.
  - UV intensity below 21 mW/cm^2
  - Power level below 13 kW
  - ballast failure
  - multiple lamp failure and
  - complete UV reactor failure
- On-line monitoring of UV intensity, flow, UVT, and power must be provided at all times. Flow meters UV intensity sensors, and UVT monitors must be properly calibrated to ensure proper disinfection. At least monthly, all duty UV intensity sensors must be checked for calibration against a reference UV intensity sensor. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
- The monitoring and reliability features, including automatic shutdown capability, shall be demonstrated to DDW during a plant inspection prior to final approval.
- Chlorine will be added to the effluent stream of the RO along with caustic soda and calcium chloride. A free chlorine residual shall be provided from the AWTP to the injection well. The log reduction of virus and Giardia will be calculated and reported daily. The CCSD will monitor the free chlorine residual continuously and report the daily average and minimum concentration. The CCSD will monitor and report the minimum water temperature and the maximum pH of the water daily. Also, the CCSD will report the minimum contact time from the AWTP to the injection well daily.
- Based on the calculation of log reduction achieved daily by the entire treatment facility, from the WWTP to the public water supply wells, the CCSD will report a "Yes" or "No" for each day as to whether the necessary log reductions (12-logs virus, 10-logs for Giardia and Cryptosporidium) have been achieved. An overall log reduction calculation will be provided only for those days when a portion of the treatment facility does not achieve the credits listed in Table 5-1 of the ER.
- CCSD shall sample the monitoring well for general mineral/physicals, inorganics, radioactivity (gross alpha and uranium) and volatile organic chemicals. CCSD shall take these samples monthly for the first year of

operation. CCSD may request, from the Division, a reduction in this monitoring after the first year.

2. Quarterly Reports

a. These reports shall include, at a minimum, the following information:

i. The volume of:
- Influent water pumped from well 9P7.
- Membrane filtrate (MF) backwash discharged into the CCSD percolation ponds.
- MF product water discharged into San Simeon Creek.
- Reverse osmosis (RO) recycled water injected into the San Simeon Valley (3-35) groundwater basin.
- RO brine wastewater discharged into Title 27 brine impoundment.

If no water was pumped, the report shall so state.

ii. The date and time of sampling and analyses.

iii. All analytical results of samples collected during the monitoring period of the:
- Influent,
- MF backwash,
- MF product water,
- RO recycled water, and
- Groundwater.

iv. Records of any operational problems, plant upset and equipment breakdowns or malfunctions, and any diversion(s) of off-specification recycled water and the location(s) of final disposal.

v. Discussion of compliance, noncompliance, or violation of requirements.

vi. All corrective or preventive action(s) taken or planned with schedule of implementation, if any.

vii. Certification by the CCSD that no groundwater for drinking purposes has been pumped from wells within the boundary representing the greatest of the horizontal and vertical distances reflecting two months.

viii. A summary of operational concerns describing changes in reporting conditions, including influent, MF backwash, MF filtrate, RO recycled water, and groundwater monitoring results, since the last report.

b. Monitoring results associated with the evaluation of pathogenic microorganism removal as described in the Order.

c. For the purpose of reporting compliance with numerical limitations, analytical data shall be reported using the following reporting protocols:

   i. Sample results greater than or equal to the MRL must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample); or

   ii. Sample results less than the MRL, but greater than or equal to the laboratory's Minimum Detection Limit (MDL), shall be reported as "Detected, but Not Quantified", "DNQ". The laboratory shall write the estimated chemical concentration of the sample next to "DNQ"; or

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

d. If the CCSD samples and performs analysis on any sample more frequently than required in this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average recycled water, receiving water, etc., limitations.

e. The Regional Water Board or DDW may request supporting documentation, such as daily logs of operations.

3. Annual Summary Reports shall include, at a minimum, the following information:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous calendar year;

   b. A summary of compliance status with all monitoring requirements during the previous calendar year;

   c. For any non-compliance during the previous calendar year, a description of:

      i. the date, duration, and nature of the violation;

      ii. a summary of any corrective actions and/or suspensions of surface application of recycled water resulting from a violation; and

      iii. if uncorrected, a schedule for and summary of all remedial actions;

   d. Any detections of monitored chemicals or contaminants, and any observed trends in the monitoring wells;

   e. Information pertaining to the vertical and horizontal migration of the recharge water plume;

   f. Title 22 drinking water quality data for the nearest domestic water supply well SS3;

g. A description of any changes in the operation of any unit processes or facilities;

h. The estimated quantity and quality of the recycled water to be utilized for the next calendar year;

i. A list of the analytical methods used for each test and associated laboratory quality assurance/quality control procedures shall be included. The report shall identify the laboratories used by the CCSD to monitor compliance with this Order, their status of certification, and provide a summary of proficiency test;

j. A list of current operating personnel, their responsibilities, and their corresponding grade of certification;

k. The Annual Report shall be prepared by a properly qualified engineer registered and licensed in California and experienced in the field of wastewater or water treatment; and

l. A summary on monitoring reports, reporting and trend analysis, to describe the changes in water quality and contrast them to background measurements for all constituents exceeding MCLs or where concentration trends increase after the addition of recycled water. Specifically describe studies or investigations made to identify the source, fate and transport path of constituents which exceed the MCL at the monitoring wells.

4. The existing OMMP shall be updated to accurately reflect the operations of the Cambria AWTP, the date the plan was last reviewed, and whether the plan is valid and current.

5. Five-Year Engineering Report: Five years after the startup of the Cambria AWTP and every five years thereafter, the CCSD shall update the engineering report to address any project changes and submit the report to the Regional Water Board and the DDW. The Five-Year Engineering Report Update shall include, but not be limited to:

   a. A description of any inconsistencies between previous groundwater model predictions and the observed and/or measured values. For this requirement, the CCSD shall summarize the groundwater flow and transport including the injection and extraction operations for the CCSD groundwater injection project during the previous five calendar years. This summary shall also use the most current data for the evaluation of the transport of recycled water; such evaluations shall include, at a minimum, the following information:

      i. Total quantity of RO recycled water injected into San Simeon Valley (3-35) groundwater aquifer;

      ii. Estimates of the rate and path of flow of the injected water within the aquifer;

iii. Projections of the arrival time of the recycled water at all monitoring and extraction wells and the percent of recycled water at each location.

iv. Clear presentation on any assumptions and/or calculations used for determining the rates of flow and for projecting arrival times and dilution levels;

v. A discussion of the underground retention time of recycled water, a numerical model, or other methods used to determine the recycled water contribution to each aquifer;

vi. A revised flow and transport model to match actual flow patterns observed within the aquifer if the flow paths have significantly changed; and,

vii. Revised estimates, if applicable, on hydrogeologic conditions including the retention time and the amount of the recycled water in the aquifers and at the production well field at the end of that calendar year. The revised estimates shall be based upon actual data collected during that year on recharge rates (including recycled water and native water), hydrostatic head values, groundwater production rates, basin storage changes, and any other data needed to revise the estimates of the retention time and the amount of the recycled water in the aquifers and at the production well field. Significant differences, and the reasons for such differences, between the estimates presented in the 2014 Engineering Report and subsequently revised estimates, shall be clearly presented. Additionally, the CCSD shall use the most recently available data to predict the retention time of recycled water in the subsurface.

b. Evaluation of the ability of CCSD to comply with all regulations and provisions over the following five years.

c. The Five-Year Engineering Report shall be prepared by a properly qualified engineer registered and licensed in California and experienced in the field of wastewater or water treatment.

IV. MONITORING PROGRAMS

1. Influent Monitoring

a. Monitoring is required to determine compliance with water quality conditions and standards and assess Cambria AWTP performance.

b. The influent sampling station is located before water from well 9P7 enters the MF treatment system of the Cambria AWTP. Influent samples shall be obtained on the same day that MF backwash water, MF product water, and RO recycled water samples are obtained. The date and time of sampling shall be reported with the analytical values determined. Table M-2 constitutes the influent monitoring program.

Table M-2: Influent Monitoring			
Constituents	**Units**	**Type of Sample**	**Minimum Frequency of Analysis**
Ammonia-N	mg/L	grab	Weekly
BOD5	mg/L	24-hour composite	Weekly
Boron	mg/L	grab	Weekly
Chloride	mg/L	24-hour composite	Weekly
Nitrate-N	mg/L	grab	Weekly
Nitrite-N	mg/L	grab	Weekly
Nitrate plus Nitrite	mg/L	grab	Weekly
pH	pH units	Metered	Continuous
Sodium	mg/L	24-hour composite	Weekly
Sulfate	mg/L	grab	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly
Total coliform	MPN/100 ml	Grab	Weekly
Total Dissolve Solids	mg/L	24-hour composite	Weekly
Total flow	mgd	Metered	Continuous[3]
Total Kjeldahl nitrogen-N	mg/L	grab	Weekly
Total nitrogen[4]	mg/L	grab	Weekly
Total Organic Carbon (TOC)	mg/L	24-hour composite	Weekly
Turbidity	NTU	Metered	Continuous[5]

2. Membrane Filtrate (MF) and MF Backwash Discharge Monitoring

   a. Membrane filtrate discharge water monitoring is required to:

      i. Determine compliance with the Permit conditions;

      ii. Identify operational problems and aid in improving facility performance; and,

      iii. Provide information on membrane filtrate water characteristics and flows for use in interpreting water quality and biological data.

   Samples shall be collected from the AWTP prior to the injection of any chemicals. Should the need for a change in the sampling station(s) arise in the future, the CCSD shall seek approval of the proposed station by the Executive Officer prior to

[3] For those pollutants that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.
[4] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.
[5] For those pollutants that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.

use.

b. Table M-3a shall constitute the membrane filtrate water monitoring program.

Table M-3a: Membrane Filtrate Discharge Monitoring

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Ammonia-N	mg/L	grab	Weekly
BOD5	mg/L	24-hour composite	Weekly
Boron	mg/L	grab	Weekly
Chloride	mg/L	24-hour composite	Weekly
Nitrate-N	mg/L	grab	Weekly
Nitrite-N	mg/L	grab	Weekly
Nitrate plus Nitrite	mg/L	grab	Weekly
pH	pH units	Metered	Continuous
Sodium	mg/L	24-hour composite	Weekly
Sulfate	mg/L	grab	Weekly
Total coliform	MPN/100 ml	Grab	Daily
Total Dissolve Solids	mg/L	24-hour composite	Weekly
Total flow	mgd	Metered	Continuous[6]
Total Kjeldahl nitrogen-N	mg/L	grab	Weekly
Total nitrogen[7]	mg/L	grab	Weekly
TOC	mg/L	grab	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly
Turbidity	NTU	Metered	Continuous

c. Membrane filtrate backwash discharge water monitoring is required to:

iv. Determine compliance with the Permit conditions;

v. Identify operational problems and aid in improving facility performance; and,

vi. Provide information on membrane filtrate water characteristics and flows for use in interpreting water quality and biological data.

Samples shall be collected from the AWTP prior to the injection of any chemicals. Should the need for a change in the sampling station(s) arise in the future, the CCSD shall seek approval of the proposed station by the Executive Officer prior to use.

[6] For those constituents that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.
[7] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

d. Table M-3b shall constitute the membrane filtrate backwash water monitoring program.

Table M-3b: Membrane Filtrate Backwash Discharge Monitoring

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Ammonia-N	mg/L	grab	Weekly
BOD5	mg/L	24-hour composite	Weekly
Boron	mg/L	grab	Weekly
Chloride	mg/L	24-hour composite	Weekly
Nitrate-N	mg/L	grab	Weekly
Nitrite-N	mg/L	grab	Weekly
Nitrate plus Nitrite	mg/L	grab	Weekly
pH	pH units	Metered	Continuous
Sodium	mg/L	24-hour composite	Weekly
Sulfate	mg/L	grab	Weekly
Total coliform	MPN/100 ml	Grab	Daily
Total Dissolve Solids	mg/L	24-hour composite	Weekly
Total flow	mgd	Metered	Continuous[8]
Total Kjeldahl nitrogen-N	mg/L	grab	Weekly
Total nitrogen[9]	mg/L	grab	Weekly
TOC	mg/L	grab	Weekly
Total Suspended Solids	mg/L	24-hour composite	Weekly
Turbidity	NTU	24-hour composite	Weekly

3. Recycled Water (Advanced Treatment Product Water) Discharge Limit Monitoring

e. Highly treated recycled water monitoring is required to:

vii. Determine compliance with the Permit conditions;

viii. Identify operational problems and aid in improving facility performance; and,

ix. Provide information on recycled water characteristics and flows for use in interpreting water quality and biological data.

Samples shall be collected from the channel downstream of the sodium hydroxide,

[8] For those constituents that are continuously monitored, the CCSD shall report the monthly minimum and maximum, and daily average values.
[9] Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

calcium chloride, and sodium hypochlorite injection point, with the exception of constituents specified in Tables M-13 and M-14. Should the need for a change in the sampling station(s) arise in the future, the CCSD shall seek approval of the proposed station by the Executive Officer prior to use.

f. Table M-4 shall constitute the recycled water monitoring program.

Table M-4: Recycled Water Discharge Limits Monitoring

Constituent/Parameters	Units	Type of Sample	Minimum Frequency of Analysis[10]	Reference Table Number
Conductivity[11]	mmho/cm	Metered	Continuous	M-4
Free chlorine residual	mg/L	Metered	Continuous	M-4
Total recycled water flow	mgd	Metered	Continuous	M-4
pH	pH units	Metered	Continuous	M-4
Total coliform	MPN/ 100 ml	Grab	Daily	M-4
Total Organic Carbon (TOC)	mg/L	grab	Weekly	M-4
Turbidity	NTU	Metered	Continuous	M-4
Total nitrogen	mg/L	Grab	Twice per week at least 3 days apart[12]	M-4
Ammonia-N	mg/L	Grab	Weekly	M-4
Nitrate-N	mg/L	Grab	Weekly	M-4
Nitrite-N	mg/L	Grab	Weekly	M-4
Nitrate plus Nitrite	mg/L	Grab	Weekly	M-4
Total Kjeldahl nitrogen-N	mg/L	Grab	Weekly	M-4
Water temperature	C°	Metered	Continuous	M-4
Inorganics[13] with primary MCLs	µg/L	Grab	Quarterly	M-5
Constituents/parameters with secondary MCL	various	Grab	Quarterly	M-6
Radioactivity	pCi/L	Grab	Quarterly	M-7
Regulated organic chemicals	µg/L	24-hour composite	Quarterly	M-8

[10] For those constituents that are continuously monitored, the Project Sponsors shall report the daily minimum, maximum, and average values.
[11] Monitor the effluent of each RO unit (Stage 1 and 2) and the third stage RO unit (Stage 3). Report the average and maximum conductivity from the effluent of each unit daily.
[12] If no problem is detected, analysis of nitrogen can be reduced to weekly after 12 months of data collection.
[13] For specific constituents to be monitored and their monitoring frequency, refer to Tables M-3 through M-18.

Disinfection byproducts	µg/L	24-hour composite	Quarterly	M-9
General physical	various	Grab	Quarterly	M-10
General minerals	µg/L	Grab	Quarterly	M-10
Constituents with Notification Levels	µg/L	Grab	Varies	M-11
Remaining priority pollutants	µg/L	Grab	Annually	M-12
Constituents of Emerging Concern (CECs)	ng/L	Grab	Varies	M-13
Surrogates	Varies	Varies	Varies	M-14

Table M-5: Inorganics with Primary MCLs

Constituents		
Aluminum	Cadmium	Nitrate (as nitrogen)
Antimony	Chromium (Total)	Nitrite (as nitrogen)
	Chromium VI	
Arsenic	Cyanide	Nitrate + Nitrite
Asbestos	Fluoride	Perchlorate
Barium	Mercury	Selenium
Beryllium	Nickel	Thallium

Table M-6: Constituents/parameters with Secondary MCLs

Constituents		
Aluminum	Manganese	Thiobencarb
Chloride	Methyl-tert-butyl-ether (MTBE)	Total Dissolved Solids
Color	Odor – Threshold	Turbidity
Copper	Silver	Zinc
Foam Agents (MBAS)	Specific Conductance	
Iron	Sulfate	

Table M-7: Radioactivity

Constituents		
Gross Alpha Particle Activity (Including Radium-226 but Excluding Radon and Uranium)	Combined Radium-226 and Radium-228	Tritium

Gross Beta Particle Activity	Strontium-90	Uranium

Table M-8: Regulated Organics		
Constituents		
(a) Volatile Organic Chemicals	1,1,1-Trichloroethane	Endothal
Benzene	1,1,2-Trichloroethane	Endrin
Carbon Tetrachloride (CTC)	Trichloroethylene (TCE)	Ethylene Dibromide (EDB)
1,2-Dichlorobenzene	Trichlorofluoromethane	Glyphosate
1,4-Dichlorobenzene	1,1,2-Trichloro-1,2,2-Trifluoroethane	Heptachlor
1,1-Dichloroethane	Vinyl Chloride	Heptachlor Epoxide
1,2-Dichloroethane (1,2-DCA)	Xylenes (m,p)	Hexachlorobenzene
1,1-Dichloroethene (1,1-DCE)	**(b) Non-Volatile synthetic Organic Constituents**	Hexachlorocyclopentadiene
Cis-1,2-Dichloroethylene	Alachlor	Lindane
Trans-1,2-Dichloroethylene	Atrazine	Methoxychlor
Dichloromethane	Bentazon	Molinate
1,2-Dichloropropane	Benzo(a)pyrene	Oxamyl
1,3-Dichloropropene	Carbofuran	Pentachlorophenol
Ethylbenzene	Chlordane	Picloram
Methyl-tert-butyl-ether (MTBE)	Dalapon	Polychlorinated Biphenyls
Monochlorobenzene	1,2-Dibromo-3-chloropropane (DBCP)	Simazine
Styrene	2,4-Dichlorophenoxyacetic acid (2,4-D)	Thiobencarb
1,1,2,2-Tetrachloroethane	Di(2-ethylhexyl)adipate	Toxaphene
Tetrachloroethylene (PCE)	Di(2-ethylhexyl)phthalate	2,3,7,8-TCDD (Dioxin)
Toluene	Dinoseb	2,4,5-TP (Silvex)
1,2,4-Trichlorobenzene	Diquat	

Table M-9: Disinfection Byproducts		
Constituents		
Total Trihalomethanes (TTHM)	Haloacetic Acid (five) (HAA5)	Bromate
Bromodichloromethane	Monochloroacetic acid	Chlorite

Bromoform	Dichloroacetic acid	
Chloroform	Trichloroacetic acid	
Dibromochloromethane	Monobromoacetic acid	
	Dibromoacetic acid	

Table M-10: General Physical and General Minerals

Constituents		
Asbestos	Potassium	Foaming Agents
Calcium	Sodium	Odor
Chloride	Sulfate	Specific Conductance
Copper	Zinc	Total Dissolved Solids
Iron	Color	Total Hardness
Manganese	Corrosivity	

Table M-11: Constituents with Notification Levels

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Boron	µg/L	Grab	Quarterly
n-Butylbenzene	µg/L	Grab	Annually
sec-Butylbenzene	µg/L	Grab	Annually
tert-Butylbenzene	µg/L	Grab	Annually
Carbon disulfide	µg/L	Grab	Quarterly
Chlorate	µg/L	Grab	Quarterly
2-Chlorotoluene	µg/L	Grab	Annually
4-Chlorotoluene	µg/L	Grab	Annually
Diazinon	µg/L	Grab	Annually
Dichlorodifluoromethane (Freon 12)	µg/L	Grab	Annually
1,4-Dioxane	µg/L	Grab	Quarterly
Ethylene glycol	µg/L	Grab	Annually
Formaldehyde	µg/L	Grab	Annually
HMX	µg/L	Grab	Annually
Isopropylbenzene	µg/L	Grab	Annually
Manganese	µg/L	Grab	Quarterly
Methyl isobutyl ketone (MIBK)	µg/L	Grab	Annually
Naphthalene	µg/L	Grab	Annually
n-Nitrosodiethyamine (NDEA)	µg/L	Grab	Annually
n-Nitrosodimethylamine (NDMA)	µg/L	Grab	Quarterly
n-Nitrosodi-n-propylamine (NDPA)	µg/L	Grab	Annually
Propachlor	µg/L	Grab	Annually

Table M-11: Constituents with Notification Levels

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
n-Propylbenzene	µg/L	Grab	Annually
RDX	µg/L	Grab	Annually
Tertiary butyl alcohol (TBA)	µg/L	Grab	Quarterly
1,2,3-Trichloropropane (1,2,3-TCP)	µg/L	Grab	Annually
1,2,4-Trimethylbenzene	µg/L	Grab	Annually
1,3,5-Trimethylbenzene	µg/L	Grab	Annually
2,4,6-Trinitrotoluene (TNT)	µg/L	Grab	Annually
Vanadium	µg/L	Grab	Annually

Table M-12: Remaining Priority Pollutants

Constituents		
Pesticides	**Metals**	Di-n-butyl phthalate
Aldrin	Chromium III	Di-n-octyl phthalate
Dieldrin		Diethyl phthalate
4,4'-DDT	**Base/Neutral Extractables**	Dimethyl phthalate
4,4'-DDE	Acenaphthene	Benzo(a)anthracene
4,4'-DDD	Benzidine	Benzo(a)fluoranthene
Alpha-endosulfan	Hexachloroethane	Benzo(k)fluoranthene
Beta-endosulfan	Bis(2-chloroethyl)ether	Chrysene
Endosulfan sulfate	2-chloronaphthalene	Acenaphthylene
Endrin aldehyde	1,3-dichlorobenzene	Anthracene
Alpha-BHC	3,3'-dichlorobenzidine	1,12-benzoperylene
Beta-BHC	2,4-dinitrotoluene	Fluorene
Delta-BHC	2,6-dinitrotoluene	Phenanthrene
Acid Extractables	1,2-diphenylhydrazine	1,2,5,6-dibenzanthracene
2,4,6-trichlorophenol	Fluoranthene	Indeno(1,2,3-cd)pyrene
P-chloro-m-cresol	4-chlorophenyl phenyl ether	Pyrene
2-chlorophenol	4-bromophenyl phenyl ether	**Volatile Organics**
2,4-dichlorophenol	Bis(2-chloroisopropyl)ether	Acrolein
2,4-dimethylphenol	Bis(2-chloroethoxyl)methane	Acrylonitrile
2-nitrophenol	Hexachlorobutadiene	Chlorobenzene
4-nitrophenol	Isophorone	Chloroethane
2,4-dinitrophenol	Nitrobenzene	1,1-dichloroethylene

Table M-12: Remaining Priority Pollutants		
Constituents		
4,6-dinitro-o-cresol	N-nitrosodiphenylamine	Methyl chloride
Phenol	Bis(2-ethylhexyl)phthalate	Methyl bromide
	Butyl benzyl phthalate	2-chloroethyl vinyl ether

Table M-13: Constituents of Emerging Concern

Constituent	Relevance/ Indicator Type	Type of Sample	Minimum Frequency of Analysis	Reporting Limit (µg/L)	Monitoring Locations[14]	
					Prior to RO	Following treatment prior to well injection
17β-estradiol	Health	grab	Annually	0.001		X
Caffeine	Health & Performance	grab	Annually	0.05	X	X
NDMA	Health & Performance	grab	Quarterly	0.002	X	X
Triclosan	Health	grab	Annually	0.05		X
DEET	Performance	grab	Annually	0.05	X	X
Sucralose	Performance	grab	Quarterly	0.1	X	X

Table M-14: Surrogates

Constituent	Type of Sample	Minimum Frequency	Monitoring Locations	
			Prior to RO Treatment	Following Treatment prior to Well Injection
Electrical Conductivity	Online	Continuous[15]	X	X

[14] The January 22, 2013 Recycled Water Policy Attachment A makes a distinction between health-based and performance-based CEC indicators for purposes of monitoring locations. For subsurface applications, the health-based CECs are 17β-estradiol, caffeine, NDMA, and triclosan, with monitoring required for final recycled water only. The health-based and performance-based CECs are caffeine, NDMA, DEET, and sucralose, with monitoring required prior to Reverse Osmosis and post- treatment prior to release to the aquifer. Caffeine and NDMA serve both as health-based and performance based indicators

Table M-14: Surrogates				
Constituent	**Type of Sample**	**Minimum Frequency**	**Monitoring Locations**	
			Prior to RO Treatment	**Following Treatment prior to Well Injection**
Total Organic Carbon (TOC)	24-hour composite	Weekly	X	X

g. Consistent with the January 22, 2013 amended Recycled Water Policy, the CCSD may request the removal of specific CECs from the monitoring program if supported by the data.

i. Analytical methods for CECs shall be selected to achieve the reporting limits presented in Table M-12 in accordance with the Recycled Water Policy. The analytical methods shall be based on methods published by the USEPA, methods certified by DDW, or peer reviewed and published methods that have been reviewed by DDW. Any modifications to the published or certified methods shall be reviewed and approved by the Regional Water Board and DDW.

ii. For performance indicator CECs and surrogates, removal percentages shall be reported in addition to the measured concentrations.

[1] The removal percentage shall be calculated based on the following formula:

Removal Percentage = $([X_{in} – X_{out}]/X_{in})*100$
X_{in} = Concentration in recycled water prior to a treatment process
X_{out} = Concentration in recycled water after a treatment process

[2] The removal percentages for the surrogates shall be determined based on the daily averages for electrical conductivity and weekly values for TOC and included in the quarterly compliance monitoring reports.

[3] The removal percentages for the performance indicator CECs shall be included in the Annual Summary Report.

h. Evaluation of Pathogenic Microorganism Removal

For the purposes of evaluating the performance of the following treatment facilities/units with regards to pathogenic microorganism removal, the CCSD shall include the results of the monitoring specified below in its monthly

[15] Since monitoring will be continuous using online analyzers, monthly averages for each monitoring location shall be reported in the quarterly compliance monitoring reports.

compliance monitoring reports:

i. For the purpose of demonstrating that the necessary log reductions are achieved at the AWTP, CCSD shall report the daily average and maximum turbidity, percent of time more than 5 nephelometric turbidity units (NTU), and daily coliform results associated with the WRP(s);

ii. Advanced Oxidation Process (AOP) - (UV and hydrogen peroxide at Cambria AWTP): For each day of operation, CCSD shall report the calculated daily peroxide dose (based on the peroxide pump speed and bulk feed concentration), percent reduction based on daily average of chloramine (via total residual chlorine) measured upstream and downstream of AOP, and the applied UV power shall be reported. For UV, CCSD shall report the UV system dose (expressed as greater than a certain threshold such as 300 milli-joules/cm^2), UV transmittance (daily minimum, maximum, and average), UV intensity for each reactor (daily minimum, maximum, and average) and the total UV power applied; and

iii. Based on the calculation of log reduction achieved each day by the entire treatment system, CCSD shall report the value and "Yes" or "No" for each day as to whether the necessary log reductions (i.e. 10-logs for *Giardia*, 10-logs for *Cryptosporidium*, and 12-logs for virus) have been attained. An overall log reduction calculation shall be provided only for those days when a portion of the treatment system does not achieve the credits proposed in Table 5-1 of the engineering report.

4. Treatment Conditions

If a sample of the advanced treated recycled water is greater than 10 ng/L for NDMA, within 72 hours of knowledge of the result, the CCSD shall collect another sample as confirmation. The CCSD shall notify DDW and the Regional Water Board within 48 hours of knowledge of the exceedance and, if directed by DDW or the Regional Water Board, suspend injection of the advanced treated recycled water.

5. Groundwater Monitoring

The CCSD shall monitor the quality of groundwater to assess any impact(s) from the recharge of recycled water. Representative samples of groundwater shall be collected from the San Simeon Creek alluvial aquifer, from wells RIW-1, MIW-1, SS1, SS2, SS3, 9P7, and 16D1. Table M-16 sets forth the minimum constituents and parameters for monitoring groundwater quality in CCSD monitoring wells.

The CCSD shall implement the following groundwater monitoring program as described in Tables M-15, M-16, M-17, and M-18. Some constituents may be eligible for reduced monitoring due to the consistent historic lack of detection, upon approval by the Executive Officer.

If any of the monitoring results indicate that an MCL has been exceeded or coliforms are present in the monitoring wells at the CCSD groundwater injection

project as a result of the use of the recycled water, the CCSD shall notify the DDW and Regional Water Board within 72 hours of receiving the results and make note of any positive finding in the next monitoring report submitted to the Regional Water Board.

Upon an exceedance of 10 ng/L for NDMA in monitoring samples in groundwater wells RIW-1, MIW-1, SS1, SS2, SS3, 9P7, or 16D1 and within 30 days, the CCSD shall notify DDW and the Regional Water Board and begin monthly sampling of groundwater for NDMA from the well with the exceedance. Groundwater sampling may return to the frequency stated in this MRP if the average of three consecutive monthly samples is 10 ng/L or below.

Upon the approval of the Salt and Nutrient Management Plan, the Executive Officer may require additional confirmation monitoring to confirm the water quality changes predicted by the model and documented in the first annual report.

Table M-15 Groundwater Monitoring Wells

Well No.	Depth (feet)	Perforated Interval (feet below ground surface)	Well Use
RIW-1	100	50 – 95	Injection
MIW-1	95	45 – 95	Monitoring
SS1	110*	30 -105	Water Supply
SS2	80*	30 – 75	Water Supply
SS3	110*	30 -105	Water Supply
9P7	ND**	ND	Influent Supply
16D1	ND	ND	Monitoring

*Estimated depths, **ND = no data

Table M-16: Groundwater Monitoring

Constituents/Parameters	Units	Type of Sample	Minimum Frequency of Analysis	Reference Table Number
Water level elevation[16]	feet	---	Quarterly	M-16
Chlorine residual	mg/L	Grab	Quarterly	M-16
Chloride	mg/L	Grab	Quarterly	M-16
Nitrate-N	mg/L	Grab	Quarterly	M-16
Nitrite-N	mg/L	Grab	Quarterly	M-16
Nitrate plus Nitrite	mg/L	Grab	Quarterly	M-16
pH	pH units	Grab	Quarterly	M-16

[16] Water level elevations shall be measured to the nearest 0.01 feet, and referenced to mean sea level.

Table M-16: Groundwater Monitoring				
Constituents/Parameters	**Units**	**Type of Sample**	**Minimum Frequency of Analysis**	**Reference Table Number**
Sodium	mg/L	Grab	Quarterly	M-16
Sulfate	mg/L	Grab	Quarterly	M-16
TOC	mg/L	Grab	Quarterly	M-16
Total coliform	MPN/100ml	Grab	Quarterly	M-16
BOD_5 20°C	mg/L	Grab	Semiannually	M-16
Oil and grease	mg/L	Grab	Quarterly	M-16
Total nitrogen	mg/L	Grab	Quarterly	M-16
Total Suspended Solids	mg/L	Grab	Semiannually	M-16
Turbidity	NTU	Grab	Quarterly	M-16
Inorganics with primary MCLs	µg/L	Grab	Monthly	M-17
Constituents/parameters with secondary MCLs	---	Grab	Quarterly	M-17
Fluoride	µg/L	Grab	Quarterly	M-17
Radioactivity	pci/L	Grab	Monthly	M-17
Regulated organics	µg/L	Grab	Semiannually	M-17
Disinfection byproducts (DBPs)	µg/L	Grab	Quarterly	M-17
General physical		Grab	Monthly	M-17
General minerals	µg/L	Grab	Monthly	M-17
Chemicals with NLs	µg/L	Grab	Quarterly or Annually	M-17
N-Nitrosopyrrolidine	µg/L	Grab	Annually	M-17
Remaining priority pollutants	µg/L	Grab	Annually	M-17

Table M-17: Monitoring Frequency							
Constituent	**RIW-1**	**MIW-1**	**SS1**	**SS2**	**SS3**	**9P7**	**16D1**
Total Suspended Solids (TSS)	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Turbidity	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Radioactivity							
Gross Alpha Particle Activity (including Radium-226 but excluding radon and uranium)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Gross Beta Particle Activity	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-226	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-226 & Radium-228 (Combined)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Radium-228	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Strontium-90	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly

Table M-17: Monitoring Frequency							
Tritium	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Uranium	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Organic Chemicals							
(a) Volatile Organic Chemicals							
1,1,1-Trichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2,2-Tetrachloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2-Trichloro-1,2,2-Trifluoroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1,2-Trichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1-Dichloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,1-Dichloroethene (1,1 DCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2,4-Trichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichloroethane (1,2 DCA)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,2-Dichloropropane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,3-Dichloropropene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
1,4-Dichlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Benzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Carbon Tetrachloride (CTC)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
cis-1,2-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Dichloromethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Ethylbenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl-tert-butyl-ether (MTBE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Monochlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Styrene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Tetrachloroethylene (PCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Toluene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
trans-1,2-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Trichloroethylene (TCE)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Trichlorofluoro-methane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Vinyl Chloride	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Xylenes (m, p)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
(b) non-volatile synthetic organic chemical							
1,2-Dibromo-3-Chloropropane (DBCP)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
2,3,7,8-TCDD (Dioxin)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual

Table M-17: Monitoring Frequency							
2,4,5-TP (Silvex)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
2,4-Dichlorophenoxyacetic acid (2,4-D)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Alachlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Atrazine	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bentazon	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Benzo (a) pyrene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Carbofuran	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chlordane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dalapon	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Di (2-ethylhexyl) adipate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Di (2-ethylhexyl) phthalate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Annual
Dinoseb	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Diquat	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Endothal	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Endrin	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Ethylene Dibromide (EDB)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Glyphosate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Heptachlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Heptachlor Epoxide	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Hexachlorobenzene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Hexachlorocyclo-pentadiene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Lindane (Gamma BHC)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Methoxychlor	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Molinate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Oxamyl	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual

Table M-17: Monitoring Frequency							
PCB 1016	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1221	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1232	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1242	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1248	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1254	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
PCB 1260	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Pentachlorophenol	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Annual
Picloram	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Simazine	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Thiobencarb	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Toxaphene	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Disinfection Byproducts							
Bromate	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bromodichloro-methane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Bromoform	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chlorite	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chloroform	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dibromoacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dibromochloro-methane	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Dichloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Haloacetic Acid (Five) (HAA5)	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Monobromoacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Monochloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Total Trihalomethanes	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual

Table M-17: Monitoring Frequency							
Trichloroacetic Acid	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Chemicals with Notification Levels							
1,2,3-Trichloropropane (1,2,3 TCP)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2,4-Trimethylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,3,5-Trimethylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,4-Dioxane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chlorotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4,6-Trinitrotoluene (TNT)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Chlorotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Boron	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
Carbon Disulfide	Annual	Annual	Annual	Annual	Annual	Semi Annual	Annual
Chlorate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Diazinon	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dichlorodifluoro-methane (Freon 12)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Ethylene Glycol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Formaldehyde	Annual	Annual	Annual	Annual	Annual	Annual	Annual
HMX	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Isopropylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Manganese	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual	Semi Annual
Methyl-isobutyl-keytone (MIBK)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Naphthalene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Butylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodiethyl-amine (NDEA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodimethylamine (NDMA)	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly	Qtrly
n-Nitrosodi-n-propylamine (NDPA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Propylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Propachlor	Annual	Annual	Annual	Annual	Annual	Annual	Annual
RDX	Annual	Annual	Annual	Annual	Annual	Annual	Annual
sec-Butlybenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
tert-Butylbenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Tertiary-butyl-alcohol (TBA)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Vanadium	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Remaining Priority Pollutants							
Pesticides							

Table M-17: Monitoring Frequency							
4,4,4'-DDD	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,4,4'-DDE	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,4,4-DDT	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Aldrin	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Alpha BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Alpha Endosulfan	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Beta BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Beta Endosulfan	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chromium III	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chromium VI	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Delta BHC	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dieldrin	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Endosulfan Sulfate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Endrin Aldehyde	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Acid Extractables							
2,4,6-Trichlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dichlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dimethylphenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dinitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chlorophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Nitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4,6-Dinitro-o-Cresol (2-Methly-4,6-Dinitrophenol)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Nitrophenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
p-Chloro-m-Cresol (3-Methyl-4-Chlorophenol)	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Phenol	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Base/Neutral Extractables							
1,12-Benzoperylene ((Benzo(g,h,i)-perylene))	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2,5,6-Dibenzanthracene ((Dibenzo(a,h) anthracene))	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,2-Diphenylhydrazine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
1,3-Dichlorobenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,4-Dinitrotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2,6-Dinitrotoluene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
2-Chloronaphthalene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
3,3'-Dichlorobenzidine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Bromophenyl phenyl ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
4-Chlorophenyl phenyl ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual

Table M-17: Monitoring Frequency							
Acenaphthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Acenaphthylene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Anthracene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzidine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(a)anthracene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(b)fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Benzo(k)fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroethoxyl)-methane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroethyl)ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Bis(2-chloroisopropyl)ether	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Butyl benzyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Chrysene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di(2-ethylhexyl) phthlate	Annual	Annual	Annual	Annual	Annual	Annual	Semi-annual
Dimethyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di-n-butyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Di-n-octyl phthalate	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Fluoranthene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Fluorene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Hexachlorobutadiene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Hexachloroethane	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Indeno(1,2,3-cd) pyrene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Isophorone	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Nitrobenzene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodi-n-propylamine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
n-Nitrosodiphenylamine	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Phenanthrene	Annual	Annual	Annual	Annual	Annual	Annual	Semi-Annual
Pyrene	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Volatile Organics							
1,1-Dichloroethylene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
2-Chloroethyl vinyl ether	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Acrolein	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Acrylonitrile	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Chlorobenzene	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Chloroethane	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl bromide	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Methyl chloride	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly

Table M-18: General Physical and General Minerals		
Constituents		
Asbestos	Potassium	Foaming Agents
Calcium	Sodium	Odor
Chloride	Sulfate	Specific Conductance
Copper	Zinc	Total Dissolved Solids
Iron	Color	Total Hardness
Manganese	Corrosivity	

V. CERTIFICATION STATEMENT

Each report shall contain the following declaration[17]:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 a find and imprisonment.

Executed on the _____day of _____at _____

_____ (Signature)

_____ (Title)"

VI. OTHER MONITORING REQUIREMENTS

"§60320.201. Advanced Treatment Criteria."

(i) Each month a project sponsor shall collect samples (grab or composite) representative of the effluent of the advanced treatment process and have the samples analyzed for contaminants having MCLs and notification levels (NLs). After 12 consecutive months with no results exceeding an MCL or NL, a project sponsor may apply for a reduced monitoring frequency. The reduced monitoring frequency shall be no less than quarterly. Monitoring conducted pursuant to this subsection may be used in lieu of the monitoring (for the same contaminants) required pursuant to sections 60320.212 and 60320.220. The first sample of the effluent needs to be collected in the first five days of operation of the AWTP.

[17] The CCSD shall submit written documentation identifying the responsible party who certifies the perjury document.

The list of parameters and monitoring frequencies may be adjusted by the Executive Officer if the CCSD makes a request and the Executive Officer determines that the modification is adequately supported by statistical trends of monitoring data submitted.

VII. CERTIFICATION

Digitally signed by Kenneth A Harris Jr.
DN: cn=Kenneth A Harris Jr., o=Central Coast Regional Water Quality Control Board, ou=Executive Officer, email=Ken.Harris@waterboards.ca.gov, c=US
Date: 2014.11.24 17:30:24 -08'00'

Ordered by _____
Executive Officer

Date November 24, 2014