**ORDER NO. R1-2012-0101**
**NPDES NO. CA0023051**
**WDID NO. 1B83001OSON**

**WASTE DISCHARGE REQUIREMENTS**

**FOR THE**

**OCCIDENTAL COUNTY SANITATION DISTRICT**
**AND**
**SONOMA COUNTY WATER AGENCY**

**OCCIDENTAL WASTEWATER TREATMENT FACILITY**
**SONOMA COUNTY**

The following Permittee is subject to waste discharge requirements as set forth in this Order:

**Table 1. Permittee Information**

| | |
|---|---|
| **Permittee** | Occidental County Sanitation District (Owner) and Sonoma County Water Agency (Operator) |
| **Name of Facility** | Occidental County Sanitation District Wastewater Treatment Facility (WWTF) |
| **Facility Address** | 14445 Occidental Road |
| | Occidental, CA 95465 |
| | Sonoma County |
| **Type of Facility** | Publicly-Owned Treatment Works (POTW) |
| **Facility Design Flow** | 0.05 mgd (average annual dry weather treatment capacity)[1] |

Table Notes:

1. The average annual dry weather flow shall be the arithmetic mean of the influent flow for the four consecutive lowest flow months in a calendar year.

**Table 2. Discharge Locations**

| Discharge Point | Effluent Description | Discharge Point Latitude | Discharge Point Longitude | Receiving Water |
|---|---|---|---|---|
| 001 | Disinfected secondary treated municipal effluent | 38° 24' 46" N | 122° 56' 31" W | Graham's Pond or Other Authorized Effluent Storage Pond |
| 002 | Disinfected secondary treated municipal effluent | --- | --- | Outfall from Graham's Pond to Dutch Bill Creek, tributary to the Russian River |
| 003 | Disinfected secondary treated municipal effluent | --- | --- | Discharges to Reclamation System |

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was adopted by the Regional Water Quality Control Board on: | December 6, 2012 |
| This Order shall become effective on: | February 1, 2013 |
| This Order shall expire on: | January 31, 2018 |
| The Permittee shall file a Report of Waste Discharge as an application for renewal of waste discharge requirements in accordance with title 23, California Code of Regulations, no later than: | March 1, 2017 |
| The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge. | |

IT IS HEREBY ORDERED, that this Order supersedes Regional Water Quality Control Board (Regional Water Board) Order No. 93-42 and Monitoring and Reporting Program (MRP) No. 93-42 (revised April 23, 2009) upon the effective date specified in Table 3. In order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking any enforcement action for past violations of the previous permit. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Permittee shall comply with the analogous portions of Order No. 93-42, which shall remain in effect for all purposes during the pendency of the stay.

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region, on December 6, 2012.

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Matthias St. John, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Occidental County Sanitation District Wastewater Treatment Facility (hereinafter Facility) is summarized in Table 1 of this Order and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

## II. FINDINGS

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

**A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) for discharges to land and for water reclamation pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260 and 13523, respectively).

**B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application for permit renewal, monitoring data collected and submitted during the term of the Permittee's previous Order, and other available information. The Fact Sheet (Attachment F) contains information and rationale for the requirements in this Order, and is hereby incorporated into this Order as additional findings. Attachments A through E are also incorporated into this Order.

**C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.E, III.F, IV.B, IV.C, V.B, VI.C.1.g, VI.C.5.a, VI.C.5.d, and VI.C.7.a of this Order, and sections VI., VII., VIII.B, X.D.2, X.D.3.h, and X.E of the MRP are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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

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

## III. DISCHARGE PROHIBITIONS

**A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

**B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

**C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).

**D.** The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provision G (Bypass).

**E.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land, that creates pollution, contamination, or nuisance, as defined in Water Code section 13050 (m) is prohibited.

**F.** The discharge of waste to land that is not owned by or under agreement to use by the Permittee is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the California Code of Regulations (CCR).

**G.** The discharge of waste at any point not described in section II.B of the Fact Sheet or regulated by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.

**H.** The average annual dry weather flow of waste into the Facility in excess of design flow of 0.05 mgd is prohibited. Average annual dry weather flow is the arithmetic mean of the influent flow for the four consecutive lowest flow months in a calendar year.

**I.** The discharge of wastewater effluent from the Facility to Dutch Bill Creek or its tributaries is prohibited during the period from May 15 through September 30 of each year.

**J.** During the period of October 1 through May 14 of each year, discharges of wastewater to Dutch Bill Creek which is tributary to the Russian River shall not exceed one percent of

the flow of Dutch Bill Creek, as measured at the Camp Meeker bridge. For purposes of this Order, compliance with this discharge rate limitation is determined as follows:

1. The discharge of treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Dutch Bill Creek at the Camp Meeker Bridge, and
2. In no case shall the total volume of treated wastewater discharged in a calendar month exceed one percent of the total volume of Dutch Bill Creek at the Camp Meeker bridge in the same calendar month.

   During periods of discharge, the gage shall be read at least once daily, and the discharge flow rate shall be set for no greater than one percent of the flow of Dutch Bill Creek at the Camp Meeker Bridge at the time of the daily reading. At the beginning of the discharge season, the first monthly flow comparisons shall be determined from the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the final monthly flow volume shall be determined from the first day of the calendar month to the date when the discharge ended for the season.

**K.** The discharge of any radiological or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations

#### 1. Final Effluent Limitations – Discharge Point 001 (Discharge to Graham's Pond)

**a.** The discharge of advanced treated wastewater[1], as defined by the numerical limitations below, shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E). The advanced treated wastewater shall be adequately oxidized, filtered, and disinfected as defined in title 22, division 4, chapter 3, of the CCR.

[1] The terms "advanced treated effluent" and "disinfected tertiary effluent" are used interchangeably in this permit. The term "advanced wastewater treatment is used in the *Water Quality Control Plan for the North Coast Region*. The term "disinfected tertiary effluent" is used in the California Department of Public Health's Recycled Water Criteria in title 22 of the CCR (chapter 3, division 4, sections 60301 through 60355).

**Table 4. Final Effluent Limitations – Discharge Point 001 (Discharge to Graham's Pond or Other Authorized Effluent Storage Pond(s))**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly[1] | Average Weekly[1] | Maximum Daily[1] | Instantaneous Minimum[1] | Instantaneous Maximum[1] |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 10 | 15 | --- | --- | --- |
| | lbs/day[2,] | 4.2 | 6.3 | --- | --- | --- |
| Total Suspended Solids (TSS) | mg/L | 10 | 15 | --- | --- | --- |
| | lbs/day[2] | 4.2 | 6.3 | --- | --- | --- |
| pH | Standard Units | --- | --- | --- | 6.5 | 8.5 |
| Copper, Total Recoverable | µg/L | 2.5 | --- | 7.8 | --- | --- |
| Lead, Total Recoverable | µg/L | 0.65 | --- | 1.5 | --- | --- |
| Silver, Total Recoverable | µg/L | 0.5 | --- | 1.0 | --- | --- |
| Cyanide | µg/L | 4.3 | --- | 8.5 | --- | --- |
| Dichlorobromo-methane | µg/L | 0.56 | --- | 1.3 | --- | --- |
| Chlorodibromo-methane | µg/L | 0.41 | --- | 0.8 | -- | --- |
| Bis(2-EthylHexyl) Phthalate | µg/L | 1.8 | --- | 4.5 | --- | --- |
| Chlorine, Total Residual, | mg/L | 0.01 | --- | 0.02 | --- | --- |
| Ammonia, Total as N | mg/L | 1.2 | --- | 2.1 | --- | --- |
| Nitrate as N | mg/L | 10 | --- | 20 | --- | --- |

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. Mass-based effluent limitations are based on the design flow of the Facility of 0.05 mgd and apply during periods of discharge to surface waters (Graham's Pond). See section VII.H of this Order regarding compliance with mass-based effluent limitations.

**b. Percent Removal.** The average monthly percent removal of $BOD_5$ and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration measured at Monitoring Location

EFF-001 for the same constituent over the same time period as measured at Monitoring Locations INF-001.

c. **Disinfection.** Disinfected effluent discharged at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, shall not contain coliform bacteria in excess of the following concentrations:

   i. The median concentration shall not exceed an MPN of 2.2 per 100 mL, using the bacteriological results of the last 7 days for which analyses have been completed[2]; and

   ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period.

   iii. No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

d. **Settleable Solids.** Effluent shall not contain measurable levels of settleable solids, using an analytical method with a minimum detection level of 0.1 mL/L.

e. **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to Dutch Bill Creek or its tributaries, including Graham's Pond. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

   i. Minimum for any one bioassay: 70 percent survival; and

   ii. Median for any three or more consecutive bioassays: at least 90 percent survival.

   Compliance with this effluent limitation shall be determined in accordance with section V.A of the attached MRP.

2. **Interim Effluent Limitations**

   This Order does not include interim effluent limitations for discharges to surface waters. Interim effluent limitations for discharges to Graham's Pond are contained in a cease and desist (CDO) order, currently CDO No. R1-2012-0102.

2 See section VII.H of this Order regarding compliance with bacteriological limitations.

**B. Land Discharge Specifications**

1. Special Study. A special study is required to determine if irrigation of the Loades' property is at agronomic rates (reclamation) or greater than agronomic rates (land discharge). Section VI.C.2.c of this Order requires the Permittee to conduct a special study to make this determination.

2. If irrigation is at greater than agronomic rates, the Irrigation/Reclamation Specifications and Requirements in section IV.C.1, IV.C.2, and IV.C.4 (except subsections f, m, and s) shall apply as Land Discharge Specifications.

**C. Irrigation/Reclamation Specifications and Requirements – Discharge Point 003 (Authorized Reclamation Sites[3])**

1. **Final Irrigation/Reclamation Specifications.**

   a. During periods of discharge to the irrigation system, the Permittee shall comply with the following irrigation/reclamation specifications at Discharge Point 001 as measured at Monitoring Location EFF-001:

**Table 5. Final Irrigation/Reclamation Specifications – Discharge Point 001**

| Parameter | Units | Effluent Limitations | | |
|---|---|---|---|---|
| | | Average Monthly[1] | Average Weekly[1] | Maximum Daily[1] |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 30 | 45 | 60 |
| Total Suspended Solids (TSS) | mg/L | 50 | 65 | 80 |
| Settleable Solids | mg/L | 0.1 | --- | 0.2 |
| pH | pH Units | 6.0 - 9.0 | | |
| Nitrate, Total, as N | mg/L | 10 | --- | 20 |

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

   b. **Disinfection Specifications for Irrigation/Reclamation of the Loades' Property and Other Authorized Recycled Water Users**. The disinfected

3 Authorized reclamation sites means sites which have been evaluated for CEQA compliance and addressed in the Permittee's title 22 Recycled Water Engineering Report and approved by the State Department of Public Health and Regional Water Board.

effluent, sampled at Monitoring Location EFF-001, shall not contain concentrations of total coliform bacteria exceeding the following concentrations:

**i.** The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed[4]; and

**ii.** The number of coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.

2. **Interim Irrigation/Reclamation Specifications.** If the special study identified in section VI.C.2.c determines that irrigation of the Loades' property is at or below agronomic rates, the Permittee shall comply with applicable state and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and California Department of Public Health (CDPH) regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria). Prior to the addition of new recycled water users, the Permittee shall submit a technical report demonstrating that irrigation will be at nutrient and hydraulic agronomic rates, and include best management practices (BMPs) that are protective of water quality.

3. **Irrigation/Reclamation Requirements.** The Permittee shall comply with the following irrigation/reclamation requirements through the Permittee's own actions and by ensuring that each recycled water user complies with requirements that are applicable at the use site:

**a.** The Permittee shall submit to CDPH and the Regional Water Board, a Recycled Water Engineering Report prepared in accordance with title 22 requirements within 6 months of the permit effective date. The Permittee shall receive approval of its title 22 Engineering Report from CDPH prior to adding any new recycled water user(s). The Recycled Water Engineering Report shall be updated to reflect any changes to the reclamation system.

**b.** The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. The Permittee shall hold the recycled water users responsible for the application and use of recycled water on their designated areas and associated operations and maintenance in accordance with all applicable title 22 requirements.

4 See Section IX of this Order regarding compliance with the 7-day median requirement.

**c.** The Permittee shall notify the Regional Water Board Executive Officer in anticipation of reclaiming water at a new location prior to commencement of reclamation activities at the new location. The notice shall include the following: site location, acreage involved, County Assessor Parcel number(s), name of property owner, name of use site supervisor, estimation of the anticipated volume of recycled water to be used, demonstration that recycled water will be applied at agronomic rates, a description of recycled water management facilities and BMPs that will be used to ensure compliance with the requirements of this Order, and demonstration of CEQA compliance.

**d.** The Permittee shall ensure that each recycled water user properly installs, operates, and maintains the irrigation system to ensure compliance with all requirements of this Order.

**e.** The Permittee shall conduct periodic inspections of the irrigation system, facilities, and operations to monitor and ensure compliance with the conditions of this Order.

**f.** The Permittee shall report all violations of this Order in the Permittee's recycled water/irrigation monitoring reports, including incidental runoff events that the Permittee is aware of.

**g.** The Permittee shall ensure that each recycled water user minimizes the potential for surface runoff of recycled water. The Regional Water Board but recognizes that even with diligent implementation of best management practices (BMPs), incidental runoff events may occur on occasion. Incidental runoff is defined as unintended small amounts of runoff from recycled water use areas where agronomic rates and appropriate BMPs are being implemented. Examples of incidental runoff include unintended, minimal over-spray from sprinklers that escapes the recycled water use area or accidental breakage of a sprinkler head on a properly maintained irrigation system. Water leaving a irrigation/recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff events are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed.

The Regional Water Board recognizes that such minor violations are unavoidable and present a low risk to water quality. All runoff incidents, including incidental runoff shall be summarized in the Permittee's recycled water monitoring reports. Enforcement action shall be considered for runoff that is not incidental, inadequate response by the Permittee, repeated runoff

incidents that were within the Permittee's control, where incidental runoff causes violations of water quality objectives, incidents that create a condition of pollution or nuisance, and discharges that reach surface waters in violation of Discharge Prohibitions in section III of this Order and/or Reclamation Requirements specified in section IV.C.4 of this Order.

**h.** The use of treated effluent for irrigation shall not result in unreasonable waste of water.

**i.** All use of treated effluent for irrigation provided pursuant to this Order shall be treated and managed in conformance with all applicable provisions of the Recycled Water Policy.

**j.** The discharge or use of treated effluent for irrigation shall not cause or contribute to an exceedance of any applicable water quality standard. The Permittee shall be responsible for ensuring that all recycled water meets all terms and conditions of this Order, including the quality standards in sections IV and VI of this Order.

**k.** The Permittee shall discontinue all delivery of treated effluent for irrigation during any period that there is reason to believe that the requirements for use as specified in this Order or the requirements of CDPH or USEPA are not being met. The delivery of treated effluent for irrigation shall not resume until all conditions have been corrected.

**l.** Disinfected secondary recycled water shall not be irrigated within 100 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by CDPH.

**m.** The use of treated effluent for irrigation shall not cause degradation of any water supply.

**n.** Areas irrigated with treated effluent shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. The following practices shall be implemented, at a minimum:

i. Irrigation water shall infiltrate completely within a 48-hour period; and

ii. Low-pressure and unpressurized pipelines and ditches that may be accessible to mosquitoes shall not be used to store recycled water.

**o.** All areas where treated effluent is used for irrigation that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road. CDPH may accept alternative signage or wording, or an educational program, provided that the applicant demonstrates to CDPH that the alternative approach will assure an equivalent degree of public notification.

**p.** The seasonal nutritive loading of the treated effluent used for irrigation, including the nutritive value of organic and chemical fertilizers and of the treated effluent, shall not exceed the nutritive demand of the landscape.

**q.** Treated effluent used for irrigation shall not be allowed to escape the recycled water use areas in the form of surface runoff. [CCR title 22, section 60310(e)] However, incidental runoff of recycled water, as described in section IV.A.4.d, above, is not a violation of this Order. Where appropriate, practices and strategies to prevent the occurrence of runoff shall include, but not be limited to:

**i.** A minimum 50-foot setback to all surface waters or provide written documentation of appropriate BMPs that will be implemented to prevent or minimize the potential for runoff discharging to surface water;

**ii.** Implementation of an Operations and Maintenance Plan that provides for detection of leaks (for example from sprinkler heads), and correction within 72 hours of learning that runoff, or prior to release of 1,000 gallons, whichever comes first;

**iii.** Proper design and aim of sprinkler heads;

**iv.** Proper design and operation of the irrigation system;

**v.** Refraining from application during precipitation events;

**vi.** Application at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;

**vii.** Use of repeat start times and multiple water days to increase irrigation efficiency and reduce runoff potential;

**viii.** Maintenance of irrigation infrastructure (pipelines, pumps, etc.) to prevent and minimize breakage and leaks; and

**ix.** Adequate protection of all effluent storage reservoirs and ponds against overflow, structural damage, or a reduction in efficiency resulting from a

25-year, 24-hour storm or flood event or greater, and notification of the Regional Water Board Executive Officer, if a discharge occurs.

**r.** Use areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use.

**s.** Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities, roadways, or any other area where the public would accidentally be exposed to recycled water. [CCR title 22, section 60310(e)(3)]

**t.** All irrigation equipment, pumps, piping, valves, quick couplers and outlets shall be a type or secured in a manner that only permits operation by authorized personnel and shall be appropriately marked to differentiate them from potable facilities.

**u.** The main shutoff valve of the irrigation system meter shall be tagged with a recycled water warning sign. The valve shall be equipped with an appropriate locking device to prevent unauthorized operation of the valve.

**v.** The Permittee shall implement the requirements of the California Health and Safety Code (CHSC), section 116815 regarding the installation of purple pipe. CHSC section 116815 requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape." Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use. The Permittee shall document compliance with this requirement on an annual basis in its annual monitoring report. The Permittee shall continue to implement the requirements of CHSC section 116815 during the term of this Order.

## D. Other Requirements

### 1. Disinfection Process Requirements for Chlorine Disinfection System.

**a.** Treated effluent shall be disinfected in a manner that ensures effective pathogen reduction.

**b.** The following disinfection process requirement applies and specifications shall be met at the end of the disinfection process (Discharge Point 001, Monitoring Location EFF-001)if the Permittee upgrades the Facility to include AWT processes for continued discharge to surface waters:

i. When discharging to Graham's Pond and/or Dutch Bill Creek, the chlorine disinfection process shall provide a CT value[5] of not less than 450 milligram-minutes per liter at all times.

2. **Filtration Process Requirements for Advanced Wastewater Treatment System**

The following filtration process requirements apply if the Permittee upgrades the Facility to include AWT processes for continued discharge to surface waters (Graham's Pond and Dutch Bill Creek):

a. **Turbidity**. The effluent shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications at Monitoring Location EFF-001 prior to discharge to the disinfection system:

i. An average of 2 Nephelometric Turbidity Units (NTU) during any 24-hour period.

ii. 5 NTU more than 5 percent of the time during any 24-hour period; and

iii. 10 NTU at any time.

b. Filtered effluent in excess of the turbidity specifications shall not be discharged to surface waters. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream treatment process or to emergency storage or result in a plant shut down as soon as the Permittee is aware of the exceedance. The Permittee shall provide notification of non-compliance with filtration process requirements as required in Provision VI.A.2.b of this Order.

3. **Storage Ponds.** Ponds used for the storage of recycled water shall be constructed in a manner that protects groundwater. Section VI.C.2.d includes a special study requirement for any newly added ponds for effluent/recycled water storage.

## V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are required to be addressed as part of this Order. However, receiving water conditions not in conformance with receiving water limitations are not necessarily in violation of this Order. Compliance with receiving water limitations shall be measured at monitoring

[5] The CT value is the product of total chlorine residual and modal contact time measured at the same period. The modal contact time is the amount of time that elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance of the chlorination chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

Discharges from the Facility shall not cause the following in the receiving waters:

**A. Surface Water Limitations**

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.
2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.
3. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.
4. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
5. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
6. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
7. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
8. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
9. The discharge shall not cause or contribute concentrations of biostimulatory substances to receiving waters that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
10. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be

determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.

**11.** The discharge shall not cause a measurable temperature change in the receiving water at any time unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

**12.** The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels that are harmful to human health.

**13.** The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

**14.** The discharge shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.

**15.** The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

**16.** The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent MCLs established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

**17.** The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life.

### B. Groundwater Limitations

1. The collection, treatment, storage, and disposal of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements and reasonable BMPs, will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.
2. The collection, treatment, storage, and disposal of treated wastewater or recycled water shall not cause or contribute to levels of chemical constituents in groundwater that exceed the levels specified in title 22, division 4, chapter 15, article 4, section 64435 of the CCR or listed in Table 3-2 of the Basin Plan.
3. The collection, treatment, storage and disposal of the treated wastewater or recycled water shall not cause or contribute to levels of radionuclides in groundwater in excess of the limits specified in title 22, division 4, chapter 15, article 5, section 64443 of the CCR.
4. The collection, treatment, storage, and disposal of wastewater or recycled water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

## VI. PROVISIONS

### A. Standard Provisions

1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard provisions. In the event there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply.
   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
   b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of

treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours and report orally and in writing to the Regional Water Board staff all unauthorized spills of waste. Spill notification and reporting shall be conducted in accordance with section X.E of the Monitoring and Reporting Program.

## B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP included as Attachment E to this Order, and future revisions thereto.

## C. Special Provisions

### 1. Reopener Provisions

a. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.

b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

d. **303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet section III.C) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL will be modified or imposed to conform this Order to the TMDL requirements.

e. **Water Effects Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Permittee performs studies to determine site-specific WERs and /or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or

translator studies were performed in accordance with USEPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.

f. **Nutrients.** This Order contains monitoring requirements for ammonia, nitrate, and phosphorus. If new water quality objectives for nutrients are established, or if monitoring data indicate the need for effluent limitations for any of these parameters, this Order may be reopened and modified to include new or modified effluent limitations, as necessary.

g. **Salt and Nutrient Management Plans.** The Recycled Water Policy adopted by the State Water Board on February 3, 2009 and effective May 14, 2009 recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects. The Regional Water Board is developing a plan to address salt and nutrient management. This Order may be reopened to incorporate provisions consistent with any salt and nutrient management plan(s) adopted by the Regional Water Board.

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

**a. Toxicity Reduction Requirements**

i. **Whole Effluent Toxicity.** In addition to a numeric limitation for whole effluent acute toxicity, the MRP of this Order requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if either of the effluent limitations for acute toxicity is exceeded (a single sample with less than 70% survival or a three sample median of less than 90% survival) or if the chronic toxicity monitoring trigger of either a single sample maximum of 1.6 chronic toxicity units (TUc) or a monthly median of 1.0 TUc (where TUc = 100/NOEC)[6] is exceeded, the Permittee shall conduct accelerated monitoring as specified in section V. of the MRP.

[6] See section VII.J of this Order regarding compliance with chronic toxicity triggers.

Results of accelerated toxicity monitoring will indicate a need to conduct a toxicity reduction evaluation (TRE), if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE workplan prepared by the Permittee pursuant to Section VI.C.2.a.ii of this Order, below.

**ii. Toxicity Reduction Evaluation Workplan.** The Permittee submitted a TRE workplan to the Regional Water Board on January 15, 2009. This plan shall be reviewed at least once every 5 years and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The Permittee shall notify the Regional Water Board of this review and submit any revision of the TRE workplan with each Report of Waste Discharge.

The TRE workplan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

**(a)** A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

**(b)** A description of the facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.

**(c)** If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

**iii. Toxicity Reduction Evaluations (TRE) Implementation.** The TRE shall be conducted in accordance with the following:

**(a)** The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring testing, required by Sections V.A.7 and V.B.9 of the MRP, observed to exceed either the acute or chronic toxicity parameter.

**(b)** The TRE shall be conducted in accordance with the Permittee's TRE workplan.

**(c)** The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B 99/002.

**(d)** The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity. The Permittee shall notify the Regional Water Board of this determination.

**(e)** The Permittee may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. TIEs shall be conducted in accordance with current technical guidance and reference material, including, at a minimum, the Permittee shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

**(f)** As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

**(g)** Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.

**(h)** The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Permittee's actions and efforts to identify and control or reduce sources of consistent toxicity.

**b. Technical Report(s) Regarding Existing Recycled Water Use Site.** The Permittee currently provides recycled water to one irrigation site on the Loades' property. Technical information is needed to demonstrate whether effluent is being reclaimed (e.g., applied at hydraulic and nutrient agronomic rates) or discharged at rates that constitute disposal. Within 90 days of the effective date of this Order, the Permittee shall submit, for approval by the Regional Water Board Executive Officer, a work plan describing the Permittee's plan and time schedule for assessing current irrigation practices. The work plan shall lead to the submittal of technical information that is sufficient to (1) determine whether or not recycled water is being applied at nutrient and hydraulic agronomic rates, (2) describe irrigation BMPs being implemented, (3) evaluate if BMPs are adequate to prevent and minimize the potential for surface runoff and impacts to groundwater, and (4) identify any additional BMPs that are needed to meet the requirements of this Order.

**c. Receiving Water Special Study.** Within 120 days of the effective date of this Order, the Permittee shall submit, for approval by the Regional Water Board

Executive Officer, a work plan describing a monitoring study to assess the effects of the discharge from Graham's Pond on Dutch Bill Creek. The Work plan shall include a time schedule for completing the study and submittal of monitoring and study results to the Executive Officer.

**d. Storage Pond Technical Report.** Prior to construction of any new wastewater storage ponds or use of any existing pond for storage of recycled water, the Permittee shall submit to the Regional Water Board Executive Officer for review and approval, a technical report that includes design proposals and a technical evaluation that demonstrates that the pond design complies with the Water Code and title 27 of the California Code of Regulations and is protective of ground water quality. The pond design and operation plan must include features and BMPs to protect groundwater and prevent exceedances of groundwater quality objectives.

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

**a. Pollutant Minimization Program (PMP)**

**i.** The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

**(a)** A sample result is reported as DNQ and the effluent limitation is less than the RL; or

**(b)** A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

**ii.** The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

**(a)** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

**(b)** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

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

**(d)** Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

**(e)** An annual status report that shall be submitted as part of the Annual Facility Report due March 1st to the Regional Water Board and shall include:

**(i)** All PMP monitoring results for the previous year;

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

**(iii)** A summary of all actions undertaken pursuant to the control strategy; and

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

**4. Construction, Operation and Maintenance Specifications**

**a.** The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Permittee only when necessary to achieve compliance with the conditions of this Order.

**b.** The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.

**i.** Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.

**ii.** Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

**iii.** Description of laboratory and quality assurance procedures.

**iv.** Process and equipment inspection and maintenance schedules.

**v.** Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.

**vi.** Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

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

**a. Wastewater Collection Systems**

**i. Statewide General WDRs for Sanitary Sewer Systems**

The Permittee shall maintain coverage under, and shall be subject to the requirements of Order Nos. 2006-0003-DWQ and WQ-2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system. The Statewide General WDRs for Sanitary Sewer Systems are further described in section VII.B.5.a of the Fact Sheet.

In addition to the coverage obtained under Order No. 2006-0003, the Permittee's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR), the Permittee must properly operate and maintain its collection system (40 CFR 122.41(e)), report any non-compliance (40 CFR 122.41(l)(6) and (7)), and mitigate any discharge from the collection system in violation of this Order (40 CFR 122.41(d)).

**ii. Spills and Sanitary Sewer Overflows**

**(a)** The Permittee shall take all feasible steps to stop spills and sanitary sewer overflows (SSOs) as soon as possible. All reasonable steps should be taken to collect spilled material and protect the public from contact with wastes or waste-contaminated soil or surfaces.

**(b)** The Permittee shall report orally[7] and in writing to the Regional Water Board staff all SSOs and unauthorized spills of waste. Spill notification and reporting shall be conducted in accordance with section X.E of the Monitoring and Reporting Program.

**b. Source Control and Pretreatment Provisions**

The Permittee shall perform source control functions and provide a summary of source control activities conducted in the Annual Facility Report (due March 1st to the Regional Water Board). Source control functions and requirements shall include the following:

**i.** Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.

**ii.** If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.

**iii.** Conduct a waste survey to identify all dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility. The waste survey is required during the 12-month period that begins on July 1, 2013, and the results of the waste survey shall be submitted to the Regional Water Board in a written report no later than October 1, 2014.

**iv.** Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plant.

**v.** Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.

**vi.** The Regional Water Board retains the right to take legal action against an industrial user and/or the Permittee where a user fails to meet the approved applicable federal, state, or local pretreatment standards.

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[7] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the California Emergency Management Agency at (800) 852-7550 or the Regional Water Board spill officer at (707) 576-2220.

**vii.** The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 CFR Part 403 if the Regional Water Board finds that the Facility receives pollutants from an IU that is subject to pretreatment standards, or if other circumstances so warrant.

**c. Sludge Disposal and Handling Requirements**

**i.** Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

**ii.** All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and State regulations.

**iii.** The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 CFR 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, the Regional Water Board may also initiate enforcement where appropriate.

**iv.** Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.

**v.** The beneficial use of biosolids by application to land as soil amendment is not covered or authorized by this Order. Biosolids that are applied to land as soil amendment by the Permittee within the North Coast Region shall comply with State Water Board Water Quality Order No. 2004-12-DWQ (General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities) or other permits issued by the Regional Water Board.

**vi.** The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.

**vii.** Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

**viii.** Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm.

**ix.** The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

**d. Discharge of Biosolids**

For the discharge of biosolids from the Facility, the Permittee shall comply with the following requirements:

**i.** Statewide General WDRs for Discharge of Biosolids to Land

If applicable, the Permittee shall obtain authorization to discharge under and meet the requirements of the State Water Board Water Quality Order No. 2004-0012-DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. For existing discharges of biosolids to land, the Permittee shall submit a Notice of Intent to Comply within 180 days of the effective date of this Order. For future discharges of biosolids to land, the Permittee shall submit a Notice of Intent to Comply in accordance with the enrollment requirements of Order No. 2004-0012-DWQ; or

**ii.** Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.

**iii.** New sludge treatment and storage facilities must comply with the Water Code and title 27 of the CCR requirements for the protection of water quality.

**e. Operator Certification**

Supervisors and operators of municipal wastewater treatment facilities (WWTFs) shall possess a certificate of appropriate grade in accordance with title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified WWTF operator, the State Water Board may approve use of a water treatment facility operator of

appropriate grade certified by the California Department of Public Health (CDPH) where water reclamation is involved.

**f. Adequate Capacity**

If the Facility or effluent disposal areas will reach capacity within 4 years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the Facility will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232]

**6. Other Special Provisions**

**a. Storm Water Best Management Practices (BMPs).** BMPs to control storm water at the Facility shall be developed and upgraded, as necessary. In each annual report submitted to the Regional Water Board, the Permittee shall describe the effectiveness of storm water BMPs as well as activities to maintain and upgrade these BMPs during the previous year.

**7. Compliance Schedules – Not Applicable**

**a. CDO Compliance Schedule for Compliance with Effluent Limitations at Discharge Point 001 (Discharge to Graham's Pond) and Compliance with Basin Plan Seasonal Discharge Prohibition.** A schedule for compliance with $BOD_5$, TSS, copper, lead, silver, cyanide, dichlorobromomethane, chlorodibromomethane, and bis(2-ethylhexyl)phthalate, total coliform, and ammonia is established in a CDO. The current CDO is Order No. R1-2012-0102.

## VII. COMPLIANCE DETERMINATION

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

### A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

### B. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

### C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

**D. Average Weekly Effluent Limitation (AWEL)**

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

**E. Maximum Daily Effluent Limitation (MDEL)**

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

**F. Instantaneous Minimum Effluent Limitation**

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

**G. Instantaneous Maximum Effluent Limitation**

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

**H. Mass-Based Effluent Limitations**

Compliance with mass- and concentration-based effluent limitations for the same parameter shall be determined separately. Mass-based calculations shall use transfer flow rate and effluent concentration measured at EFF-001 (discharge to Graham's Pond).

1. Weekly Average. Compliance with the weekly mass-based average limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the calendar week (mg/L)

   Q = average flow rate averaged over the same calendar week (mgd)

2. Monthly Average. Compliance with the monthly mass-based average limitation shall be determined using the following formula:

   lbs/day = 8.34 * Ce * Q, where

   Ce = average of effluent concentrations collected during the calendar month (mg/L)

   Q = average flow rate averaged over the same calendar month (mgd)

**I. Bacteriological Limitations (Total Coliform)**

1. Median. The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, followed by quantified values. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.

2. Compliance with the 7-day median will be determined as a rolling median during periods when sampling occurs more frequently than weekly. During periods when sampling is weekly, this requirement shall apply to each weekly sample.

**J. Chronic Toxicity Triggers**

1. When a single chronic toxicity test result is available in a monthly monitoring period, compliance will be determined by comparing the single result to the monthly median chronic toxicity trigger of 1.0 TUc.

2. If multiple chronic toxicity test results are available in a monthly monitoring period, compliance will be determined by calculating the median of the test results and comparing the calculated median to the monthly median chronic toxicity trigger of 1.0 TUc, and the individual sample results will be compared to the single sample chronic toxicity trigger of 1.6 TUc. .

## ATTACHMENT A – DEFINITIONS

**Arithmetic Mean (μ):** also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: $\Sigma x$ is the sum of the measured ambient water concentrations, and n is the number of samples.

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

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

**Bioaccumulative Pollutants:** substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

**Carcinogenic Pollutants**: substances that are known to cause cancer in living organisms.

**Coefficient of Variation (CV):** a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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

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

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

**Detected, but Not Quantified (DNQ):** sample results less than the RL, but greater than or equal to the laboratory's MDL.

**Dilution Credit:** the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

**Effective Concentration (EC):** a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

**Effluent Concentration Allowance (ECA):** a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bays:** indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

**Estimated Chemical Concentration:** the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

**Estuaries:** waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

**Inhibition Concentration (IC):** the IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

**Inland Surface Waters:** all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

**Maximum Daily Effluent Limitation (MDEL):** the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

**Median:** the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements ($n$) is odd, then the median = $X_{(n+1)/2}$. If $n$ is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

**Method Detection Limit (MDL):** the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

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

**Mixing Zone:** a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

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

**Ocean Waters:** the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

**Persistent Pollutants:** substances for which degradation or decomposition in the environment is nonexistent or very slow.

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

**Pollution Prevention:** any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

**Publicly Owned Treatment Works (POTW):** a treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a State or municipality as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

**Reporting Level (RL):** the ML (and its associated analytical method) used for reporting and compliance determination. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the

sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

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

**Source of Drinking Water:** any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

**Standard Deviation (σ):** a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

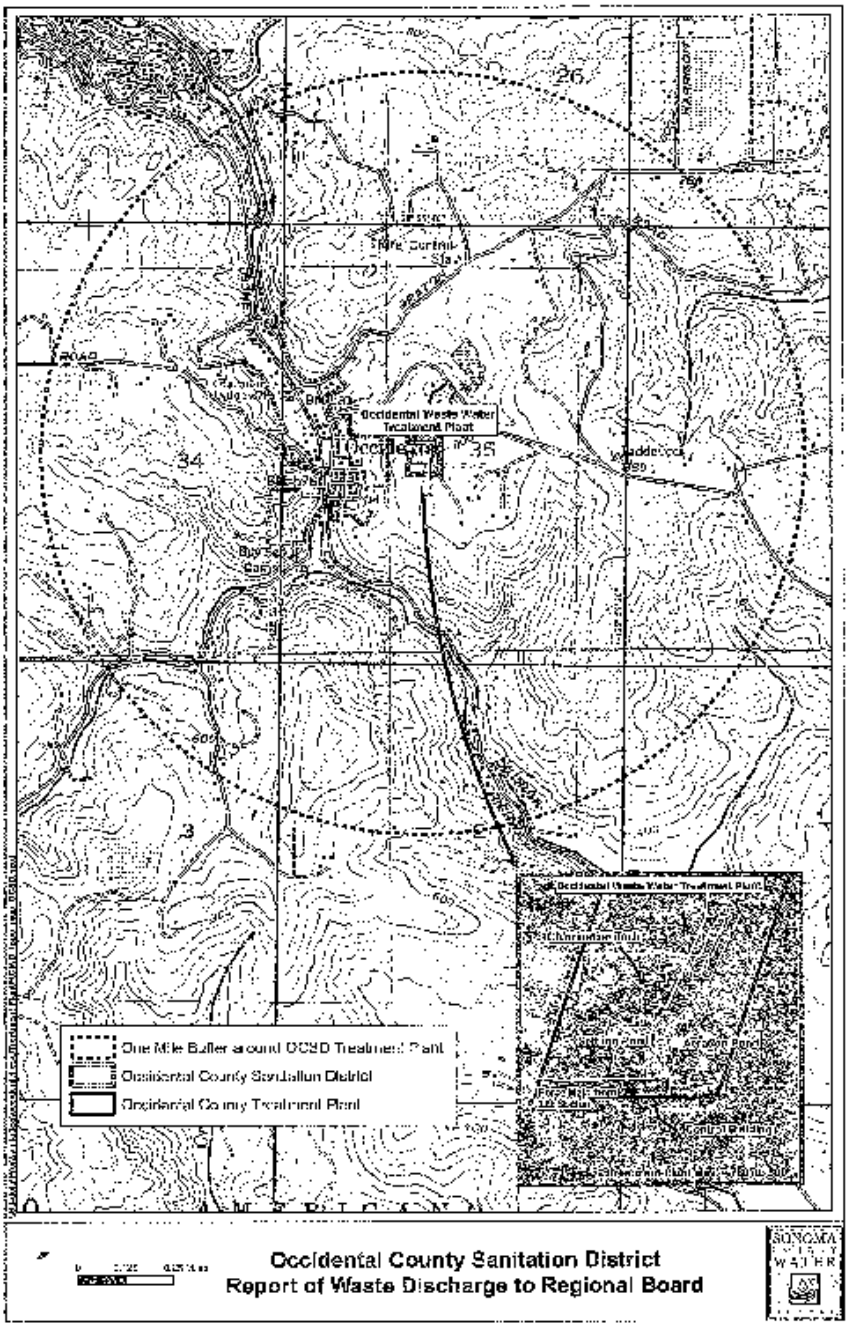
x is the observed value;

μ is the arithmetic mean of the observed values; and

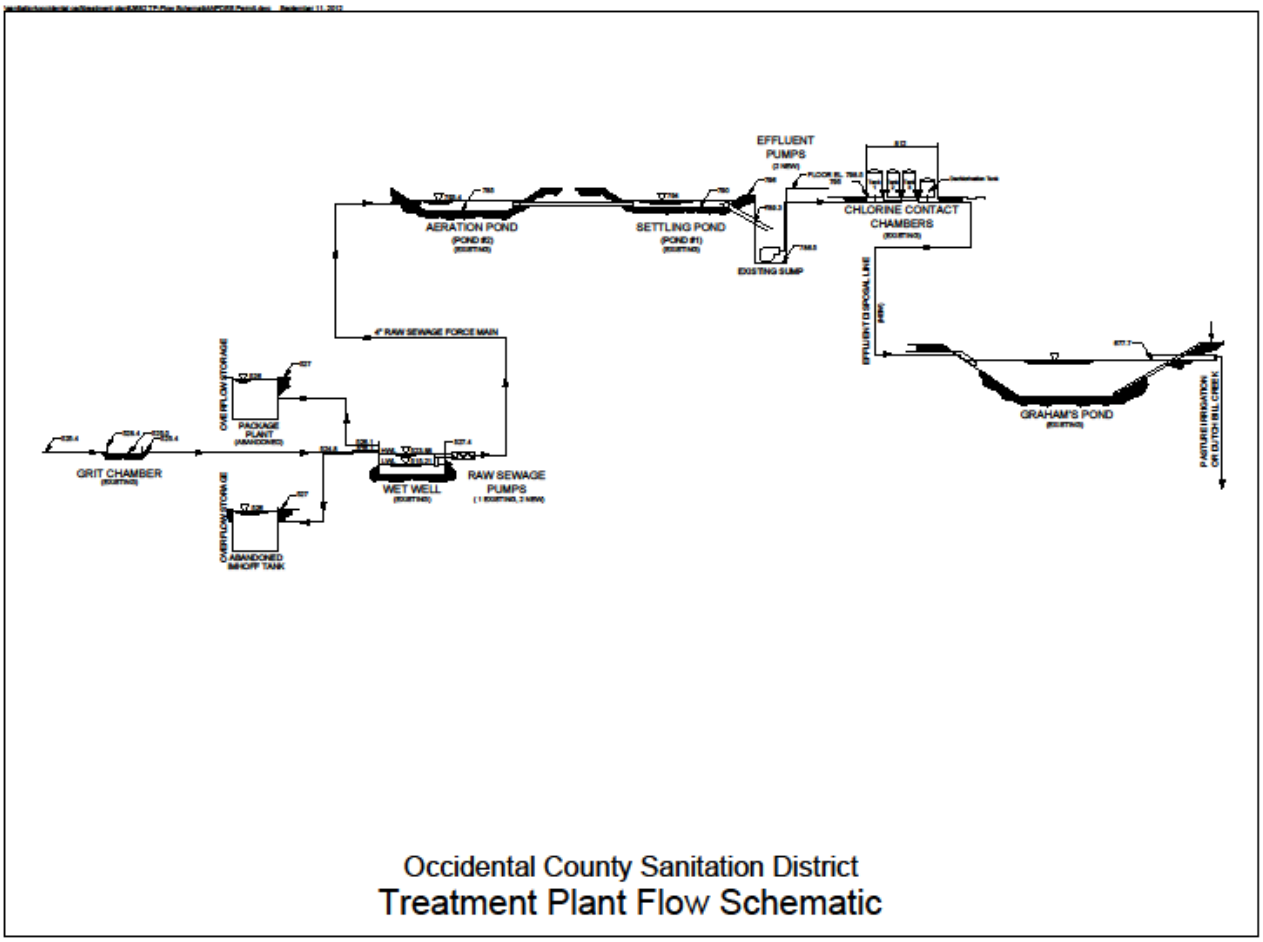
n is the number of samples.

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

## ATTACHMENT B – MAP OF OCCIDENTAL CSD WASTEWATER TREATMENT PLANT



## ATTACHMENT C – FACILITY FLOW SCHEMATIC



# ATTACHMENT D – STANDARD PROVISIONS

## I. STANDARD PROVISIONS – PERMIT COMPLIANCE

### A. Duty to Comply

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

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

### B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR § 122.41(c).)

### C. Duty to Mitigate

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

### D. Proper Operation and Maintenance

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

**E. Property Rights**

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

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

**F. Inspection and Entry**

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

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

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

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

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

**G. Bypass**

1. Definitions

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

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

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

**3.** Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 CFR § 122.41(m)(4)(i)):

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

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

**c.** The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.6 below. (40 CFR § 122.41(m)(4)(i)(C).)

**4.** Burden of Proof. In any enforcement proceeding, the Permittee seeking to establish the bypass defense has the burden of proof.

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

**6.** Notice

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

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

### H. Upset

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

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

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

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

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

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

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

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

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

**B. Duty to Reapply**

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

**C. Transfers**

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

## III. STANDARD PROVISIONS – MONITORING

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

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

## IV. STANDARD PROVISIONS – RECORDS

**A.** Except for records of monitoring information required by this Order related to the Permittee 's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2).)

**B. Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

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

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

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

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

### B. Signatory and Certification Requirements

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

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

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

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

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

**c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)

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

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

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

## C. Monitoring Reports

**1.** Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)

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

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

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

**D. Compliance Schedules**

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

**E. Twenty-Four Hour Reporting**

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

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

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

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

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR § 122.41(l)(6)(ii)(C)]

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

**F. Planned Changes**

The Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

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

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

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

**G. Anticipated Noncompliance**

The Permittee shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR § 122.41(l)(2).)

**H. Other Noncompliance**

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

**I. Other Information**

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Permittee shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

## VI. STANDARD PROVISIONS – ENFORCEMENT

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

## VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

### A. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3).)

# ATTACHMENT E – MONITORING AND REPORTING PROGRAM NO. R1-2012-0068

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## Attachment E – Monitoring and Reporting Program (MRP)

The Code of Federal Regulations (CFR) at 40 CFR 122.48 requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements, which implement the federal and California regulations.

### I. GENERAL MONITORING PROVISIONS

**A.** Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

**B.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.

**C.** Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (CDPH) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.

**D.** Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no Minimum Level (ML) value is below the effluent limitations, the lowest ML shall be selected as the Reporting Level (RL). Table E-1 lists the test methods the Permittee may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations.

**Table E-1. Test Methods and MLs for Priority Pollutants**

| CTR# | Constituent Types of Analytical Methods Minimum Levels (µg/L) | Types of Analytical Methods (See Definition of Acronyms Below this Table) Minimum Levels (µg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | GC | GCMS | COLOR | ICPMS | SPGFAA | CVAA | GFAA |
| 6 | Copper | --- | --- | --- | 0.5 | 2 | --- | --- |
| 7 | Lead | --- | --- | --- | 0.5 | 2 | --- | --- |
| 8 | Mercury | --- | --- | --- | 0.5 | | 0.2 | --- |
| 11 | Silver | --- | --- | --- | 0.25 | 2 | --- | --- |
| 14 | Cyanide | --- | --- | 5 | --- | --- | --- | --- |
| 23 | Chlorodibromo-methane | 0.5 | 2 | --- | --- | --- | --- | --- |
| 27 | Dichlorobromo-methane | 0.5 | 2 | --- | --- | --- | --- | --- |
| 68 | Bis (2-ethylhexyl) phthalate | --- | 5 | --- | --- | --- | --- | --- |

Table Notes:
GC – Gas Chromatography
GCMS - Gas Chromatography/Mass Spectroscopy
COLOR – Colorimetric
ICPMS – Inductively Coupled Plasma/Mass Spectroscopy
SPGFAA – Stabilized Platform Graphite Furnace Atomic Absorption
CVAA – Cold Vapor Atomic Absorption
GFAA – Graphite Furnace Atomic Absorption

## II. MONITORING LOCATIONS

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

**Table E-2. Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| -- | INF-001 | Untreated influent wastewater collected at a representative point preceding primary treatment. |
| 001 | EFF-001 | A representative point immediately following all treatment and disinfection processes and before transfer to Graham's Pond. |
| 002 | EFF-002[1] | Treated wastewater discharged from Graham's Pond to Dutch Bill Creek. Samples are to be collected from the end of the discharge pipe. |
| 003 | EFF-003[1] | Treated wastewater discharged from Graham's Pond (or other authorized recycled water storage pond) to the reclamation system (Loades' property irrigation system and other recycled water users). |

**Table E-2. Monitoring Station Locations**

| | | |
|---|---|---|
| -- | RSW-001 | Upstream receiving water monitoring location that is on the main creek channel that drains into Graham's Pond. |
| -- | RSW-002 | Downstream receiving water monitoring location in Dutch Bill Creek downstream of the point of discharge. Samples shall be representative of conditions in Dutch Bill Creek following introduction and mixing of effluent from Graham's Pond. The Permittee shall provide a description of the proposed downstream receiving water monitoring location for approval of the Executive Officer. |

Table Notes:

1. EFF-002 and EFF-003 are currently the same location, the sampling point following effluent storage in Graham's Pond. Different Discharge Point Names have been assigned due to differences in monitoring requirements at Discharge Point 002 (discharge to Dutch Bill Creek) and Discharge Point 003 (discharge to Loades' property irrigation system. After construction of a recycled water storage pond and abandonment of Graham's Pond, EFF-003 will be the monitoring location for recycled water deliveries to recycled water deliveries to recycled water users and EFF-002 will no longer exist.

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location INF-001

The Permittee shall monitor influent to the Facility at Monitoring Location INF-001 as follows:

**Table E-3. Influent Monitoring – Monitoring Location INF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | 24-hr composite | Monthly | Standard Methods[1] |
| Total Suspended Solids | mg/L | 24-hr composite | Monthly | Standard Methods |
| Settleable Solids | ml/L | Grab | Monthly | Standard Methods |
| Mean Daily Flow[2] | mgd | Meter | Continuous | -- |

Table Notes:

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR 136.
2. During the irrigation season, when there is no discharge from Graham's Pond to Dutch Bill Creek, mean daily influent flow may be calculated based on a totalizer reading that is not read daily.

## IV. EFFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location EFF-001

The Permittee shall monitor treated, disinfected, dechlorinated wastewater to be discharged to Graham's Pond at Discharge Point 001, as measured at Monitoring Location EFF-001 as follows:

**Table E-4. Effluent Monitoring of Discharge to Graham's Pond(or Other Authorized Recycled Water Storage Pond)– Monitoring Location EFF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Mean Daily Flow[1] | mgd | Meter | Continuous | -- |
| Biochemical Oxygen Demand (5-day @20°C) | mg/L | Grab | Weekly | Standard Methods[2] |
| | lbs/day | Calculate | | -- |
| | Monthly % Removal | Calculate | | --- |
| Total Suspended Solids | mg/L | Grab | Weekly | Standard Methods |
| | lbs/day | Calculate | | -- |
| | Monthly % Removal | Calculate | | --- |
| Settleable Solids | mL/L | Grab | Weekly | Standard Methods |
| Total Coliform Bacteria | MPN/100 mL | Grab | Daily[3] | Standard Methods |
| Chlorine, Total Residual[4] | mg/L | Meter | Continuous | Standard Methods |
| pH | Standard units | Grab | Daily | Standard Methods |
| Hardness[5] | mg/L | Grab | 4X/Year[6] | Standard Methods |
| Copper, Total Recoverable[5] | µg/L | Grab | 4X/Year | EPA Method 200 |
| Lead, Total Recoverable[5] | µg/L | Grab | 4X/Year | EPA Method 200 |
| Mercury | µg/L | Grab | Annually | EPA Method 1631E |
| Silver, Total Recoverable[5] | µg/L | Grab | 4X/Year | EPA Method 200 |
| Cyanide, Total (as CN) | µg/L | Grab | 4X/Year | EPA Method 335 |

**Table E-4. Effluent Monitoring of Discharge to Graham's Pond(or Other Authorized Recycled Water Storage Pond)– Monitoring Location EFF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Dichlorobromomethane | µg/L | Grab | 4X/Year | EPA Method 624 |
| Chlorodibromomethane | µg/L | Grab | 4X/Year | EPA Method 624 |
| Bis (2-Ethylhexyl) Phthalate | µg/L | Grab | 4X/Year | EPA Method 625 |
| Acute Toxicity | 96 hour % survival or TUa | Grab | Twice Yearly[7] | See Section V.A. below |
| Chronic Toxicity | TUc | Grab | Annually | See Section V.B. below |
| Chronic Toxicity (narrative) | Passed/Triggered[8] | | | --- |
| CTR Pollutants[9] | µg/L | Grab | 1X/permit term | Standard Methods |
| Title 22 Pollutants[10] | µg/L | Grab | 1X/permit term | Standard Methods |
| Nitrate Nitrogen, Total (as N) | mg/L | Grab | Bi-Monthly[11] | Standard Methods |
| Ammonia Nitrogen, Total (as N) | mg/L | Grab | Bi-Monthly | Standard Methods |
| Organic Nitrogen, Total (as N) | mg/L | Grab | Bi-Monthly | Standard Methods |
| Nitrite Nitrogen, Total (as N) | mg/L | Grab | Bi-Monthly | Standard Methods |
| Phosphorus, Total (as P) | mg/L | Grab | Bi-Monthly | Standard Methods |

Table Notes:

1. During the irrigation season, when there is no discharge from Graham's Pond to Dutch Bill Creek, mean daily influent flow may be calculated based on a totalizer reading that is not read daily.
2. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR 136.
3. Total coliform sampling shall be daily when discharging to the reclamation system. Total coliform sampling may be decreased to weekly when discharging from Graham's Pond.
4. Chlorine residual shall be monitored before and after dechlorination and shall demonstrate the presence of a chlorine residual prior to dechlorination and that there is no chlorine residual in the effluent after dechlorination prior to discharge to Graham's Pond. This monitoring shall occur daily when transferring from the chlorine contact tank to Graham's Pond.

**Table E-4. Effluent Monitoring of Discharge to Graham's Pond(or Other Authorized Recycled Water Storage Pond)– Monitoring Location EFF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|

5. Monitoring for effluent and receiving water hardness shall be conducted concurrently with effluent sampling for copper, lead, and silver.
6. Sampling shall occur two times in different months during the period of January through April with one sample coinciding with the acute toxicity monitoring specified in Table Note 7, below. The other two samples shall be collected in August and November.
7. Monitoring shall occur in November and once during the period of January through March, during a period of discharge from Graham's Pond to Dutch Bill Creek. The acute toxicity monitoring conducted between January and March shall occur concurrently with the annual acute toxicity monitoring requirement from Graham's Pond as specified in Table E-5.
8. The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test "passed" or "triggered" in relation to the chronic toxicity trigger of 1.6 TUc (where TUc=100/NOEC) for each single sample or 1.0 TUc as a monthly median. For narrative chronic toxicity reporting "Passed" shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.6 TUc or a monthly median of ≤1.0 TUc ). "Triggered" shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.6 TUc for a single sample or 1.0 TUc as a monthly median.
9. CTR pollutants are those pollutants identified in the California Toxics Rule at 40 CFR 131.38. For priority pollutants, the methods must meet the lowest minimum level (ML) specified in Attachment 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP, see section III.B.3 of the Fact Sheet). In accordance with Section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result. Where no methods are specified for a given pollutant, the Permittee shall use methods approved by the Regional Water Board. The laboratory's current MDL shall use methods approved by the Regional Water Board. The laboratory's current MDL shall be determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).
10. Title 22 pollutants are those pollutants for which the California Department of Public Health has established Maximum Contaminant Levels (MCLs) at title 22, division 4, chapter 15, article 4, section 64431 (Inorganic Chemicals) and article 5.5, section 64444 (Organic Chemicals) of the CCR. Duplicate analyses are not required for pollutants that are identified both as CTR and title 22 pollutants. Monitoring required in future permit terms may be reduced to only those pollutants detected in the title 22 sampling conducted during this permit term.
11. Bi-monthly means every other month in January, March, May, July, September, and November.

## B. Monitoring Location EFF-002

1. The Permittee shall monitor disinfected, dechlorinated wastewater to be discharged from Graham's Pond to Dutch Bill Creek at Discharge Point 002, as measured at Monitoring Location EFF-002 during periods of discharge to Dutch Bill Creek as follows:

**Table E-5. Effluent Monitoring for Discharges from Graham's Pond to Dutch Bill Creek – Monitoring Location EFF-002**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Mean Daily Flow | mgd | Meter | Continuous | -- |
| pH | standard units | Grab | Weekly | Standard Methods[1] |
| Dissolved Oxygen | mg/L | Grab | Weekly | Standard Methods |
| Temperature | °F or °C | Grab | Weekly | Standard Methods |
| Turbidity | NTU | Grab | Weekly | Standard Methods |
| Hardness, Total (as $CaCO_3$) | mg/L | Grab | Monthly | Standard Methods |
| Acute Toxicity | 96 hour % survival or TUa | Grab | Annually[2] | See Section V.A. below |

Table Notes:

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR 136.
1. Concurrently with wet-season acute toxicity monitoring at EFF-001.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV.A.1 of the Order.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in MRP section IV.A.1 and Table E-4, above.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be grab samples collected at Monitoring Location EFF-001.

3. **Test Species.** Test species for acute WET testing shall be a vertebrate, the rainbow trout, *Oncorhynchus mykiss* and an invertebrate, the water flea, *Ceriodaphnia dubia*, for at least the first two suites of tests conducted within 12 months after the effective date of the Order. After this screening period, monitoring shall be conducted using the most sensitive species. At least once every five years, the Permittee shall re-screen with the two species listed above and continue monitoring with the most sensitive species. Two-species acute toxicity monitoring conducted in 2009 revealed *Ceriodaphnia dubia*

as the most sensitive species that shall be used until the next two species acute toxicity screening tests are performed. The next two species acute WET tests shall be conducted by **March 31, 2014**.

4. **Test Methods.** The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

   Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide, and cyanide.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-001.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all test acceptability criteria, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three sample median limitation (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section VI.C.2.a.ii of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification will describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this

Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

9. **Reporting.** The acute toxicity test results shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.* The submitted report shall clearly identify the test results.

10. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

**B. Chronic Toxicity Testing**

The Permittee shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's water quality objective for toxicity. The Permittee shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Permittee shall conduct annual chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in MRP section IV.A.1 and Table E-4, above.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be grab samples collected at Monitoring Location EFF-001 and shall be representative of the volume and quality of the discharge.. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods. Any receiving water used for control or dilution water shall be a grab sample obtained from Monitoring Location RSW-001, as identified in Table E-2 of this MRP.

3. **Test Species.** Test species for chronic WET testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0), an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.01), and a plant, the green algae, *Selanastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0). At least one time every 5 years, the Permittee shall conduct two suites of chronic WET testing using the three species identified above. After this screening period, monitoring shall be conducted annually using the most sensitive species. The next multiple species chronic WET test shall be conducted by **March 31, 2014**.

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and*

*Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, or subsequent editions).

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Effluent dilution water and control water may be receiving water collected at RSW-001 or standard synthetic laboratory water, as described in the USEPA test methods manual. Where the receiving water does not exhibit toxicity or biostimulatory effects, receiving water is preferred for control and dilution water. If the dilution water used is different from the test organism culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.

8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the chronic toxicity trigger during regular or accelerated monitoring.

9. **Accelerated Monitoring Requirements.** If the result of any routine chronic toxicity test exceeds the chronic toxicity monitoring trigger of 1.6 TUc as a single sample result or 1.0 TUc as a monthly median, as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of up to four additional effluent samples and dilution series (specified in number 5 above) – with one test for each test

species showing toxicity results exceeding the toxicity trigger, as defined by conditions a. through c., below. Accelerated monitoring tests shall be conducted approximately every week over a 4 week period.

Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

**a.** If the result of any accelerated toxicity test exceeds 1.0 TUC, the Permittee shall cease accelerated monitoring and, within thirty (30) days of the date of completion of the accelerated monitoring test, initiate the TRE Workplan developed in accordance with Section VI.C.2.a.(2) of the Order to investigate the cause(s) and identify corrective actions to reduce or eliminate the chronic toxicity. Within thirty (30) days of completing the TRE Workplan implementation, the Permittee shall submit a report to the Regional Water Board including, at a minimum:

- **i.** Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- **ii.** Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;
- **iii.** Recommendations for further actions to mitigate continued toxicity, if needed; and
- **iv.** A schedule for implementation of recommended actions.

**b.** If the results of four consecutive accelerated monitoring tests do not exceed 1.0 TUc, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.

**c.** If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring "trigger." Upon confirmation that the chronic toxicity has been removed, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring.

10. **Ammonia Toxicity.** The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

**C. Chronic Toxicity Reporting**

1. **Routine Reporting.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals and this Monitoring and Reporting Program.

   Regular chronic toxicity monitoring results shall be submitted within 30 days following completion of the test.

   **a.** The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

      **i.** receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;

      **ii.** the source and make-up of the lab control/diluent water used for the test;

      **iii.** any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

      **iv.** identification of any reference toxicant testing performed;

      **v.** tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of NOEC, $TU_c$ and $IC_{25}$;

      **vi.** identification of any anomalies or nuances in the test procedures or results; and

      **vii.** summary and conclusions section.

   **b.** Test results shall include, at a minimum, for each test:

      **i.** Sample date(s);

      **ii.** Test initiation date;

      **iii.** Test species;

      **iv.** End point values for each dilution (e.g., number of young, growth rate, percent survival);

      **v.** NOEC value(s) in percent effluent;

**vi.** IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent;

**vii.** TUc values (100/NOEC);

**viii.** Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable);

**ix.** NOEC and LOEC values for reference toxicant test(s);

**x.** IC50 or EC50 value(s) for reference toxicant test(s);

**xi.** Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);

**xii.** Statistical methods used to calculate endpoints;

**xiii.** The statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and

**xiv.** Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

2. **Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

3. **Compliance Summary.** The monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Permittee is in compliance with effluent limitations and other permit requirements.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS

A special study is needed to determine if irrigation of the Loades' property is at agronomic rates (reclamation) or greater than agronomic rates (land discharge). Section VI.C.2.b of the Order requires the Permittee to conduct a special study to make this determination. If irrigation is at greater than agronomic rates, the Permittee shall comply with the land discharge specifications in section IV.B of the Order.

## VII. IRRIGATION/RECLAMATION MONITORING REQUIREMENTS

A special study is needed to determine if irrigation of the Loades' property is at agronomic rates (reclamation) or greater than agronomic rates (land discharge). Section VI.C.2.b of the Order requires the Permittee to conduct a special study to make this determination. If irrigation is at or below agronomic rates, the Permittee shall comply with the reclamation specifications in section IV.C of the Order.

### A. Irrigation/Reclamation Monitoring Requirements

The following irrigation monitoring requirements are applicable during periods when the irrigation systems at Loades' property and other authorized recycled water use sites are being used. Monitoring requirements identified in this section are not applicable during periods when all effluent is discharged to Dutch Bill Creek.

The Permittee shall monitor treated, disinfected wastewater prior to reclamation at Discharge Point 003, as measured at Monitoring Location EFF-003 as follows:

**Table E-6. Irrigation/Reclamation Monitoring Requirements – Monitoring Location EFF-003**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Flow[1] | mgd | Meter | Continuous | Meter |
| pH | Standard units | Grab | Monthly | Standard Methods |
| Nitrate Nitrogen[2] | mg/L | Grab | Monthly | Standard Methods |
| Nitrite Nitrogen[2] | mg/L | Grab | Monthly | Standard Methods |
| Ammonia Nitrogen[2] | mg/L | Grab | Monthly | Standard Methods |
| Organic Nitrogen[2] | mg/L | Grab | Monthly | Standard Methods |
| TDS | mg/L | Grab | Monthly[3] | Standard Methods |
| Chloride | mg/L | Grab | Monthly[3] | Standard Methods |
| Boron | mg/L | Grab | Monthly[3] | Standard Methods |
| Sodium | mg/L | Grab | Monthly[3] | Standard Methods |
| Visual Observations[4] | -- | -- | Daily | Visual |

**Table E-6. Irrigation/Reclamation Monitoring Requirements – Monitoring Location EFF-003**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|

Table Notes:

1. Each month, the Permittee shall report the number of days that treated wastewater was used for reclamation, as well as the average and maximum daily flow rate.
2. Monitoring for nitrate, nitrite, ammonia, and organic nitrogen is for the purpose of determining total nitrogen concentration for agronomic rate calculations.
3. The monitoring frequency for total dissolved solids, chloride, boron, and sodium may be reduced or eliminated with the approval of the Executive Officer, if monitoring data demonstrates that concentrations of these parameters are consistently lower than water quality objectives for protection of groundwater.
4. During periods of discharge to the irrigation system, visual observations shall be conducted daily to verify compliance with irrigation/recycled water requirements in section IV.C of the Order and to confirm proper operation of the irrigation/recycled water system and associated BMPs. The monthly monitoring report shall include the daily volume of treated wastewater discharged to the irrigation system and any observations indicating non-compliance with the provisions of the waste discharge requirements, including records of any malfunctions or findings of improper operation, including but not limited to odors, evidence of surface run-off, or ponding that exceeds 48 hours.

## B. Recycled Water Production and Use

For reclamation use, recycled water quality characteristics and precipitation data shall be used to ascertain nitrogen loading rates at each recycled water use site. The following information shall be reported for any new use site added after the permit adoption date and for existing use sites upon completion of the agronomic rate evaluation required by Provision VI.C.2.c. of the Order.

**Table E-7. Recycled Water Production and Use – Monitoring Location 003**

| Parameter | Units | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| Volume of recycled water[1] | Acre-feet | Meter | Monthly |
| Total area of application | Acres | Observation | Monthly |
| Total Nitrogen application rate[2, 3] | lbs/acre-month | Calculation | Monthly |
| Rainfall | Inches | Gage | Daily |

Table Notes:

1. Estimation of the volume of recycled water shall not include other potable or non-potable "make-up" water used in conjunction with recycled water.
2. Nitrogen application rate shall consider nitrogen content of the recycled water, based on effluent monitoring data.
3. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/L as NO3 shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 15.067 (N)/62.0049 (NO3).

## VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

### A. Surface Water Monitoring Locations RSW-001 and RSW-002

1. The Permittee shall monitor upstream of Graham's Pond at Monitoring Location RSW-001 as follows: Upstream monitoring at RSW-001 shall occur during two significant storm events (1/2" or greater rainfall in 24 hours) as follows:

**Table E-8. Upstream Receiving Water Monitoring Requirements – Monitoring Location RSW-001[1]**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Dissolved Oxygen | mg/L | Grab | Weekly | Standard Methods[2] |
| pH[2] | standard units | Grab | Weekly | Standard Methods |
| Turbidity | NTU | Grab | Weekly | Standard Methods |
| Temperature[2] | °F or °C | Grab | Weekly | Standard Methods |

Table Notes:

1. When the Permittee samples the upstream receiving water at RSW-001, the downstream receiving water shall be sampled at RSW-002 during the same sampling period.
2. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.

2. The Permittee shall monitor downstream of Graham's Pond at Monitoring Location RSW-002, during periods of discharge to Dutch Bill Creek as follows:

**Table E-9. Downstream Receiving Water Monitoring Requirements – Monitoring Location RSW-002**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | Grab | Monthly | Standard Methods[1] |
| Dissolved Oxygen | mg/L | Grab | Weekly | Standard Methods[1] |
| pH[2] | standard units | Grab | Weekly | Standard Methods |
| Turbidity | NTU | Grab | Weekly | Standard Methods |
| Temperature[2] | °F or °C | Grab | Weekly | Standard Methods |
| Hardness, Total (as $CaCO_3$)[2] | mg/L | Grab | [3] | Standard Methods |
| Ammonia Nitrogen, Total (as N)[2] | mg/L | Grab | [4] | Standard Methods |
| Unionized Ammonia (as N) | mg/L | Calculation | [4] | -- |

**Table E-9. Downstream Receiving Water Monitoring Requirements – Monitoring Location RSW-002**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Nitrate Nitrogen, Total (as N) | mg/L | Grab | [4] | Standard Methods |
| Phosphorus, Total (as P) | mg/L | Grab | [4] | Standard Methods |
| Stream Flow | mgd | Gage | Daily | --- |
| Dilution | % of Stream Flow | Calculation | Daily | --- |

Table Notes:

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
2. Effluent and receiving water pH, temperature, and ammonia samples shall be collected on the same day and at approximately the same time.
3. Monitoring shall occur concurrently with hardness-based metals effluent samples specified in Table E-4, but only during periods of discharge from Graham's Pond to Dutch Bill Creek.
4. Monitoring shall occur concurrently with effluent nutrient monitoring specified in Table E-4, but only during periods of discharge from Graham's Pond to Dutch Bill Creek.

### B. Groundwater

There is no groundwater monitoring requirement in this monitoring and reporting program. Groundwater monitoring may be established in the future, if necessary, to assess impacts of effluent discharge to the irrigation system.

## IX. OTHER MONITORING REQUIREMENTS

### A. Disinfection Process Monitoring for Chlorine Disinfection System (EFF-001)

1. **Monitoring.** The chlorine residual of the effluent shall be monitored continuously at a point prior to dechlorination and recorded.

2. **Compliance.** The monitoring data shall demonstrate that there is a chlorine residual at the end of the chlorine disinfection system at all times. In addition, monitoring shall demonstrate compliance with total coliform effluent limitations in sections IV.A.1.c and IV.C.1.b of the Order.

3. **Reporting.** If effluent following disinfection does not have a chlorine residual, or if there is a failure of the chlorine disinfection system, the event shall be reported to the Regional Water Board in accordance with Standard Provision VI.A.2.b of the Order.

### B. Visual Monitoring of Discharge to Graham's Pond (EFF-001), Discharge from Graham's Pond (EFF-002), and Downstream Receiving water (RSW-002)

Visual observations of the discharge to Graham's Pond (EFF-001), from Graham's Pond (EFF-002) and Dutch Bill Creek downstream of the discharge from Graham's Pond (RSW-002) shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include, but not be limited to, observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors. Visual observations shall be recorded and included in the Permittee's monthly monitoring reports.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

1. The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Schedules of Compliance.** If applicable, the Permittee shall submit all reports and documentation required by compliance schedules that are established by this Order. Such reports and documentation shall be submitted to the Regional Water Board on or before each compliance date established by this Order. If noncompliance is reported, the Permittee shall describe the reasons for noncompliance and a specific date when compliance will be achieved. The Permittee shall notify the Regional Water Board when it returns to compliance with applicable compliance dates established by schedules of compliance.

### B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.

2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Permittee monitors any pollutant

more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.

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

**Table E-10. Monitoring Periods and Reporting Schedule**

| Sampling Frequency | Monitoring Period Begins On… | Monitoring Period | SMR Due Date |
|---|---|---|---|
| Continuous | Permit effective date | All | First day of second calendar month following month of sampling |
| Daily | Permit effective date | (Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling. | First day of second calendar month following month of sampling |
| Weekly | Sunday following permit effective date or on permit effective date if on a Sunday | Sunday through Saturday | First day of second calendar month following month of sampling |
| Monthly | First day of calendar month following permit effective date or on permit effective date if that date is first day of the month | First day of calendar month through last day of calendar month | First day of second calendar month following month of sampling |
| Bi-Monthly | First day of calendar month following permit effective date or on permit effective date if that date is first day of the month | January, March, May, July, September, and November | First day of second calendar month following month of sampling |
| Quarterly | Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date | January through March<br>April through June<br>July through September<br>October through December | First day of second calendar month following end of quarter |
| 4X/Year | Between February and March following the permit effective date | Two times in different months during the period of January through April; August; and November | First day of second calendar month following monitoring |
| 2X/Year | Between February and March following the permit effective date | Once during the period of January through March; November | First day of second calendar month following monitoring |
| Annually | January 1 following (or on) permit effective date | January 1 through December 31 | March 1, each year |

5. **Reporting Protocols.** The Permittee shall report with each sample result the applicable ML, the RL and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

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

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

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

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

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

6. The Permittee shall submit SMRs in accordance with the following requirements:

   **a.** The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular

format as an attachment. During periods of discharge to the irrigation system, the reports shall certify "land discharge".

**b.** The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:

**i.** Facility name and address;

**ii.** WDID number;

**iii.** Applicable period of monitoring and reporting;

**iv.** Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);

**v.** Corrective actions taken or planned; and

**vi.** The proposed time schedule for corrective actions.

**c.** Electronic SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). In the event that paper submittal of SMRs is required, the Discharge shall submit the SMR to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

## C. Discharge Monitoring Reports (DMRs)

DMRs are currently required for facilities designated as major dischargers. This Facility is a minor discharger, therefore, DMR requirements do not apply at this time.

## D. Other Reports

**1.** The Permittee shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and VI.C.3 of this Order.

2. **ReclamationIrrigation Operations Reporting - Irrigation of Loades' Property and Other Authorized Recycled Water Users**

   a. **Reclamation/Irrigation Operations Reporting**

      **i.** Each month that the Permittee provides recycled water for irrigation of the Loades' property and other authorized recycled water users, the Permittee shall monitor in accordance with section VII of this MRP and report the results on its monthly monitoring report.

      **ii.** The irrigation site shall be inspected each day that irrigation occurs to ensure that recycled water is applied in a manner that complies with irrigation/recycled water requirements identified in section IV.C of the Order. The Permittee shall report:

         **(a)** Inspection dates;

         **(b)** All observations of recycled water overapplication and/or runoff;

         **(c)** A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order;

         **(d)** Documentation of notifications to users if any recycled water was delivered that did not meet the requirements specified in this Order; and

         **(e)** A record of equipment or process failures initiating an alarm, as well as any corrective and preventative actions.

   b. **Annual Irrigation/Recycled Water Report.** The annual report shall include but not be limited to the following;

      **i.** A compliance summary and discussion of the compliance record for the prior calendar year, including:

         **(a)** If violations occurred, the report shall also discuss the corrective actions taken and planned to bring the reclamation program into full compliance with this Order.

         **(b)** An evaluation of hydraulic and nutrient application rates. This evaluation shall either demonstrate that treated wastewater is being applied at agronomic rates or that any application in excess of agronomic rates did not cause impacts to water quality. If actual or

potential impacts to water quality are identified, the Permittee shall identify and implement corrective actions, as necessary.

**(c)** Certification that all reasonable BMPs and management practices were implemented to ensure efficient and compliant operation of the irrigation system; and

**(d)** Identification of any other problems that occurred in the irrigation system during the prior year and plans to rectify those problems in the coming year.

**ii.** A summary of scheduled and non-scheduled maintenance of the irrigation system appurtenances and irrigation areas.

3. **Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:

**a.** Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

**b.** A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

**c.** The names, certificate grades, and general responsibilities of all persons employed at the Facility;

**d.** The names and telephone numbers of persons to contact regarding the wastewater treatment facility for emergency and routine situations;

**e.** A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration; and

**f.** A statement certifying whether the current operation and management manual and spill contingency plan, reflect the wastewater treatment facility as currently constructed and operated, and the dates when these documents were last reviewed and last revised for adequacy.

**g. Source Control Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's source control activities, as required by Provision VI.C.5.b. of this Order.

**i.** A copy of the source control standards;

**ii.** A description of the waste hauler permit system;

**iii.** A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.

**iv.** A summary of any industrial waste survey results; and

**v.** A summary of public participation activities to involve and inform the public.

**h. Biosolids Handling and Disposal Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous twelve months. If biosolids are not generated at the Facility during the year, the report shall state, "No biosolids generated this year." If biosolids are generated at the Facility during the year, the report shall contain at a minimum:

**i.** Annual sludge production, in dry tons and percent solids

**ii.** A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram.

**iii.** Methods of final disposal of sludge:

**(a)** For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.

**(b)** For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and

regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

**(c)** For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

**i. Storm Water Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's best management practices (BMPs) to control storm water, as well as activities to maintain and upgrade these BMPs.

**E. Spills and Overflows Notification**

**1.** All spills, unauthorized discharges, and sanitary sewer overflows (SSOs) equal to or in excess of 1,000 gallons or any size spill or SSO that result in a discharge to a drainage channel or a surface water:

**a.** As soon as possible, but not later than **two (2) hours** after becoming aware of the discharge, the Permittee shall notify the California Emergency Management Agency (CalEMA)[1], the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas, and the Regional Water Board.

Information to be provided verbally to the Regional Water Board includes:

**i.** Name and contact information of caller;
**ii.** Date, time and location of spill occurrence;
**iii.** Estimates of spill volume, rate of flow, and spill duration;
**iv.** Surface water bodies impacted, if any;
**v.** Cause of spill;
**vi.** Cleanup actions taken or repairs made; and
**vii.** Responding agencies.

**b.** As soon as possible, but not later than **twenty-four (24) hours** after becoming aware of a discharge, the Permittee shall submit to the Regional Water Board a

[1] The contact number for spill reporting for the CalEMA is (800) 852-7550. The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to CalEMA will satisfy the 2 hour notification requirement for the Regional Water Board.

certification that CalEMA and the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas have been notified of the discharge. For the purpose of this requirement, "certification" means a CalEMA certification number and, for the local health department, name of local health staff, department name, phone number and date and time contacted.

**c.** Within **five (5) business days**, the Permittee shall submit a written report to the Regional Water Board office. The report must include all available details related to the cause of the spill and corrective action taken or planned to be taken, as well as copies of reports submitted to other agencies.

**i.** Information provided in the verbal notification;
**ii.** Other agencies notified by telephone;
**iii.** Detailed description of cleanup actions and repairs taken; and
**iv.** Description of actions that will be taken to minimize or prevent future spills.

**d.** In the cover letter of the monthly monitoring report, the Permittee shall include a brief written summary of the event and any additional details related to the cause or resolution of the event, including, but not limited to results of any water quality monitoring conducted.

**2.** All spills, unauthorized discharges, and sanitary sewer overflows (SSOs) less than 1,000 gallons that do not reach a drainage channel or a surface water:

**a.** As soon as possible, but not later than **twenty-four (24) hours** after becoming aware of the discharge, the Permittee shall notify the Regional Water Board and provide the applicable information in requirement 1.a of this section.

**b.** In the cover letter of the monthly monitoring report, the Permittee shall include a written description of the spill event.

**ATTACHMENT F – FACT SHEET**

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## ATTACHMENT F – FACT SHEET

As described in section II.B of the Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the Occidental County Sanitation District Wastewater Treatment Facility.

**Table F-1. Facility Information**

| | |
|---|---|
| **WDID** | 1B830100OSON |
| **Permittee** | Occidental County Sanitation District (Owner) and Sonoma County Water Agency (Operator) |
| **Name of Facility** | Occidental County Sanitation District Wastewater Treatment Facility (WWTF) |
| **Facility Address** | 14445 Occidental Road |
| | Occidental, CA 95465 |
| | Sonoma County |
| **Facility Contact, Title and Phone** | Wendy Gjestland, Water Agency Engineer, (707) 521-1866 |
| **Authorized Person to Sign and Submit Reports** | Hody Wilson, Operations Manager, (707) 521-1843 |
| **Mailing Address** | P.O. Box 11628, Santa Rosa, CA 95406 |
| **Billing Address** | Same as mailing address |
| **Type of Facility** | Publicly Owned Treatment Works (POTW) |
| **Major or Minor Facility** | Minor |
| **Threat to Water Quality** | 1 |
| **Complexity** | B |
| **Pretreatment Program** | No |
| **Reclamation Requirements** | Producer |
| **Facility Design and Permitted Flow** | 0.05 mgd (average annual dry weather treatment capacity)[1] |
| **Watershed** | Russian River Hydrologic Unit, Guerneville Hydrologic Subarea |

| | |
|---|---|
| **Receiving Water** | Dutch Bill Creek, tributary to the Russian River |
| **Receiving Water Type** | Inland Surface Water |

Table Notes:

1. The average annual dry-weather flow shall be the arithmetic mean of the influent flow for the four consecutive lowest flow months in a calendar year.

**A.** The Occidental County Sanitation District (OCSD) owns the Occidental County Sanitation District Wastewater Treatment Facility (hereinafter Facility), a publicly owned treatment works (POTW), as shown on Attachment B. The Sonoma County Water Agency (SCWA) is under contract to operate and maintain the Facility. The OCSD and SCWA are collectively referred to as the Permittee.

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

**B.** The Facility discharges secondary treated, disinfected, dechlorinated wastewater to Graham's Pond which is tributary to Dutch Bill Creek, thence the Russian River, all waters of the United States. The Facility is currently regulated by Order No. 93-42 which was adopted on May 27, 1993, and expired on May 26, 1998. The Permittee is also regulated by Monitoring and Reporting Program (MRP) No. 93-42, which was originally adopted on May 27, 1993, and revised by the Regional Board Executive Officer on September 15, 2008, and April 23, 2009, to increase monitoring requirements.

**C.** The terms and conditions of Order No. 93-42 and the MRP (as revised on April 23, 2009) have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order. During this period of continuation, the Regional Water Board and staff have worked with the Permittee to identify solutions to violations of WDRs and the Basin Plan, as further described in sections II.D (Compliance Summary) and II.E (Planned Changes) of this Fact Sheet.

**D.** The Permittee filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its WDRs and NPDES permit on January 14, 2009. Supplemental information was requested by Regional Water Board staff by letter dated December 1, 2010 and email dated July 30, 2012. Supplemental priority pollutant data used in the final reasonable potential analysis was submitted by the Permittee in its monthly self-monitoring reports from December 2010 through June 2012. An infeasibility analysis for copper, lead, silver, cyanide, dichlorobromomethane (DCBM), chlorodibromomethane (CDBM), bis (2-ethylhexyl) phthalate, total coliform, and ammonia was submitted on September 10, 2012. The ROWD was deemed complete on September 11, 2012.

## II. FACILITY DESCRIPTION

The Facility provides sewerage service to a population of approximately 650, including residential and commercial customers (including a dentist) in the town of Occidental. There is also one industrial user, a small slaughter house that is permitted to discharge up to 1,000 gpd of wash water into the Facility, but no animal waste is discharged. The Permittee's wastewater makeup is approximately 52 percent residential flow, 43 percent commercial flow, and 5 percent industrial flow.

### A. Description of Wastewater and Biosolids Treatment or Controls

#### 1. Collection System

The Permittee's collection system was originally constructed in the 1950s. The total length of the collection system is 12,670 feet (8,428 feet of gravity pipe, 3,200 feet of force main, and 1,042 feet of private laterals). The gravity sewer pipeline flows to a lift station from which sewage is pumped approximately 250 feet in elevation to the treatment plant through 3200 feet of 4-inch force main. In 2007, the Permittee replaced a 3,820 feet of the gravity portions of the collection system which resulted in a significant reduction in wet weather flow to the Facility. This amounts to 30 percent of the entire collection system, 40 percent of the unpressurized portion (District-owned gravity plus private laterals) and 45 percent of the District-owned gravity portion of the collection system.

The Permittee has a collection system maintenance program that is designed to reduce the likelihood of sanitary sewer overflows (SSOs). Activities include rodding and hydrocleaning sewer mainlines to keep the lines clear; video inspections of sewer mainlines to assess the condition of the pipeline; location and marking of sewer mainlines prior to construction projects to prevent damage to piping and possible accidental discharge of raw sewage; repairing man holes, main lines, and laterals; lift station maintenance; infiltration and inflow (I&I) investigation; and responding to reported sewer stoppages or sanitary sewer overflows.

The Permittee's source control efforts primarily focus on restaurants. Grease traps/interceptors are inspected a minimum of annually. If problems are encountered, the restaurant owner is notified in writing and instructed to clean the trap or interceptor within a specified time frame.

#### 2. Wastewater Treatment

The Facility is designed to provide secondary treatment for up to an average annual dry weather flow of 0.05 mgd. The discharge pumps are designed to handle a peak wet weather flow of 175 gallons per minute which is equivalent to 0.252 mgd if the

Facility discharged at peak flow for a continuous 24 hour period. The current treatment system consists of a headworks, one aeration pond, one settling pond, chlorination, dechlorination, and pH adjustment.

The headworks is located at the lift station and consists of a grit chamber, wet well, and wet well overflow storage tank. The aerated pond has an estimated capacity of 0.65 million gallons (with two feet of freeboard) and is equipped with two floating mechanical aerators as well as a baffle system to reduce short-circuiting. The settling pond has a working capacity of 0.22 million gallons and has an average depth of 4 feet and surface area of 8,400 square feet. The Permittee removed approximately 30 dry tons of sludge in 2007 to ensure that the pond has adequate capacity. Chlorine disinfection is accomplished in three enclosed tanks with a total storage volume of 13,500 gallons that are plumbed in series and parallel to provide operational flexibility. The contact tanks are operated in series under normal operating conditions. Gaseous chlorine is currently used for disinfection at a dosage of approximately 24 parts per million (ppm). Chlorinated effluent is dechlorinated using sodium bisulfite at an average dosage of 24 ppm in a 3,000 gallon tank, then pH adjusted using 25 percent caustic soda at a dosage of 4 ppm.

### 3. Effluent Storage

Secondary treated, disinfected, dechlorinated wastewater is discharged to Graham's Pond, a 10 million gallon storage reservoir that overflows to Dutch Bill Creek, a tributary of the Russian River. The Permittee has utilized Graham's Pond as a year-round storage reservoir since approximately 1977. However, Regional Water Board analysis has determined that Graham's Pond is a water of the United States due to its construction and location within an existing headwaters drainage system. Graham's Pond is an in-stream pond that was constructed at the headwaters of Dutch Bill Creek, originally for use as an agricultural pond. Graham's Pond receives runoff from upstream slopes and several small drainages into the pond.

Beginning in 1977, Occidental's waste discharge requirements (Order No. 77-153) allowed discharges of treated, disinfected effluent to Graham's Pond during the periods when there was no discharge from Graham's Pond to Dutch Bill Creek for subsequent irrigation use on the adjacent pasture land. Order No. 83-001 allowed year-round discharges to Graham's Pond with wet-weather discharges to Dutch Bill Creek at 100:1 dilution rate measured at the reservoir overflow. Order No. 88-20 allowed the 100:1 dilution rate to be measured at Camp Meeker.

Use of Graham's Pond for effluent/recycled water storage will only continue until the Permittee completes construction of a new storage pond, as further described in section II.E of this Fact Sheet.

**4. Recycled Water/Land Disposal**

During the dry weather season (May 15 to September 30), and other periods as allowed under this Order, the Permittee irrigates an 8.26 acre cattle pasture with effluent stored in Graham's Pond. The pasture and Graham's Pond are owned by the Loades family and the pasture is located adjacent to and immediately downgradient from Graham's Pond. The irrigation system is controlled by the property owner using a manually controlled sprinkler system that has four independently controlled lines. Under normal operations, one line is operated at a time on a rotational basis in order to avoid the occurrence of runoff and to maximize the efficiency of the system. In addition, SCWA operations staff inspects the property a minimum of two times per week in order to prevent runoff from occurring. During the irrigation season, the system is used 2 to 3 days per week for a maximum of eight hours per day. The average application rate is 400 gpm.

**5. Biosolids**

Biosolids generated during the treatment process accumulate in the aeration and settling ponds, where they undergo anaerobic digestion and compaction. Over time, the volume of settled solids increases, reducing the retention time of flow through the ponds. As necessary, biosolids are removed and disposed at a legal point of disposal. The last sludge removal occurred in 2007.

**B. Discharge Points and Receiving Waters**

**1.** The Facility's point of discharge to Graham's Pond (Discharge Point 001) is located within the Guerneville Hydrologic Subarea of the Lower Russian River Hydrologic Area and the Russian River Hydrologic Unit at 38° 24' 46" N latitude and 122° 56' 31" W longitude. The Permittee currently discharges year-round to Graham's Pond.

**2.** During the period of October 1 through May 14, the Permittee intermittently discharges comingled effluent and storm water from Graham's Pond to Dutch Bill Creek (Discharge Point 002) at one percent of the flow of Dutch Bill Creek as measured at the Camp Meeker bridge. Discharges typically occur between the months of November and May. During periods of sustained wet weather flows, it is difficult for the Permittee to control discharges from Graham's Pond due to the influx of storm water from the surrounding hillsides and the two small streams that flow into Graham's Pond. When storm water flows to Graham's Pond cause it to fill at a rate that exceeds the capacity of the metered discharge pipe, comingled effluent and storm water discharge over an unmetered spill way to Dutch Bill Creek.

## C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations contained in Order No. 93-42 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order No. 93-42 are summarized in the following two tables.

**Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001**

| Parameter | Units | Effluent Limitations | | | Monitoring Data (January 2000 – December 2006) | |
|---|---|---|---|---|---|---|
| | | Average Monthly[1] | Average Weekly[2] | Maximum Daily[3] | Highest Reported Value[4] | Number of Violations |
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | 30 | 45 | 60 | 67 | 25 |
| | lbs/day (dry-weather)[5] | 12 | 18 | 24 | 57.5 | 42 |
| | % Removal | 65 | -- | -- | (>65)[6] | 0 |
| Total Suspended Solids | mg/L | 50 | 65 | 80 | 73 | 4 |
| | lbs/day (dry-weather)[5] | 20 | 27 | 33 | 63 | 41 |
| | % Removal | No requirement | | | --- | --- |
| Settleable Solids | ml/L | 0.1 | -- | 0.2 | 0.1 | 0 |
| Total Coliform Organisms | MPN/100 mL | 2.2 | --- | 23 | 1600 | 15 |
| Chlorine Residual | mg/L | --- | --- | 0.1 | 16.8 | 10 |
| pH | standard units | -- | -- | 6.5 – 8.5 | (6.4) – 10 | 2<br>1 |
| Fish Bioassay | % survival | The survival of test fish in 96-hour (static or continuous flow) bioassays in undiluted effluent samples shall equal or exceed 90 percent survival 67 percent of the time and 70 percent survival 100 percent of the time | | | (0) | 3 |
| Flow (Influent) | mgd | 0.05 | -- | -- | [7] | 0 |

Table Notes:
1. The arithmetic mean of all samples collected in a calendar month.
2. The arithmetic mean of all samples collected in a calendar week, Sunday to Saturday.
3. The maximum result of all samples collected in a calendar day.
4. Some parameters, such as pH and fish bioassay have lower limits that are evaluated for compliance. Parameters for which a lower limit must be evaluated are indicated in parentheses.
5. Mass-based effluent limitations are based on the wastewater treatment facility average annual dry-weather design flow of 0.05 mgd.
6. Monitoring data was not reviewed to determine highest (or lowest) reported value due to the fact that there were no violations..
7. The Permittee has not exceeded the average annual dry weather treatment capacity of 0.05 mgd.

**Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point 001**

| Parameter | Units | Effluent Limitations | | | Monitoring Data (January 2007 – June 2012) | |
|---|---|---|---|---|---|---|
| | | Average Monthly[1] | Average Weekly[2] | Maximum Daily[3] | Highest Reported Value[4] | Number of Violations |
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | 30 | 45 | 60 | 71 | 10 |
| | lbs/day (dry-weather)[5] | 12 | 18 | 24 | 33.4 | 4 |
| | % Removal | 65 | -- | -- | (99) | 0 |
| Total Suspended Solids | mg/L | 50 | 65 | 80 | 186 | 6 |
| | lbs/day (dry-weather)[5] | 20 | 27 | 33 | 52 | 5 |
| | % Removal | No requirement | | | --- | --- |
| Settleable Solids | ml/L | 0.1 | -- | 0.2 | 1.5 | 2 |
| Total Coliform Organisms | MPN/100 mL | 2.2 | --- | 23 | 130 | 9 |
| Chlorine Residual | mg/L | --- | --- | 0.1 | 10.7 | 5 |
| pH | standard units | -- | -- | 6.5 – 8.5 | 8 | 1 |
| Fish Bioassay | % survival | The survival of test fish in 96-hour (static or continuous flow) bioassays in undiluted effluent samples shall equal or exceed 90 percent survival 67 percent of the time and 70 percent survival 100 percent of the time | | | (0) | 17 |
| Flow (Influent) | mgd | 0.05 | -- | -- | [6] | 0 |

Table Notes:

1. The arithmetic mean of all samples collected in a calendar month.
2. The arithmetic mean of all samples collected in a calendar week, Sunday to Saturday.
3. The maximum result of all samples collected in a calendar day.
4. Some parameters, such as pH and fish bioassay have lower limits that are evaluated for compliance. Parameters for which a lower limit must be evaluated are indicated in parentheses.
5. Mass-based effluent limitations are based on the wastewater treatment facility average annual dry-weather design flow of 0.05 mgd.
6. The Permittee has not exceeded the average annual dry weather treatment capacity of 0.05 mgd.

## D. Compliance Summary

### 1. Violations Summary

Due to the long history of violations and the length of time between permit renewals, the monitoring data is summarized in two tables, one for the period of 2000 through 2006 and the other for the time period of 2007 through June 2012. This division of time was selected because the Permittee made improvements to the Facility over time that resulted in a gradual reduction in violations. The number of effluent limitation violations in the early time period totaled 143 in comparison to 62 during the latter time period.

**a. Violations of effluent limitations.** During the term of the previous Order, the Permittee experienced violations of biochemical oxygen demand ($BOD_5$), total suspended solids, settleable solids, chlorine residual, pH, total coliform and acute toxicity effluent limitations. Non-effluent violations included several sanitary sewer overflows, spills related to a leak in the effluent settling pond, effluent discharges to receiving water at greater than 1% of the stream flow, and several missing data violations. After the Permittee completed its collection system replacement project in 2007, the number of discharge rate violations decreased from 18 to 11, unauthorized discharges decreased from 16 to 4, and sanitary sewer overflows decreased from 5 to 1. The Permittee's reporting practices also improved with the number of missing data violations decreasing from 14 to 3.

Effluent limitation violations are assessed at the point of discharge to Graham's Pond because Graham's Pond has been identified as a water of the US. Numerous acute toxicity violations have not been investigated well and may be related to high ammonia in the effluent discharge. The Order includes final effluent limitations for ammonia, as well as updated acute and chronic toxicity requirements and requirements to investigate evidence of toxicity with a toxicity reduction evaluation.

Violations of $BOD_5$, TSS, settleable solids, coliform and pH have decreased since completion of the collection system replacement project in 2007. These violations have been intermittent and sometimes episodic (a cluster of violations over a short period of time), but the reason for the violations is not typically evident or identifiable.

**b. Other Violations**

The Permittee has reported occasional leaks from the settling pond. The leaks are the result of pond deterioration over time. The Permittee has established an

operating protocol of reducing the level of water in the pond. The leaks occur when the water level is raised above a specific level.

**2. Enforcement Action Summary**

Since 1997, several enforcement actions have been taken against the Permittee, including five cease and desist orders, two administrative civil liability complaints, and two administrative civil liability orders. The last enforcement action occurred in 2007. Violations that have occurred between 2007 and 2012 will be the subject of a future enforcement action.

Enforcement actions taken against the Permittee, related to violations of waste discharge and NPDES requirements, are summarized below.

a. **Cease and Desist Order No. 97-74.** On August 27, 1997, the Regional Water Board adopted CDO No. 97-74 requiring the Permittee to cease and desist from threatening to discharge in violation of WDR Order No. 93-42 and Time Schedule Order No. 97-75 prescribing an administrative civil liability penalty schedule upon the Permittee's failure to comply with tasks pertaining to development and construction of a capital improvement project (CIP) to correct violations from the existing failing WWTF. The Regional Water Board found that the Permittee violated WDRs Order No. 93-42 by (1) discharging treated, disinfected effluent to Dutch Bill Creek from Graham's Pond during the summer discharge prohibition period; and (2) discharging treated effluent with pH and chlorine residual violations to Graham's Pond. The Regional Water Board also found that these violations occurred and may continue to occur due to a lack of adequate storage capacity and/or inadequate operation of treatment and storage facilities at the WWTF. CDO No. 97-74 contained a time schedule of short- and long-term actions for the Permittee to complete. The short-term actions were completed in a timely manner. Some of the long-term actions have been completed and others, such as completion of a CIP to achieve compliance with all Basin Plan requirements, were extended in subsequent CDOs.

b. **Administrative Civil Liability (ACL) Order No. 97-126.** On October 23, 1997, the Regional Water Board adopted ACL Order No. 97-126 imposing a civil liability of $125,000 against the Permittee for violations of WDR Order No. 93-42 and prohibitions contained in the Water Quality Control Plan for the North Coast Region. The Permittee waived its right to a public hearing and proposed to settle this complaint by paying: (1) $25,000 into the Cleanup and Abatement Account; (2) $50,000 if CEQA documents were not certified by January 1, 2000; and (3) $50,000 if the CIP was not constructed by September 1, 2002. The Permittee met the first and second settlement requirements. Although the deadline for CIP

construction was extended in subsequent CDOs, a CIP has not been completed and the $50,000 identified in the third settlement requirement is still outstanding.

c. **CDO No. R1-2001-47.** On January 25, 2001, and March 2, 2001, the SCWA submitted letters to the Regional Water Board Executive Officer describing the Permittee's plan for selecting and constructing a final WWTF upgrade project and requesting an extension of time to complete Tasks H and I in CDO No. 97-74 pertaining to awarding a bid for and completing construction of the selected CIP. The March 2, 2001 letter requested an extension of one year and nine months to award the bid for the selected project and stated that they could not commit to a date for completion of construction pending selection of a CIP. The time extensions were requested to allow for consideration of a combined Occidental/Camp Meeker wastewater project proposed by the Camp Meeker Parks and Recreation District as an additional upgrade alternative.

On May 24, 2001, the Regional Water Board considered the Permittee's extension requests and adopted: (1) CDO Order No. R1-2001-47 that extended the remaining deadlines in CDO No. 97-74, subject to completion of an interim project to reduce the potential for on-going effluent limitation violations and a prohibition on additional discharges; and (2) Time Schedule Order (TSO) No. R1-2001-48 prescribing an administrative civil liability penalty schedule upon the Permittee's failure to comply with tasks therein pertaining to development and construction of the selected CIP.

<u>Certification of an EIR:</u> An EIR for the Occidental/Camp Meeker project was certified by the Camp Meeker Recreation and Parks District on March 12, 2002. The EIR identified a preferred CIP that consisted of a combined Occidental/Camp Meeker wastewater collection, treatment, disposal, and reclamation upgrade project. The identified project consisted of a collection system and lift station in Camp Meeker, a force main from Camp Meeker to Occidental, replacement of the existing collection system in Occidental, modification of the existing lift station in Occidental, upgrade of the existing Occidental WWTF to include tertiary treatment capabilities, a new 2-million gallon recycled water storage pond, abandonment of the use of Graham's Pond, construction of woodlands and wetland disposal, wet-weather surface water discharge to Dutch Bill Creek at an average rate of 2.2 percent of the flow of Dutch Bill Creek, and dry-weather irrigation on the same parcel currently being used for dry-weather irrigation. The Board of Directors for the OCSD approved the preferred project on March 26, 2002.

<u>Completed Interim Project:</u> In June 2002, the Permittee completed the interim project required by CDO No. R1-2001-47 (dredging sludge from the settling pond) that was to improve WWTF reliability. The Permittee continued to report effluent

limitation violations in monthly self-monitoring reports after the completion of the interim project.

d. **CDO No. R1-2003-0020.** In a written progress report dated May 31, 2002, the SCWA stated that the OCSD and SCWA would not be able to meet two compliance dates in CDO No. R1-2001-47: the December 1, 2002, date for awarding a bid for the CIP and the December 1, 2003, date for completion of the CIP. The SCWA requested a one-year time extension to award a bid for the CIP and a 27-month time extension to complete construction of the CIP. The progress report stated that progress toward design and construction of the proposed facility was moving ahead slowly due to financial constraints and that the Permittee would continue to seek grants to fund the proposed project. The progress report stated that the extension would allow the Permittee and Camp Meeker to continue their efforts to obtain funding for the CIP but did not provide a definitive plan for obtaining the funding.

   Financial Plan: In a letter dated October 31, 2002, the Regional Water Board Executive Officer required that the Permittee submit a financial plan documenting that funding was available for completion of the preferred CIP. On December 18, 2002, and January 8, 2003, the SCWA submitted drafts of a written report titled "Financial Plan, Long-Term Capital Improvement Project" (CIP Report) with a time schedule and financial plan for completion of the CIP. The CIP Report described a phased approach to constructing the CIP that involved separating the project into prioritized stand-alone phases that could be constructed as grant funding was obtained. The CIP Report identified funding sources that were being applied for in order to pay for completion of the CIP.

   On March 27, 2003, the Regional Water Board adopted (1) CDO No. R1-2003-0020 that extended the remaining deadlines in CDO No. R1-2001-47 in accordance with the Permittee's Financial Plan Report, subject to completion of an additional interim project to reduce the potential for on-going effluent limitation violations and a prohibition on additional discharges, and (2) Time Schedule Order No. R1-2003-0021 prescribing an administrative civil liability penalty schedule upon the Permittee's failure to comply with tasks therein pertaining to development and construction of the selected CIP.

e. **ACLC No. R1-2003-0125.** On November 3, 2003, the Executive Officer issued ACLC No. R1-2003-0125 assessing mandatory penalties for violations of effluent limitations during the discharge season. The complaint identified 83 serious and chronic violations and proposed a penalty of $216,000. The complaint required that $26,000 be paid to the State Cleanup and Abatement Account (CAA) and allowed for suspension of $90,000 for completion of an interim project by April

30, 2004, and another $100,000 for completion of treatment plant upgrades, including installation of tertiary filters, by June 30, 2008.

f. **CDO No. R1-2004-0102.** On November 29, 2004, the Regional Water Board adopted CDO No. R1-2004-0102 and Time Schedule Order No. 2004-0103, extending the compliance date from December 31, 2004 to October 1, 2005 for award of bid for treatment plant improvements. The date for completion of the CIP did not change and remained at June 30, 2008.

g. **CDO No. R1-2005-0085.** On October 12, 2005, the Regional Water Board adopted CDO No. R1-2005-0085 and TSO No. R1-2005-0086, extending the time for implementing a long term CIP. The CDO tasks included dates for release of a draft CEQA document by February 28, 2007, completion of collection system upgrade project by October 30, 2007, certification of a CEQA document by December 30, 2007, completion of final design of the CIP by December 30, 2008, and completion of construction of the CIP by June 30, 2010. The Permittee completed and certified the CEQA document and completed the collection system upgrade project, but has not completed the design or construction of the CIP.

h. **ACLC No. R1-2007-0022.** On March 5, 2007, the Regional Water Board Executive Officer issued ACLC No. R1-2007-0022 assessing mandatory penalties for violations of effluent limitations during the discharge season between April 17, 2003 and October 31, 2006. The Complaint identified 18 serious and 17 chronic violations and proposed a penalty of $93,000. The Complaint required that $10,000 be paid to the CAA and allowed for suspension of $83,000 for completion of Compliance Project (CP) totaling at least $83,000.

i. **ACLO R1-2007-0054**. On September 13, 2007, the Regional Board adopted ACLO R1-2007-0054 assessing a mandatory penalty of $309,000 for violations addressed in ACLC Nos. R1-2003-0125 and R1-2007-0022. The Permittee had previously settled the complaints by paying the sum of $36,000 into the CAA and conducting Compliance Projects (CP) totaling at least $273,000. The CPs involved the addition of baffles in the aerated treatment pond that was completed in 2004 and a collection system replacement project that was completed in 2007.

3. **Compliance Projects.**

In response to the CDOs and ACLs described in section II.D.2, above, several potential CIPs were identified and evaluated between 1997 and 2009, including a subsurface disposal system, an AWT upgrade to serve Occidental and Camp Meeker, an AWT upgrade to serve Occidental, and construction of a pipeline to convey wastewater from Occidental to the Russian River Sanitation District WWTF in Guerneville. Each of

these projects were subsequently deemed environmentally and/or financially infeasible to complete.

Pursuant to requirements in CDO No. 2005-0085, the Permittee completed a collection system replacement project in 2007 that resulted in a reduction of the amount of infiltration and inflow to the Facility. Since completion of this project, there has been a reduction in the number of effluent limitation and discharge rate violations of Order No. 93-42.

### E. Planned Changes

Order No. R1-2005-0085 required completion of a CIP by June 30, 2010. The Permittee submitted a feasibility study and water balance to Regional Board staff in July 2008 (and amended in September 2008) for a project to eliminate discharges to surface waters. Since that time, the Permittee has been evaluating a project that includes construction of a new storage pond to replace Graham's Pond, development of a recycled water program, an increase in irrigation acreage, and elimination of discharges to surface waters. The project would also incorporate water conservation measures. The Permittee has been submitting quarterly progress reports to the Regional Board.

Although progress has been slow, the Permittee has identified a potential recycled water storage pond site for which it has initiated necessary geotechnical evaluations, environmental studies, and preliminary design. The proposed project would include increasing the irrigation area of the Loades' property (currently 8 acres) and adding new recycled water uses to increase the irrigation acreage to approximately 18 acres. The Permittee must complete a CEQA document in the near future. Project costs are estimated to be $5 million dollars, and a funding source for the project has not been identified. A Cease and Desist Order has been developed for adoption with this permit renewal. The CDO (Order No. R1-2012-0102) includes a compliance schedule requiring the Permittee to complete the CIP and achieve compliance with all permit requirements by January 31, 2018. The Regional Water Board intends to place this Facility under either an individual WDR or a general reclamation permit prior to implementation of the CIP.

## III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

### A. California Environmental Quality Act (CEQA)

Under California Water Code (Water Code) section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (commencing with section

21100) of division 13 of the Public Resources Code. Accordingly, this exemption from CEQA applies to the Regional Water Board's action to adopt those portions of the Order that regulate NPDES discharges.

This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land. The Regional Water Board's action in approving those parts of the Order that regulate WDR-related discharges is also exempt from CEQA as an existing facility for which no expansion of design flow is being permitted at the time of the lead agency's determination pursuant to title 14, California Code of Regulations (CCR), section 15301.

This Order also includes a process for Regional Water Board approval of new recycled water use sites. This approval process includes compliance with CEQA, as necessary. The approval process requires demonstration that a CEQA analysis has been conducted for any proposed recycled water use project. The approval process also requires that Permittee to submit technical information necessary to demonstrate that any proposed recycled water use areas will be irrigated using the most stringent of the hydraulic or nutrient agronomic rate and include best management practices that are protective of surface and ground water quality, as described in section IV.C.3.c of the Order.

## B. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The Basin Plan, at page 2-18.00, establishes beneficial uses for groundwater as municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater supply. Thus, beneficial uses applicable to Dutch Bill Creek and groundwater within the Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit are as follows:

**Table F-4. Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 002 | Dutch Bill Creek (and its tributaries), tributary to the Russian River within the Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit | Existing:<br>Municipal and domestic water supply (MUN)<br>Agricultural supply (AGR)<br>Industrial service supply (IND)<br>Groundwater recharge (GWR)<br>Freshwater replenishment (FRESH)<br>Navigation (NAV)<br>Water contact recreation (REC-1)<br>Non-contact water recreation (REC-2)<br>Commercial and Sport fishing (COMM)<br>Warm freshwater habitat (WARM)<br>Cold freshwater habitat (COLD)<br>Wildlife habitat (WILD)<br>Preservation of rare, threatened or endangered species (RARE)<br>Migration of aquatic organisms (MIGR)<br>Spawning, reproduction and/or early development (SPWN)<br>Estuarine Habitat (EST)<br>Potential:<br>Industrial process supply (PRO)<br>Shellfish harvesting (SHELL)<br>Aquaculture (AQUA) |
| 001, 002, and 003 | Groundwater | Existing:<br>Municipal and domestic water supply (MUN)<br>Agricultural supply (AGR)<br>Industrial service supply (IND)<br>Industrial process supply (PRO)Hydropower generation (POW) |

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coastal Basin. For the Russian River and its tributaries, no point source waste discharges are allowed from May 15 through September 30, and during all other periods when the waste discharge flow is greater than one percent of the receiving stream's flow. For municipal waste discharged from October 1 through May 14, the discharge must be of advanced treated wastewater, and must meet a median coliform level of 2.2 Most Probable Number (MPN) per 100 milliliters (mL).

Requirements of this Order implement the Basin Plan. The Permittee does not currently comply with the Basin Plan with regard to requirements for advanced

wastewater treatment, the seasonal discharge prohibition and the discharge flow limitation.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Compliance Schedules and Interim Requirements.** The provision in section 2.1 of the SIP that allowed for the use of compliance schedules and interim limitations in an NPDES permit for CTR constituents ended on May 18, 2010. Based on a permittee's request and demonstration that it is infeasible to comply with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in a cease and desist order or time schedule order adopted by the Regional Water Board.

   The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008.

   This Order does not include any interim effluent limitations or compliance schedules related to discharges to surface waters. The Order does interim limits and a compliance schedule for the Permittee to achieve compliance with the final irrigation/reclamation specification for total nitrogen.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the

revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

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

8. **Endangered Species Act.** This Order does not authorize an 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

## C. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies, to USEPA by April of each even numbered year. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for

developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) for each 303(d) listed pollutant and water body contaminant. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On October 11, 2011, the USEPA provided final approval of the 2008-2010 303(d) list of impaired water bodies prepared by the State. The list identifies the entire Russian River watershed as impaired by excess sediment and elevated water temperatures. Pursuant to CWA section 303(d), TMDLs are developed to address impairing pollutants in 303(d) listed waters, and are then implemented in part through provisions of NPDES permits.

Aspects of the sediment impairing the Russian River include settleable solids, suspended solids, and turbidity. The impact of settleable solids results when they collect on the bottom of a waterbody over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column.

An analysis of the Permittee's effluent monitoring data indicates levels of settleable solids in the effluent are generally non-detectable. Levels of $BOD_5$ and TSS may be a concern due to the fact that the Facility provides only secondary treatment and discharges higher concentrations and loads of $BOD_5$ and TSS than other facilities that provide tertiary level treatment. In addition, because this Facility discharges from a pond that receives non-point inputs of cow manure and the discharge rate from Graham's Pond is calculated based on Dutch Bill Creek flows in Camp Meeker, approximately 1.5 miles downstream, portions of Dutch Bill Creek between Graham's Pond and Camp Meeker receive effluent discharges at rates in excess of the one percent discharge rate allowed by the Basin Plan. The Permittee proposes to cease discharges to Dutch Bill Creek within the next ten years, by constructing additional storage and irrigation infrastructure.

The 303(d) listing for the Russian River lists sources of elevated temperature as flow regulation/modification, habitat modifications, nonpoint sources, and removal of riparian vegetation. The critical time period for temperature is in the summer, which is also the time period when point source discharges from the Facility are prohibited. Therefore, compliance with the summer discharge prohibition will ensure that the discharge does not contribute to the impairment of the Russian River.

## D. Other Plans, Policies and Regulations

**1.** On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems and on February 20,

2008 adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage was November 2, 2006. The Permittee applied for coverage and is subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system.

**2.** The State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities regulates storm water discharges from wastewater treatment facilities with design flows greater than 1.0 mgd unless all storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater or if storm water is disposed of to evaporation ponds, percolation ponds, or combined sewer systems. The discharge from this Facility is less than 1 mgd, therefore coverage under the General Storm Water Permit is not required for this Facility. Section VII.B.11.a of this Fact Sheet discusses the Permittee's handling of storm water.

**3.** On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Permittee to obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the Facility that will be land disposed on property owned or controlled by the Permittee.

**4.** On February 3, 2009 the State Water Board adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) for the purpose of increasing the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy became effective on May 14, 2009. The Recycled Water Policy provides direction to the regional water boards regarding the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

The Recycled Water Policy recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate

implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy further recognizes that these conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water, and water supply augmentation using surface or recycled water, and that regulation of recycled water alone will not address these conditions. It is the intent of the Recycled Water Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.

This Order is consistent with the requirements of the Recycled Water Policy. The Permittee is required to conduct priority pollutant monitoring as required by the Recycled Water Policy. In addition, the Regional Water Board is developing a plan to address salt and nutrient management. This Order may be reopened to incorporate provisions consistent with any salt and nutrient management plan(s) adopted by the Regional Water Board.

**5.** Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

## IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exist.

### A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition is based on the Basin Plan and State Water Board Order WQO No. 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Permittee. It specifically does not apply to constituents in the discharge that do not have "reasonable potential" to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were "*disclosed to the permitting authority and … can be reasonably contemplated*." [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24] In that Order, the State Water Board cited a case which held the Permittee is liable for the discharge of pollutants "*not within the reasonable contemplation of the permitting authority ….whether spills or otherwise…*" [*Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland* (4th Cir. 2001) 268 F. 3d 255, 268.] Thus the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

Whether or not the Permittee reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Permittee disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption.

2. **Discharge Prohibition III.B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

   This prohibition is based on section 13050 of the Water Code, and has been retained from Order No. 93-42.

3. **Discharge Prohibition III.C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c. (Sludge Disposal and Handling Requirements, section VI.C.5.c of the Order.)

   This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations (40 CFR Part 503 (Biosolids), Part 527 and Part 258) and title 27 of the California Code of Regulations (CCR). It has been retained from Order No. 93-42.

4. **Discharge Prohibition III.D.** The discharge or reclamation use of untreated or partially treated waste from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions (Bypass).

   This prohibition has been retained from the Order No. 93-42 and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E.** Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

   This prohibition applies to spills related to SSOs and is based on State standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the State's antidegradation policy as specified in State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Water in California) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the State, groundwater, and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

6. **Discharge Prohibition III.F.** The discharge of waste to land that is not owned or under agreement to use by the Permittee is prohibited, except for use for fire suppression as provided in title 22, sections 60307 (a) and (b) of the CCR.

   This prohibition is retained from Order No. 93-42. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

7. **Discharge Prohibition III.G.** The discharge of waste at any point not described in Finding II.B or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

   This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Discharge Prohibition III.H.** The average annual dry weather flow of waste into the Facility in excess of average annual dry-weather design flow of 0.05 mgd is prohibited. Average annual dry weather flow is the arithmetic mean of the influent flow for the four consecutive lowest flow months in a calendar year.

   This prohibition is based on the dry weather design capacity of the Facility.

9. **Discharge Prohibition III.I.** The discharge of wastewater effluent from the Facility to Dutch Bill Creek or its tributaries is prohibited during the period of May 15 through September 30 of each year.

   This prohibition is retained from the previous Order, and is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries during the period of May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

10. **Discharge Prohibition III.J.** During the period from October 1 through May 14, discharges of treated wastewater shall not exceed 1 percent of the flow of Dutch Bill Creek as measured at the Camp Meeker Bridge.

    This prohibition is retained from the previous Order and is required by the Basin Plan (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan

prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow.

Basin Plan Prohibition No. 4 does not specify how compliance with the one-percent flow requirement should be determined. This prohibition, set forth in Provision III.K of this Order, specifies that the discharge may comply with the 1 percent requirement as a monthly average for the surface water discharge season, provided the Permittee makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of Dutch Bill Creek, as measured at the Camp Meeker bridge. This modification provides day-to-day operational flexibility for the Permittee while retaining the intent of the prohibition.

11. **Discharge Prohibition III.K.** The discharge of any radiological or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

    This prohibition is based on section 13375 of the Water Code.

## B. Technology-Based Effluent Limitations

### 1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 40 CFR 122.44, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by the Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3.

Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs (defined in section 304(d)(1) of the CWA)]. Section 301(b)(1)(B) of the CWA requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the

minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$, TSS, and pH, as follows:

**2. $BOD_5$ and TSS**

**a.** The 30-day average shall not exceed 30 mg/L.

**b.** The 7-day average shall not exceed 45 mg/L.

**c.** The 30-day average percent removal shall not be less than 85%.

**3. pH**

The pH shall be maintained within the limits of 6.0 to 9.0.

The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan, Table 3-1.

In addition, 40 CFR122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

**4. Applicable Technology-Based Effluent Limitations**

The effluent limitations in this Order for $BOD_5$, TSS, and pH meet the technology-based requirements for secondary treatment set forth in 40 CFR 133.102. More stringent effluent limitations for $BOD_5$, TSS, and pH have been established that also meet the water quality-based requirements set forth in the Basin Plan.

In addition to the minimum, federal technology-based requirements, the Basin Plan requires that discharges of municipal waste "*shall be of advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 mL*" for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

**a. Discharge Point 001 (Discharge to the Russian River)**

**i. $BOD_5$ and TSS.** The Permittee is able to achieve the $BOD_5$ and TSS effluent limitations identified in section IV.B.2 above. However, for the purpose of applying advanced wastewater treatment requirements on the discharge to

Graham's Pond and Dutch Bill Creek, effluent limitations for $BOD_5$ and TSS are established at 10 mg/L as a monthly average and 15 mg/L as a weekly average. Currently, these effluent limitations are not technically achievable because the Permittee does not have a tertiary wastewater treatment system. In addition to these concentration-based effluent limitations, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. The percent removal effluent limitations are stricter than Order No. 93-42 which had a 65 percent removal requirement for $BOD_5$ and no percent removal requirement for total suspended solids. Monitoring data collected by the Permittee in recent years has demonstrated that the Permittee is able to meet the 85% removal requirements for $BOD_5$. Based on a review of the TSS percent removal performance in recent years, an interim percent removal requirement of 65% is established in the Order.

ii. **pH.** The secondary treatment regulations at 40 CFR Part 133 require that pH be maintained between 6.0 and 9.0 standard units.

5. **Mass-Based Effluent Limitations.** Mass effluent limitations for $BOD_5$ and TSS are required pursuant to 40 CFR 122.45(f) for the purpose of assuring that dilution is not used as a method of achieving the concentration limitations in the permit. Mass-based effluent limitations are technology-based; and for this permit are based on the Facility's design dry-weather capacity of 0.05 mgd.

6. **Total Coliform Bacteria.** Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limits because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin. The Order establishes effluent limitations for total coliform bacteria that are more stringent than Order No. 93-42. These effluent limitations reflect standards for tertiary treated effluent in the Basin Plan (Section 4, Implementation Plans) and utilize the definition of tertiary treated recycled water adopted by the California Department of Public Health (CDPH) in title 22 of the CCR. Order No. 93-42 established 30-day median and maximum daily effluent limitations that were based on the Basin Plan requirement for AWT and title 22 tertiary standards. This Order establishes a 7-day rolling median, 30-day maximum, and single sample maximum, based on tertiary standards as established in title 22. Although the Facility does not provide tertiary treatment, disinfection standards have been held to the tertiary treatment standards to ensure that effluent discharged to Dutch Bill Creek is protective of public health.

## C. Water Quality-Based Effluent Limitations (WQBELs)

### 1. Scope and Authority

Section 301(b) of the CWA and 40 CFR122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. The Order contains requirements, expressed as technology equivalence requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section IV.B.4 of this Fact Sheet. In addition, the Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in this section of the Fact Sheet.

40 CFR 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. A reasonable potential analysis (RPA) demonstrated reasonable potential for discharges from the Facility to cause or contribute to exceedances of copper, lead, silver, cyanide, DCBM, CDBM, bis (2-ethylhexyl) phthalate, total coliform, and ammonia.

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

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

### 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

**a. Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.B.1 of this Fact Sheet.

**b. Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color,

tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, and includes the Russian River and its tributaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by CDPH for the protection of public water supplies at title 22 of the CCR section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).

c. **SIP, CTR and NTR.** Water quality criteria and objectives applicable to this receiving water are established by the California Toxics Rule (CTR), established by the USEPA at 40 CFR 131.38; and the National Toxics Rule (NTR), established by the USEPA at 40 CFR 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

Aquatic life freshwater and saltwater criteria are identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or 1-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the RPA, and for the calculation of effluent limitations for copper.

Human health criteria are further identified as "water and organisms" and "organisms only." "Water and organism" criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the "water and organisms" column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, The Russian River has the beneficial use designation of municipal and domestic supply. Effluent limitations were established for 2,3,7,8-TCDD and nitrate based on criteria for the protection of human health.

The SIP, which is described in section III.B.3 of this Fact Sheet, includes procedures for determining the need for, and the calculation of, WQBELs and requires dischargers to submit data sufficient to do so.

At title 22, division 4, chapter 15 of the CCR, CDPH has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply.

Attachment F-1 includes a summary of RPA results for all priority toxic pollutants and ammonia, nitrate, and phosphorus, with water quality criteria/objectives that are applicable to Dutch Bill Creek.

### 3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

#### a. Non-Priority Pollutants

i. **pH.** The effluent limitation for pH of 6.5 to 8.5 is retained from Order No. 93-42 and applies to discharges to Graham's Pond. This limitation is based on the water quality objective for all surface waters of the North Coast Region established in Chapter 3 of the Basin Plan. Federal technology-based requirements prescribed in 40 CFR 133 are not sufficient to meet these Basin Plan water quality standards.

ii. **Chlorine Residual.** The Basin Plan establishes a narrative water quality objective for toxicity, stating that "[a]*ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore, the Order establishes effluent limitations for chlorine. USEPA has established the following criteria for chlorine-produced oxidants for protection of freshwater aquatic life. [*Quality Criteria for Water 1986* (The Gold Book, 1986, EPA 440/5/-86-001)]

| Chronic Criterion | Acute Criterion |
|---|---|
| 0.011 mg/L | 0.019 mg/L |

Order No. 93-42 required that there be no detectable level of total chlorine in the effluent to Dutch Bill Creek using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L. The Order revises effluent limitations for chlorine residual to be consistent with the water quality criteria, which are below current analytical detection limits. The water quality criteria recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual. The new

chlorine residual effluent limitations established in this Order are numerically lower than the minimum detection limit for the final effluent limitation in the previous Order that required no detectable level of chlorine in effluent at the point of discharge at a detection limit of 0.1 mg/L. The Permittee's continuous chlorine residual monitor is capable of achieving the more stringent chlorine residual effluent limitations.

iii. **Ammonia and Nitrate.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment facilities commonly use nitrification to remove ammonia from the waste stream and denitrification to remove nitrate from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving water and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving water. Due to the fact that this Facility does not provide nitrification or denitrification, effluent discharged to Graham's Pond contains high concentrations of ammonia and low concentrations of nitrate. As discussed in the following paragraphs, effluent limitations for both nitrate and ammonia are necessary in the Order to assure that the Permittee protects the beneficial uses of the receiving waters and to prevent aquatic toxicity.

**Nitrate.** Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by CDPH for the protection of public water supplies at title 22 of the CCR, section 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals). The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion for discharges to Graham's Pond and Dutch Bill Creek.

The Permittee sampled its effluent discharge to Graham's Pond for nitrate 45 times between October 2008 and June 2012. Monitoring results, reported as nitrogen, showed a concentration range between <0.2 mg/L and 5.8 mg/L. Twenty-nine of the samples were <0.2 mg/L and the range of the 16 samples with detectable concentrations of nitrate was 0.3 mg/L to 5.8 mg/L as N with the maximum concentration of 5.8 mg/L occurring in October 2009. Due to the fact that the Facility does not provide any nitrogen removal and ammonia may be converted to nitrate under appropriate conditions, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria in the receiving water. The Order therefore establishes effluent limitations for nitrate for the protection of human health.

**Ammonia.** Ammonia is known to cause toxicity to aquatic organisms in surface waters. The Basin Plan establishes a narrative water quality objective for toxicity, stating that "[a]*ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" Discharges of toxic concentrations of ammonia would violate the Basin Plan narrative toxicity objective. Due to concerns regarding ammonia toxicity, the Regional Water Board relies on USEPA's recommended water quality criteria for ammonia in fresh water from the 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999) to interpret the Basin Plan's narrative objective for toxicity. USEPA has recommended acute and chronic water quality criteria for the protection of aquatic life, which are dependent on receiving water pH and the presence/absence of salmonids (acute criteria), and pH, temperature, and the presence/absence of early life stages of fish (chronic criteria). EPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature.

Since the Dutch Bill Creek and the Russian River are salmonid streams, only the formulas and tables summarizing calculations from these formulas are presented in the discussion below.

The thirty-day average concentration of total ammonia (in mg/L N in effluent) shall not exceed the continuous concentration criteria (CCC or chronic criterion), applied here as the AMEL, calculated using the following equation:

When fish early life stages are present:

(a) $CCC = ((0.0577/(1 + 10^{7.688-pH})) + (2.487/(1 + 10^{pH-7.688})) \times MIN (2.85, 1.45 \cdot 10^{0.028 \cdot (25-T)})$

Calculated chronic criteria are summarized in Table F-5, below.

**Table F-5. USEPA Chronic (30-day average) Criteria for Ammonia**

| Continuous Concentration Criteria for Fish Early Life Stages Present, 30-day average (mg N/L) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | Temperature, °C | | | | | | | | | | |
| | 0 | 14 | 15 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
| **6.5** | 6.67 | 6.67 | 6.46 | 6.06 | 5.33 | 4.68 | 4.12 | 3.62 | 3.18 | 2.80 | 2.46 |
| **6.6** | 6.57 | 6.57 | 6.36 | 5.97 | 5.25 | 4.61 | 4.05 | 3.56 | 3.13 | 2.75 | 2.42 |
| **6.7** | 6.44 | 6.44 | 6.25 | 5.86 | 5.15 | 4.52 | 3.98 | 3.50 | 3.07 | 2.70 | 2.37 |
| **6.8** | 6.29 | 6.29 | 6.10 | 5.72 | 5.03 | 4.42 | 3.89 | 3.42 | 3.00 | 2.64 | 2.32 |
| **6.9** | 6.12 | 6.12 | 5.93 | 5.56 | 4.89 | 4.30 | 3.78 | 3.32 | 2.92 | 2.57 | 2.25 |
| **7.0** | 5.91 | 5.91 | 5.73 | 5.37 | 4.72 | 4.15 | 3.65 | 3.21 | 2.82 | 2.48 | 2.18 |
| **7.1** | 5.67 | 5.67 | 5.49 | 5.15 | 4.53 | 3.98 | 3.50 | 3.08 | 2.70 | 2.38 | 2.09 |
| **7.2** | 5.39 | 5.39 | 5.22 | 4.90 | 4.31 | 3.78 | 3.33 | 2.92 | 2.57 | 2.26 | 1.99 |
| **7.3** | 5.08 | 5.08 | 4.92 | 4.61 | 4.06 | 3.57 | 3.13 | 2.76 | 2.42 | 2.13 | 1.87 |
| **7.4** | 4.73 | 4.73 | 4.59 | 4.30 | 3.78 | 3.32 | 2.92 | 2.57 | 2.26 | 1.98 | 1.74 |
| **7.5** | 4.36 | 4.36 | 4.23 | 3.97 | 3.49 | 3.06 | 2.69 | 2.37 | 2.08 | 1.83 | 1.61 |
| **7.6** | 3.98 | 3.98 | 3.85 | 3.61 | 3.18 | 2.79 | 2.45 | 2.16 | 1.90 | 1.67 | 1.47 |
| **7.7** | 3.58 | 3.58 | 3.47 | 3.25 | 2.86 | 2.51 | 2.21 | 1.94 | 1.71 | 1.50 | 1.32 |
| **7.8** | 3.18 | 3.18 | 3.09 | 2.89 | 2.54 | 2.23 | 1.96 | 1.73 | 1.52 | 1.33 | 1.17 |
| **7.9** | 2.80 | 2.80 | 2.71 | 2.54 | 2.24 | 1.96 | 1.73 | 1.52 | 1.33 | 1.17 | 1.03 |
| **8.0** | 2.43 | 2.43 | 2.36 | 2.21 | 1.94 | 1.71 | 1.50 | 1.32 | 1.16 | 1.02 | 0.90 |
| **8.1** | 2.10 | 2.10 | 2.03 | 1.91 | 1.68 | 1.47 | 1.29 | 1.14 | 1.00 | 0.88 | 0.77 |
| **8.2** | 1.79 | 1.79 | 1.74 | 1.63 | 1.43 | 1.26 | 1.11 | 0.97 | 0.86 | 0.75 | 0.66 |
| **8.3** | 1.52 | 1.52 | 1.48 | 1.39 | 1.22 | 1.07 | 0.94 | 0.83 | 0.73 | 0.64 | 0.56 |
| **8.4** | 1.29 | 1.29 | 1.25 | 1.17 | 1.03 | 0.91 | 0.80 | 0.70 | 0.62 | 0.54 | 0.48 |
| **8.5** | 1.09 | 1.09 | 1.06 | 0.99 | 0.87 | 0.76 | 0.67 | 0.59 | 0.52 | 0.46 | 0.40 |
| **8.6** | 0.92 | 0.92 | 0.89 | 0.84 | 0.73 | 0.65 | 0.57 | 0.50 | 0.44 | 0.39 | 0.34 |
| **8.7** | 0.78 | 0.78 | 0.75 | 0.71 | 0.62 | 0.55 | 0.48 | 0.42 | 0.37 | 0.33 | 0.29 |
| **8.8** | 0.66 | 0.66 | 0.64 | 0.60 | 0.53 | 0.46 | 0.41 | 0.36 | 0.32 | 0.28 | 0.24 |
| **8.9** | 0.56 | 0.56 | 0.55 | 0.51 | 0.45 | 0.40 | 0.35 | 0.31 | 0.27 | 0.24 | 0.21 |
| **9.0** | 0.49 | 0.49 | 0.47 | 0.44 | 0.39 | 0.34 | 0.30 | 0.26 | 0.23 | 0.20 | 0.18 |

For example, receiving water conditions of a pH of 7.8, a temperature of 18 °C, and fish early life stages present would have a chronic ammonia effluent limitation of 2.54 mg/L.

The one-hour average concentration of total ammonia nitrogen (in mg/L N) where salmonid fish are present shall not exceed the continuous maximum concentration (CMC or acute criterion), applied here as the MDEL, as calculated using the following equations:

(b) Where salmonid fish are present:

$$CMC = (0.275/(1 + 10^{7.204-pH})) + (39.0/(1 + 10^{pH-7.204}))$$

Calculated acute criteria are summarized in Table F-6, below.

**Table F-6. USEPA Acute (1-hour average) Criteria for Ammonia**

| Criteria Maximum Concentration, 1-hour average, (mg N/L) | |
|---|---|
| **pH** | **Salmonids Present** |
| 6.5 | 32.6 |
| 6.6 | 31.3 |
| 6.7 | 29.8 |
| 6.8 | 28.0 |
| 6.9 | 26.2 |
| 7.0 | 24.1 |
| 7.1 | 21.9 |
| 7.2 | 19.7 |
| 7.3 | 17.5 |
| 7.4 | 15.3 |
| 7.5 | 13.3 |
| 7.6 | 11.4 |
| 7.7 | 9.64 |
| 7.8 | 8.11 |
| 7.9 | 6.77 |
| 8.0 | 5.62 |
| 8.1 | 4.64 |
| 8.2 | 3.83 |
| 8.3 | 3.15 |
| 8.4 | 2.59 |
| 8.5 | 2.14 |
| 8.6 | 1.77 |
| 8.7 | 1.47 |
| 8.8 | 1.23 |
| 8.9 | 1.04 |
| 9.0 | 0.885 |

For example, receiving water conditions with a pH of 7.8 and the presence of salmonid fish would have an acute limitation for ammonia of 8.1 mg/L.

**Total Ammonia Reasonable Potential Analysis.**

The Permittee sampled its effluent discharge to Graham's Pond for ammonia 45 times between October 2008 and June 2012. The monitoring data shows a range of ammonia concentrations between 3.8 and 24 mg/L and an average total ammonia concentration of 12.83 mg/L. The maximum concentration of 24 mg/L occurred in June 2011. The Permittee also sampled its discharge to Graham's Pond for pH on all dates that ammonia was sampled and for

temperature on 17 of the dates that ammonia was sampled. A reasonable potential analysis conducted on the effluent data discharged to Graham's Pond shows that there is reasonable potential for the discharge to cause or contribute to an excursion above the applicable criterion or objective for ammonia, thus effluent limitations for ammonia are included in this Order.

In conditions documented in the receiving water for discharges from the Facility (maximum downstream pH=8.0 for the acute condition and highest average monthly downstream temperature=16.5°C and highest average monthly downstream pH of 8.0 for the chronic condition) and the known presence of early life stages of fish in Dutch Bill Creek, to which the Facility discharges, USEPA's recommended acute and chronic criteria for the protection of aquatic life from ammonia toxicity are 2.14 mg/L and 5.35 mg/L total ammonia, respectively, expressed as N.

Because ammonia has been measured in the effluent at concentrations greater than USEPA's recommended water quality criteria for fresh waters, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of the Basin Plan's applicable narrative water quality criterion for toxicity. The Order therefore establishes final effluent limitations for ammonia for the protection of aquatic life. USEPA requires discrete final effluent limitations rather than floating limits (limits determined based on the receiving water pH and temperature at the time of the sampling event) for total ammonia therefore, discrete effluent limitations for ammonia are included in the Order.

The reasonable potential analysis was conducted using 45 ammonia results between September 2008 and June 2012. The average of the 45 samples was 12.8 and the standard deviation was 5.361 resulting in a coefficient of variation of 0.42. A spreadsheet was used to calculate the final effluent limitations, with key values used in the calculation summarized as follows:

**Table F-7. Determination of Long Term Averages for Ammonia**

| Pollutant | ECA | | | ECA Multiplier | | | LTA (mg/L) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Acute[1] | Chronic 30-day[2] | Chronic 4-day[3] | Acute | Chronic 30-day | Chronic 4-day | Acute | Chronic 30-day | Chronic 4-day |
| Ammonia | 2.14 | 2.14 | 5.35 | 0.42 | 0.84 | 0.63 | 0.9 | 1.8 | 3.37 |

Table Notes:
1. Acute ECA from Table F-6 using pH=8.5
2. Chronic 30-day ECA from Table F-5 using pH = 8.0 and temperature = 16.5$^0$C
3. According to the USEPA criterion document, effluent limits should ensure that the 4-day average concentration will not be exceeded. The 4-day average concentration that should not be exceeded is derived by multiplying the 30-day continuous concentration criteria (CCC, chronic) by 2.5.

**Table F-8. Determination of Final WQBELs Based on Aquatic Life Criteria for Ammonia**

| Pollutant | Lowest LTA (mg/L) | MDEL Multiplier | AMEL Multiplier | MDEL (mg/L) | AMEL (mg/L) |
|---|---|---|---|---|---|
| Ammonia | 0.9 | 2.35 | 1.38 | 2.1 | 1.2 |

The average monthly effluent limitation (AMEL) is based on continuous criteria established by USEPA and the maximum daily effluent limitation (MDEL) is based on criteria maximum concentrations established by USEPA. Because Dutch Bill Creek is a salmonid stream, the MDEL is set at the stricter levels required for protection of salmonids.

The Permittee provided an infeasibility study dated September 10, 2012 demonstrating that it is infeasible to achieve immediate compliance with final effluent limitations for ammonia. A CDO adopted concurrently with this Order includes a maximum daily interim effluent limitation for ammonia of 24 mg/L based on existing Facility performance.

iv. **Phosphorus**. The Basin Plan contains a narrative water quality objective for biostimulatory substances that states "[w]*aters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses*." The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Nutrients, in treated wastewater, such as phosphorus and nitrogen containing compounds stimulate biological growth, thereby depleting dissolved oxygen and advancing eutrophication of receiving waters. At present, for interpretation of the Basin Plan's narrative water quality objective for biostimulatory substances, USEPA has established recommended water quality criteria for nutrients in Nutrient Criteria Documents for Lakes and Rivers and Nutrient Criteria Documents for Rivers and Streams. USEPA has defined 14 "ecoregions" and further categorized surface waters as lakes and reservoirs or rivers and streams for purposes of defining applicable numeric water quality criteria for nutrients. The State and Regional Water Boards continue to examine other methods of interpreting the Basin Plan's narrative water quality objective for biostimulatory substances. When the Boards determine that USEPA's recommended criteria are appropriate for implementing the Basin Plan objectives, or when a more appropriate and meaningful method is established, the need for limiting nutrients in relation to biostimulatory properties, including phosphorus and nitrogen-containing compounds, in all discharges in the Region will be reassessed. In the meantime, the RPA for nutrients in

relation to biostimulatory properties, performed for development of this Order, is inconclusive.

The Order establishes monitoring requirements for phosphorus and nitrogen containing compounds in discharges from the Facility to allow a determination of "reasonable potential" at such time as the State and Regional Water Boards select an appropriate method for interpretation of the Basin Plan's narrative objective. Provision IV.C.2.c of the Order also includes a special receiving water study requirement to assess the effects of the discharge from Graham's Pond on Dutch Bill Creek. The study will need to assess biostimulatory effects of the discharge.

The Permittee sampled its effluent discharge to Graham's Pond for phosphorus 45 times between October 2008 and June 2012. Monitoring results showed phosphorus concentrations ranging between <1 mg/L and 9.8 mg/L. The average of the results is 5.5 mg/L and the maximum concentration of 9.8 mg/L occurred in November 2010.

**b. Priority Pollutants**

The SIP establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above State water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. For this RPA, the Regional Water Board has used effluent and receiving water monitoring data generated from four samples collected on November 11, 2002, February 20, 2003, September 28, 2008, and January 14, 2009 for most of the CTR pollutants. Additional data collected by the Permittee between October 2008 and June 2012 for lead, silver, zinc, DCBM and CDBM; between September 2008 and December 2011 for copper; and between September 2008 and May 2011 for thallium, cyanide, and bis (2-ethylhexyl) phthalate was also used in conducting the RPA.

**<u>Hardness</u>**

The California Toxics Rule and the National Toxics Rule contain water quality criteria for seven metals that vary as a function of hardness; the lower the hardness, the lower the water quality criteria. The hardness-dependent metal criteria include cadmium, copper, chromium (III), lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. Effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (See 40 CFR 131.38(c)(4)(i)). The CTR does not define whether the term "ambient", as applied in the regulations, necessarily requires the consideration of the upstream as opposed to downstream hardness conditions.

State Water Board Order No. WQ-2008-0008 (City of Davis) further interpreted the SIP by stating "…*the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists….Regardless of the hardness used, the resulting limits must always be protective of water quality under all flow conditions.*"

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, where reliable, representative data are available, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria.

A 2006 Study (*Emerick, R.W.; Booroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations,* WEFTEC, Chicago, Ill.) demonstrates that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions (e.g., when the effluent hardness is less than the receiving water hardness).

The 2006 study evaluated the relationships between hardness and the CTR metals criterion that is calculated using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

WER = water effect ratio
H = Hardness
b = metal- and criterion-specific constant
m = metal- and criterion-specific constant

In accordance with the CTR, the default value for the WER is 1. A discharger-specific WER study must be conducted in order to use a WER value other than 1. The constants "m" and "b" are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between hardness and the resulting criterion in Equation 1 can exhibit either a downward –facing (i.e., concave downward) or an upward-facing (i.e., concave upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

**Concave Downward Metals:** acute and chronic chromium (III), copper, nickel, and zinc; and chronic cadmium.

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, any mixture of receiving water that is compliant with water quality objectives for that metal and effluent that is compliant with water quality objectives for that metal will always result in a mixture that is compliant with water quality objectives and use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution).

Because the Order requires compliance with effluent limitations at the end of the discharge pipe, effluent hardness is an appropriate and protective hardness to use in adjusting the water quality criteria for the concave downward metals. The reasonable worst-case ambient hardness can be estimated by using the lowest effluent hardness. Copper is the only concave-downward metal that exhibits reasonable potential. The water quality criteria for copper was calculated for this Order using Equation 1 and a reported minimum effluent hardness of 54 mg/L as

$CaCO_3$, based on 46 effluent hardness measurements obtained by the Permittee between October 2008 and June 2012. The maximum effluent hardness measurement during that time period was 244 mg/L and the average of the 46 measurements was 141 mg/L.

**Concave Upward Metals:** cadmium (acute), lead, and silver (acute).

For Concave Upward Metals, the 2006 Study demonstrates that due to a different relationship between hardness and the metals criteria, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may be out of compliance. The 2006 Study provides a mathematical approach to calculate the final effluent limitations for Concave Upward Metals that is protective of aquatic life in all areas of the receiving water affected by the discharge, under all discharge and receiving water flow (see Equation 2, below).

To be consistent with this methodology, the reasonable worst-case upstream receiving water hardness, the lowest observed effluent hardness, and assuming no receiving water assimilative capacity for metals (i.e., ambient background metals concentrations are at their respective CTR criterion), was used in Equation 4 for determining whether reasonable potential exists for the Concave Upward hardness-based metals. Equation 2 is not used in place of the CTR equation (Equation 1). Rather, Equation 2, which is derived using the CTR equation, is used as a direct approach for calculating the ECA. The CTR equation has been used to evaluate the receiving water downstream of the discharge at all discharge and flow conditions to ensure the ECA is protective.

$$ECA = \left( \frac{m(H_e - H_{rw})\left(e^{m\{\ln(H_{rw})\}+b}\right)}{H_{rw}} \right) + e^{m\{\ln(H_{rw})\}+b} \qquad \text{(Equation 2)}$$

Where:

| | | |
|---|---|---|
| m, b | = | criterion specific constants (from CTR) |
| $H_e$ | = | lowest observed effluent hardness |
| $H_{rw}$ | = | reasonable worst-case upstream receiving water hardness |

The lowest effluent hardness is 54 mg/L as $CaCO_3$, while the receiving water hardness of Graham's Pond, a water of the US, ranged from 10 mg/L to 168 mg/L as $CaCO_3$ between October 2008 June 2012. Graham's Pond contains a mixture of storm water and disinfected secondary effluent. During that time period, Graham's Pond hardness was measured 68 times between October 2008 and April 2012: the average of the measurements is 92.5 mg/L and the median is 84 mg/L. The lowest Graham's Pond hardness occurred one time during extremely wet

weather, therefore, the receiving water hardness to use in Equation 2 to calculate the ECA is 44 ug/L (the second lowest receiving water hardness measured). Using the procedures discussed above to calculate the ECA for all Concave Up Metals will result in WQBELs that are protective under all potential effluent receiving water conditions (high flow to low flow) and under all known hardness conditions.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority, toxic pollutant from effluent and receiving water data provided by the Permittee, and compared this information to the most stringent applicable water quality criterion (C) for each pollutant with applicable water quality criteria from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

**Trigger 1.** If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

**Trigger 2.** If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

**Trigger 3.** After a review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303 (d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

**Reasonable Potential Determination**

The RPA demonstrated reasonable potential for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for copper, lead, silver, cyanide, DCBM , CDBM, bis(2-ethylhexyl)phthalate, total coliform, and ammonia. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for the remainder of the 126 priority pollutants.

The following table summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent or the receiving water (detected values are indicated in bold type). The MECs, most stringent water quality objectives/water quality criteria (WQO/WQC), and background

concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No and which trigger) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Permittee. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

**Table F-9. Summary of Reasonable Potential Analysis Results**

| CTR # | Priority Pollutants | C or Most Stringent WQO/WQC (µg/L) | MEC or Minimum DL (µg/L)[1] | B or Minimum DL (µg/L)[1] | RPA Results[2] |
|---|---|---|---|---|---|
| 2 | Arsenic | 10 | 0.98 | --- | No |
| 5a | Chromium III[3] | 125 | 1.8 | --- | No |
| 6 | Copper[3] | 5.5 | 470 | --- | Yes (Trigger 1) |
| 7 | Lead[4] | 1.1 | 5.5 | --- | Yes (Trigger 1) |
| 8 | Mercury | 0.050 | 0.0311 | --- | No |
| 9 | Nickel[3] | 31 | 6.5 | --- | No |
| 11 | Silver[4] | 1.0 | 5.6 | --- | Yes (Trigger 1) |
| 12 | Thallium | 1.7 | 1.5 | --- | No |
| 13 | Zinc[3] | 71 | 30 | --- | No |
| 14 | Cyanide | 5.2 | 9.2 | --- | Yes (Trigger 1) |
| 23 | Chlorodibromomethane | 0.41 | 1.17 | --- | Yes (Trigger 1) |
| 26 | Chloroform | --- | 30 | --- | Ud (No Criteria) |
| 27 | Dichlorobromomethane | 0.56 | 5.75 | --- | Yes (Trigger 1) |
| 39 | Toluene | 150 | 6.8 | --- | No |
| 68 | Bis(2-Ethylhexyl)Phthalate | 1.8 | 5.5 | --- | Yes (Trigger 1) |
| 81 | Di-n-butyl Phthalate | 2,700 | 4.2 | --- | No |
| -- | Total Trihalomethanes[5] | 80 | 36 | --- | No |
| -- | Ammonia | 2140 | 24000 | --- | Yes (Trigger 1) |
| -- | Nitrate (as N) | 10,000 | 5800 | --- | BPJ |

Table Notes:

1. The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).
2. RPA Results:
   = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;
   = No, if MEC and B are < WQO/WQC or all effluent data are undetected;
   = Undetermined (Ud)
   = Best Professional Judgment (BPJ)
3. Water Quality Criteria for chromium III, copper, nickel, and zinc are based on an the lowest detected effluent hardness concentration of 54 mg/L and have been converted to total recoverable metal fraction using conversion factors in the CTR and a default water effect ratio of 1.

**Table F-9. Summary of Reasonable Potential Analysis Results**

| CTR # | Priority Pollutants | C or Most Stringent WQO/WQC (µg/L) | MEC or Minimum DL (µg/L)[1] | B or Minimum DL (µg/L)[1] | RPA Results[2] |
|---|---|---|---|---|---|
| 4. | Water Quality Criteria for the hardness-based metals lead and silver are based on the reasonable lowest detected receiving water (Graham's Pond) hardness concentration of 44 mg/L and have been converted to total recoverable metal fraction using the conversion factors in the CTR. | | | | |
| 5. | Total Trihalomethanes means the sum of the trihalomethane compounds dichlorobromomethane, chloroform, chlorodibromomethane, and bromoform (CCR, title 22, section 64401.92). | | | | |

Additional details regarding each of constituents for which reasonable potential was found are included in the following paragraphs.

Copper. The CTR establishes both aquatic life and human health water quality objectives for copper. Effluent monitoring data submitted by the Permittee between September 2008 and December 2011 revealed concentrations of total recoverable copper ranging from 7.3 ug/L to 470 ug/L in 48 samples. A determination of reasonable potential has been made based on the maximum effluent concentration of 470 ug/L exceeding the most stringent water quality objective for protection of aquatic life of 5.5 ug/L calculated based on the minimum effluent hardness concentration of 54 mg/L. All 48 effluent samples exceeded the most stringent (chronic) water quality objective of 5.5 ug/L and 46 of the 48 samples exceeded the acute objective for protection of aquatic life of 7.8 ug/L. There is no reasonable potential to exceed the water quality criteria of 1300 ug/L for protection of human health.

Lead. The CTR establishes only aquatic life water quality objectives for lead. Effluent monitoring data submitted by the Permittee between September 2008 and June 2012 revealed concentrations of total recoverable lead ranging from <0.6 ug/L to 5.5 ug/L in 52 samples. A determination of reasonable potential has been made based on the maximum effluent concentration of 5.5 ug/L exceeding the most stringent water quality objective of 1.1 ug/L calculated based on the reasonable lowest receiving water (Graham's Pond) hardness of 44 mg/L. Twelve sample results were <0.6 ug/L. Twenty-four results exceeded the most stringent (chronic) water quality objective of 1.1 ug/L and no results exceeded the acute water quality objective of 35.5 ug/L

Silver. The CTR establishes only an acute water quality objective for protection of aquatic life for silver. Effluent monitoring data submitted by the Permittee between September 2008 and June 2012 revealed concentrations of total recoverable silver ranging from <0.6 ug/L to 5.6 ug/L in 52 samples. A determination of reasonable potential has been made based on the maximum

effluent concentration of 5.6 ug/L exceeding the most stringent water quality objective of 1.0 ug/L calculated based on the reasonable minimum receiving water (Graham's Pond) hardness of 44 mg/L. Minimum detection limits ranging from 0.6 ug/L to 2 ug/L were used for analyzing samples for silver, and there are 22 sample results that cannot be assessed to determine if silver was present above or below 1.0 ug/L. Six of the seven results with detections above the detection limit exceeded the most stringent (acute) water quality objective of 1.0 ug/L. There is no chronic water quality objective for silver.

Cyanide. The CTR establishes both aquatic life and human health water quality objectives for cyanide. Effluent monitoring data submitted by the Permittee between September 2008 and May 2011 revealed concentrations of cyanide ranging from <2 ug/L to 9.2 ug/L in 14 samples. A determination of reasonable potential has been made based on the MEC of 9.2 ug/L exceeding the most stringent water quality objective for protection of aquatic life of 5.2 ug/L Only one sample exceeded the most stringent water quality objective of 5.2 ug/L and no samples exceeded the acute effluent limit of 22 ug/L. Eleven of the 14 results were non-detect at method detection limits ranging from 2 ug/L to 4.8 ug/L and one sample was detected between the method detection limit of 2 ug/L and reporting limit of 5 ug/L.

Dichlorobromomethane (DCBM). DCBM is a component of a group of chemicals, commonly known as trihalomethanes (THMs), which are formed during the disinfection process for drinking water and wastewater treatment through the reaction of chlorine and organic and inorganic material. Other THMs include chloroform, bromoform, and chlorodibromomethane. THMs are human carcinogens. The CTR criterion for DCBM to protect human health for drinking water sources (consumption of water and aquatic organisms) is 0.56 ug/L.

The CTR establishes only a water quality objective for protection of human health. Effluent monitoring data submitted by the Permittee between September 2008 and June 2012 revealed concentrations of DCBM ranging from <0.48 ug/L to 5.75 ug/L in 47 samples. A determination of reasonable potential has been made based on the maximum effluent concentration of 5.75 ug/L exceeding the most stringent water quality objective of 0.56 ug/L. Thirteen samples were non-detect at method detection limits ranging from 0.48 ug/L to 4.8 ug/L. All of the remaining samples exceeded the most stringent water quality objective of 0.56 ug/L for protection of human health.

Chlorodibromomethane (CDBM). CDBM was sampled 47 times between September 2008 and June 2012. Samples were analyzed using detection limits between 0.08 and 4.7 ug/L. CDBM was detected one time at a concentration of

1.17 ug/L, which is greater than the water quality objective of 0.41 ug/L, therefore a finding of reasonable potential for CDBM is made. Only five of the samples used detection limits greater than 0.4 ug/L and 41 samples were below the water quality objective of 0.41 ug/L. Since this Facility uses chlorine for disinfection, it is important to that all future monitoring data for CDBM be analyzed utilizing analytical methods with detection limits less than 0.4 ug/L in order to demonstrate compliance with the CDBM effluent limitations

Bis (2-Ethylhexyl) Phthalate. The CTR establishes only a water quality objective for protection of human health for bis (2-ethylhexyl) phthalate. Effluent monitoring data submitted by the Permittee between September 2008 and May 2011 revealed concentrations of bis (2-ethylhexyl) phthalate ranging from <0.83 ug/L to 5.5 ug/L in 14 samples. A determination of reasonable potential has been made based on the maximum effluent concentration of 5.5 ug/L exceeding the most stringent water quality objective of 1.8 ug/L. Six samples exceeded this objective, while the remaining 8 samples were non-detect at a detection limit of 0.83 ug/L .

Additional details regarding several constituents with regard to changes in monitoring status are included in the following paragraphs:

Mercury. Three samples were analyzed for mercury (February 2003, September 2008, January 2009) with results ranging from 0.0153 ug/L to 0.0311 ug/L. The older 2003 data was used for this RPA due to the limited data set. Due to the fact that these results are close to the most stringent water quality objective for protection of human health of 0.05 ug/L, the monitoring and reporting program includes monitoring requirements for mercury.

Thallium. Fourteen samples were analyzed for thallium between September 2008 and May 2011 with results ranging from <0.3 ug/L to 1.5 ug/L. Thallium was only detected above the detection limit in six samples, with five of the samples in the range of 0.35 to 0.47 ug/L. Although one sample was detected close to the water quality objective, the fact that the 13 other samples were well below the detection limit establishes a finding of no reasonable potential for thallium.

Zinc. The CTR establishes only aquatic life water quality objectives for zinc. Effluent monitoring data submitted by the Permittee between September 2008 and June 2012 revealed concentrations of total recoverable zinc ranging from 5.7 ug/L to 30 ug/L in 48 samples. A determination of no reasonable potential has been made based on the maximum effluent concentration of 30 ug/L being less than the most stringent water quality objective of 71 ug/L calculated based on effluent hardness of 54 mg/L. The monitoring requirement for zinc is not included in this Order due to the finding of no reasonable potential.

**4. WQBEL Calculations**

Final WQBELs for copper, lead, silver, cyanide, DCBM, CDBM, and bis (2-ethyl hexyl) phthalate have been determined using the methods described in Section 1.4 of the SIP.

**Step 1:** For each priority pollutant that demonstrate reasonable potential, identify the applicable water quality criterion/objectives for the pollutant(s), and adjust the criterion or objective, if applicable. This step is described in sections IV.C.3.b and IV.C.3.c, above.

**Step 2:** To calculate the effluent limits, an effluent concentration allowance (ECA) is calculated for each pollutant found to have reasonable potential using the following equation, which takes into account dilution and background concentrations:

ECA = C + D (C – B), where

C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as the total recoverable metal, if necessary)

D = the dilution credit (here D = 0, as the discharge does not qualify for a dilution credit)

B = the background concentration

Because no credit for dilution is being allowed, D=0, and the ECA is equal to the applicable criterion (ECA = C).

**Step 3:** For each ECA based on an aquatic life criterion/objective (i.e., copper, lead, and, silver), the long term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier depends on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the values of the CV. When the data set contains less than 10 sample results, or when 80 percent or more of the data set is reported as non-detect (ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in section 1.4 of the SIP. For this analysis, the CV for copper and lead were calculated to be 2.2 and 0.77, respectively and the default CV of 0.6 was used for silver and cyanide.

From Table 1 of the SIP, the acute and chronic ECA multipliers for calculating LTAs at the 99th percentile occurrence probability for copper, lead, and silver are shown in the table below. The LTAs are determined as follows.

**Table F-10. Determination of Long Term Averages**

| Pollutant | ECA | | ECA Multiplier | | LTA (µg/L) | |
|---|---|---|---|---|---|---|
| | Acute | Chronic | Acute | Chronic | Acute | Chronic |
| Copper | 7.834 | 5.51 | 0.11 | 0.187 | 0.86 | 1.03 |
| Lead | 21.521 | 0.8386 | 0.2581 | 0.4513 | 5.56 | 0.38 |
| Silver | 1.0 | --- | 0.32 | --- | 0.32 | --- |
| Cyanide | 22 | 5.2 | 0.3211 | 0.5274 | 7.064 | 2.742 |

**Step 4:** WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. The CV values identified in Step 3 are used to establish the MDEL and AMEL multipliers used in this analysis. The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. The sampling frequency for all four pollutants is set equal to 4 (n = 4).

From Table 2 of the SIP, the MDEL multipliers and the AMEL multipliers were determined as shown in the table below. Final WQBELs for copper, lead, silver, and cyanide are determined as follows.

**Table F-11. Determination of Final WQBELs Based on Aquatic Life Criteria**

| Pollutant | LTA (µg/L) | MDEL Multiplier | AMEL Multiplier | MDEL (µg/L) | AMEL (µg/L) |
|---|---|---|---|---|---|
| Copper | 0.86 | 9.09 | 2.91 | 7.8 | 2.5 |
| Lead | 0.38 | 3.87 | 1.72 | 1.5 | 0.65 |
| Silver | 0.32 | 3.11 | 1.55 | 1.0 | 0.5 |
| Cyanide | 2.742 | 3.11 | 1.55 | 8.5 | 4.3 |

The final effluent limits presented above for copper are based on an effluent hardness of 54 mg/L. The final effluent limits presented above for lead and silver are based on a receiving water (Graham's Pond) hardness of 44 mg/L. All three metal effluent limitations were calculated using a default dissolved-to-total metal translators to convert water quality objectives from dissolved to total recoverable.

**Step 5**: When the most stringent water quality criterion/objective is a human health criterion/objective (as for DCBM, CDBM, and bis (2-ethylhexyl phthalate)), the AMEL is set equal to the ECA. From Table 2 of the SIP for DCBM, when CV = 0.84 and n = 4, the MDEL multiplier at the 99$^{th}$ percentile occurrence probability equals 4.19, and the AMEL multiplier at the 95$^{th}$ percentile occurrence probability equals 1.79. For CDBM, when CV = 0.6 and n=4, the MDEL multiplier at the 99$^{th}$ percentile occurrence

probability = 3.11, and the AMEL multiplier at the 95th percentile probability = 1.55, and for bis (2-ethylhexyl) phthalate, when CV = 0.99 and n=4, the MDEL multiplier at the 99th percentile occurrence probability equals 4.86, and the AMEL multiplier at the 95th percentile occurrence level equals 1.94. The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. Final WQBELs for DCBM, CDBM, and Bis (2-Ethyl Hexyl) Phthalate are determined as follows:

**Table F-12. Determination Final WQBELs Based on Human Health Criteria**

| Pollutant | Units | ECA | MDEL/AMEL | MDEL | AMEL |
|---|---|---|---|---|---|
| Dichlorobromomethane | µg/L | 0.56 | 2.34 | 1.3 | 0.56 |
| Chlorodibromomethane | µg/L | 0.41 | 2.01 | 0.8 | 0.41 |
| Bis (2-Ethyl Hexyl) Phthalate | µg/L | 1.8 | 2.51 | 4.5 | 1.8 |

### 5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent acute and monitoring triggers for chronic toxicity, protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life*." Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Permittee to conduct WET testing for acute and chronic toxicity, as specified in the MRP (Attachment E, section V).

The Basin Plan states "… effluent limits based upon acute bioassays of effluent will be prescribed." USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2 "Toxicity Requirements", the USEPA document states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion, 'no toxics in toxic amounts', applies. Achievement of the narrative

criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90 percent survival, 50 percent of the time, based on the monthly median, or 2) less than 70 percent survival, 10 percent of the time, based on any monthly median."

Notification requirements for acute and chronic WET testing include a 72 hour verbal notification requirement and a 14 day written report requirement, if test results indicate toxicity. The 14 day written notification is established in the USEPA WET Guidance documents cited in the MRP. The 72 hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72 hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

a. **Acute Aquatic Toxicity**

Consistent with Order No. 93-42, this Order includes an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires that the average survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order also implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring dischargers to conduct acute toxicity tests on a fish species and on an invertebrate to determine the most sensitive species. According to the USEPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. The Permittee tests its effluent for acute toxicity using the rainbow trout, *Oncorhynchus mykiss*. This requirement for two-species testing was not included in the previous permit.

Since January 2000, the Permittee violated the acute toxicity effluent limitations 20 times, with violations ranging from 0 to 60 percent survival. When the Permittee discovers a violation of the acute toxicity effluent limitation, it conducts additional monitoring, generally on a weekly basis to identify whether or not the toxicity is persistent. The Permittee has not conducted a toxicity reduction evaluation or toxicity identification evaluation to identify the source of the

toxicity. High ammonia in the effluent is a likely cause, but sporadic discharges of priority pollutants such as copper, lead, silver, and DCBM, and CDBM are other possible causes of toxicity. The Permittee submitted a Toxicity Reduction Evaluation workplan on January 15, 2009, and the MRP of this Order requires the Permittee to conduct accelerated monitoring and investigate causes of identified toxicity.

b. **Chronic Aquatic Toxicity**

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum*. In accordance with the SIP, the Permittee will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Permittee is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E, section V). Furthermore, Special Provision IV.C.2.a of this Order requires the Permittee to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

Section V.B.9 of the MRP defines the chronic toxicity monitoring trigger as a single sample result of 1.6 TUc and a monthly median of 1.0 TUc, and section V.C.1.g of the MRP requires TUc to be calculated as 100/NOEC for purposes of determining if the Permittee's effluent exceeds the chronic toxicity monitoring trigger. Although the federal requirements may provide for flexibility in determining how to calculate TUc for compliance purposes (e.g., 100/NOEC, 100/IC25, 100/EC25), USEPA Region 9 recommends that effluent limitations and triggers be based on the no observed effect concentration (NOEC) when the permit language and chronic toxicity testing methods incorporate important safeguards that improve the reliability of the NOEC. These safeguards include the use of a dilution series

(testing of a series of effluent concentrations) to verify and quantify a dose-response relationship and a requirement to evaluate specific performance criteria in order to determine the sensitivity of each chronic toxicity test. The goal is to demonstrate that each test is sensitive enough to determine whether or not the effluent is toxic or not.

The use of 100/IC25 or 100/EC25 as methods for calculating chronic toxicity are point estimates that automatically allow for a 25 percent effect before calling an effluent toxic. The Basin Plan has a narrative objective for toxicity that requires that "*all waters be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life*." Allowance of a possible 25 percent effect would not meet the Basin Plan's narrative toxicity requirement. In addition, California has historically used the NOEC to regulate chronic toxicity for ocean discharges, thus it is fitting that the same method be used to regulate chronic toxicity in inland surface water discharges.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.6 chronic toxicity unit (TUc) as a single sample result and 1.0 TUc as a monthly median demonstrates that the discharge is in violation of the narrative toxicity water quality objective.

If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the chronic toxicity trigger, the Permittee is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.a.ii requires the Permittee to maintain the TRE Work Plan to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE initiation if a pattern of toxicity is demonstrated.

Chronic WET limitations will be established if monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

c. **Ammonia-related Toxicity**

The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity. Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested. As the pH and temperature increase so does the toxicity of a given

concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide ($CO_2$) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pH values that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide. This Order authorizes the use of pH control procedures where the procedures are consistent with USEPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

## D. Final Effluent Limitations

### 1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

### 2. Satisfaction of Antidegradation Policy

a. **Surface Water.** This Order is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with the previous Order. All effluent limitations, standards, and conditions contained in this Order are at least as (or more) stringent as the effluent limitations in Order No. R1-2006-0049.

With respect to discharges of chlorine residual from Discharge Point 001, new effluent limitations are established in this Order. In the previous Order, the effluent limitation was expressed as no detectable levels of chlorine residual in the discharge, using a method detection limit of 0.1 mg/L. The new limitations are expressed as an average monthly limitation of 0.01 mg/L and a maximum daily limitation of 0.02 mg/L. The new limitations established in the Order are numerically lower than the minimum detection limit for the final effluent

limitation of the previous permit that required no detectable level of chlorine in the effluent at the point of discharge. Although no longer expressed as "non-detect", the newly established effluent limitations are effectively more stringent limitations because the discharge is required to achieve an effluent concentration of chlorine residual that is numerically lower than was required by the previous permit. Thus, anti-backsliding requirements are satisfied for chlorine residual.

b. **Groundwater.** The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and aquaculture, and Native American cultural uses. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

State Water Board Resolution No. 68-16, requires, in part, that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality water will be maintained until it is demonstrated to the state that any changes will be consistent with the maximum benefit to the people of the state, will not unreasonably affect beneficial uses of such water, and will not result in water quality less than prescribed in the policies.

### 3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand ($BOD_5$), total suspended solids (TSS), pH, and the minimum percent removal for $BOD_5$ and TSS. This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations for $BOD_5$ and TSS, pH, and total coliform bacteria that are more stringent than the minimum, federal technology-based requirements and are necessary to achieve tertiary treatment of wastewater, consistent with the Basin Plan's requirements that discharges of municipal wastewater into the Russian River and its tributaries be of advanced treated water. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet.

This Facility is not designed to achieve tertiary treatment of wastewater as required by the Basin Plan, thus cannot currently meet the additional technology-based effluent limitations for $BOD_5$ and TSS.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the

CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)) and the General Objective regarding antidegradation) were approved by USEPA on, March 4, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements. Factors set forth in section 13241 must be evaluated for requirements that go beyond what is required by the Clean Water Act.

Water Code section 13263 requires that waste discharge requirements "implement any relevant water quality control plans that have been adopted and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance and the provisions of section 13241." These requirements, however, only apply to those portions of the permit that exceed the requirements of the federal CWA, and not to those requirements that are necessary to meet the technology-based effluent limitations or the WQBELs necessary to protect water quality objectives for surface waters set out in the Basin Plan. (City of Burbank v. State Water Resources Control Board, 35 Cal. 4th 613, 627.) In this Order, those requirements that exceed the requirements of the federal CWA are those that solely apply to the land discharge. Nonetheless, the Regional Water Board considered the factors in Water Code section 13263 and 13241 in establishing the requirements for discharges to surface waters and land, and concluded that the factors did not merit any change to the proposed effluent limits, discharge prohibitions, or receiving water limitations.

The Regional Water Board considered the factors set forth in section 13263 and 13241 throughout various portions of the permit, including Attachment F, which contains background information and rationale for the requirements set forth in the permit. The permit, in section II.H, and section III.C of Attachment F, identifies the beneficial uses identified in the Basin Plan. Section IV of Attachment F sets forth the

rationale for the effluent limits, particularly the beneficial uses to be protected and water quality objectives required for that purpose. All effluent limitations established for surface water discharges are required by the CWA, Basin Plan or CTR-SIP. Section IV.F of Attachment F sets out a discussion of the factors set forth in 13263 and 13241 considered for the effluent limits on the land discharge. The Regional Water Board also considered upgrades to the Facility performed by the Permittee, along with other waste discharges in the watershed, and concluded that coordinated control of other discharges would not eliminate the need for the requirements on this discharge, particularly given the continued growth in the region and the past, present and probable future uses of the receiving waters and the environmental characteristics, including water quality, of the Guerneville hydrologic subarea of the Russian River. (See Attachment F, Section III.D, III.E, IV, and V.) The Regional Water Board also considered the need to develop and use recycled water, and the potential for increased reclamation opportunities. The Regional Water Board also considered the need to prevent nuisance, and incorporated discharge prohibitions to protect against nuisance caused by the discharge or use for reclamation of untreated or partially treated waste from anywhere within the collection, treatment or disposal system or from sanitary sewer overflows. Monitoring and reporting requirements are established to assess compliance with effluent limitations and receiving water limitations. Monitoring frequencies are established based on threat to water quality and are consistent with monitoring frequencies required of other dischargers in the North Coast Region.

Although the Permittee did not submit an economic analysis, the Regional Water Board is aware that the residents in Occidental currently pay annual sewer charges of $1,682 per equivalent single-family dwelling (ESD). These rates are approximately 2.6 percent of the median household income (MHI) OF $64,714 based on the 2010 census report.

Regional Water Board staff considered Occidental's economic status in establishing new permit requirements and carefully considered the cost and need for additional monitoring requirements. Although new permit requirements for reclamation/land discharge and surface water discharges have been added to the proposed permit that were not in the prior permit, Regional Water Board staff carefully considered the priority and timing of new requirements. New requirements related to surface water discharges are discussed in the following paragraphs while new requirements related to reclamation are discussed in Fact Sheet section IV.G Reclamation Specifications.

Monitoring frequencies for many constituents were retained at the same level as the previous permit. Monitoring requirements were only increased where necessary. For example, effluent discharge and receiving water monitoring requirements were increased for dissolved oxygen, temperature, pH, and turbidity due to the need to better assess impacts of the discharge on the small receiving water stream. Three of these parameters can be monitored at the treatment plant, thus saving costs of more

expensive laboratory analyses. In addition, effluent and receiving water nutrient monitoring are necessary due to the fact that the Facility does not remove nitrogen and ammonia is highly toxic to aquatic life.

Tables F-13 through F-15 summarize all final effluent limitations included in the Order and the basis for their inclusion.

**Summary of Final Effluent Limitations**
**Discharge Points 001, 002, and 003**

**Table F-13. Summary of Final Effluent Limitations – Discharge Point 001**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | 10 | 15 | -- | -- | -- | AWT |
| | lbs/day[2] (dry-weather) | 11 | 16 | -- | -- | -- | |
| | % Removal | 85 | -- | -- | -- | -- | CFR |
| Total Suspended Solids | mg/L | 10 | 15 | -- | -- | -- | AWT |
| | lbs/day[2] (dry-weather) | 11 | 16 | -- | -- | -- | |
| | % Removal | 85 | -- | -- | -- | -- | CFR |
| Total Coliform Bacteria | MPN/100 mL | -- | 2.2 | 23 | -- | -- | AWT |
| pH | standard units | -- | -- | -- | 6.5 | 8.5 | BP |
| Copper, Total Recoverable | µg/L | 2.5 | -- | 7.8 | -- | -- | CTR |
| Lead, Total Recoverable | µg/L | 0.65 | -- | 1.5 | --- | --- | CTR |
| Silver, Total Recoverable | µg/L | 0.5 | -- | 1.0 | --- | --- | CTR |
| Cyanide | µg/L | 4.3 | --- | 8.5--- | --- | --- | CTR |
| Dichlorobromomethane | µg/L | 0.56 | -- | 1.3 | -- | -- | CTR |
| Chlorodibromomethane | µg/L | 0.41 | --- | 0.8 | --- | --- | CTR |
| Bis (2-ethylhexyl) Phthalate | µg/L | 1.8 | --- | 4.5 | --- | --- | CTR |
| Chlorine, Total Residual | mg/L | 0.01 | -- | 0.02 | -- | -- | AL |
| Ammonia Nitrogen, as N | mg/L | 1.2 | -- | 2.1 | -- | -- | AL |
| Nitrate | mg/L | 10 | --- | 20 | --- | --- | MCL |
| Acute Toxicity[3] | % Survival | -- | -- | -- | -- | -- | BP |

**Table F-13. Summary of Final Effluent Limitations – Discharge Point 001**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |

Table Notes:

1. Basis Definitions

AWT – Based on the technical capability of an advanced wastewater treatment facility.

BP – Based on water quality objectives contained in the Basin Plan.

CFR – Based on secondary treatment regulations contained in 40 CFR Part 133.

CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.

PO – Based on effluent limitations contained in the previous Order No. 93-42

AL – Based on the Quality Criteria for Water 1986 (The Gold Book, 1986, EPA 440/5/-86-001) for protection of freshwater aquatic life.

MCL – Based on the Maximum Contaminant Level.

NAWQC – Based on the National Ambient Water Quality Criteria for protection of freshwater aquatic life.

2. Mass-based effluent limitations apply during periods of discharge to surface waters. See section VII.H of this Order regarding compliance with mass-based effluent limitations.

3. There shall be no acute toxicity in treated wastewater discharged to Graham's Pond or Dutch Bill Creek. The Permittee will be considered compliant with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following: (1) Minimum for any one bioassay: 70 percent survival; and (2) Median for any three or more consecutive bioassays at least 90 percent survival. Compliance with these effluent limitations shall be determined in accordance with section V.A of the Monitoring and Reporting Program (Attachment E.).

**Table F-14. Summary of Final Effluent Limitations – Discharge Point 002**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| pH | standard units | -- | -- | -- | 6.5 | 8.5 | BP |

Table Notes:

1. BP – Based on water quality objectives contained in the Basin Plan.

**Table F-15. Summary of Final Effluent Limitations – Discharge Point 003**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Nitrate (as N) | mg/L | 10 | --- | 20 | --- | --- | MCL |
| Ammonia (as N) | mg/L | 1.5 | --- | --- | --- | --- | MCL |

**Table F-15. Summary of Final Effluent Limitations – Discharge Point 003**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Total Dissolved Solids | mg/L | 500 | --- | --- | --- | --- | MCL |
| Sodium | mg/L | 60 | --- | --- | --- | --- | MCL |
| Chloride | mg/L | 250 | --- | --- | --- | --- | MCL |
| Aluminum | mg/L | 1.0 | --- | --- | --- | --- | MCL |
| pH | pH Units | --- | --- | --- | 6.0 | 9.0 | BP |

Table Notes:

1. Basis Definitions

MCL – Based on the Maximum Contaminant Level.

BP – Based on water quality objectives contained in the Basin Plan.

## E. Interim Effluent Limitations

The Order does not include any interim limitations for discharges to surface waters. CDO No. R1-2012-0102, adopted concurrently with this Order includes interim effluent limitations for $BOD_5$, TSS, copper, lead, silver, cyanide, DCBM, CDBM, bis(2-ethylhexyl)phthalate, total coliform, and ammonia, with a schedule to achieve compliance.

## F. Land Discharge Specifications

Section VI.C.2.c of this Order requires the Permittee to conduct a special study to determine whether irrigation of the Loades' property is at greater than agronomic rates or at or below agronomic rates. If irrigation is at greater than agronomic rates, the Permittee shall comply with the land discharge specifications in section IV.B of the Order.

## G. Reclamation Specifications

The Permittee uses treated, disinfected, dechlorinated effluent to irrigate a pasture adjacent to the effluent storage pond, Graham's Pond ,from May 15 through September 30 and other times during the year when weather allows (e.g., dry fall, winter and spring periods). Section VI.C.2.c of the Order requires the Permittee to conduct a special study to determine whether irrigation of the Loades' property is at greater than agronomic rates or at or below agronomic rates (hydraulic and nutrient). If irrigation is at or below agronomic rates at the Loades' Property, the Permittee shall comply with the reclamation specifications in section IV.C of the Order.

Prior to adding new recycled water users in the future, the Permittee must demonstrate that recycled water will be applied at nutrient and hydraulic agronomic rates.

**1. Scope and Authority**

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material change in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

Here, the Regional Water Board considered all of these factors when developing the waste discharge requirements for the reclamation discharge. Limitations for $BOD_5$, TSS, and pH were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to State law, and then submitted to and approved by USEPA. In addition, discharge prohibitions were included to prohibit the reclamation use of untreated or partially treated waste, in order to prevent nuisance. In addition, the Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality of the Russian River-Guerneville Hydrologic Subarea of the Russian River Hydrologic Unit, the coordinated control of all factors which affect water quality in the area, and the need to develop and use recycled water, which this Order supports. Although the Permittee did not submit an economic analysis, Regional Water Board staff considered Occidental's economic status in establishing new permit requirements and carefully considered the cost and need for additional monitoring requirements. New requirements were added only as necessary.

Effluent monitoring requirements were added for nutrients and salts due to the need to assess nitrogen and salt application rates for recycled water. The monitoring and reporting program allows for a potential reduction of some of these monitoring requirements if monitoring demonstrates no reasonable potential.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

   a. **Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include MUN, IND, PRO, AGR, and FRSH.

   b. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for tastes and odors, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

3. **Determining the Need for WQBELs and Technology-Based Limits for Reclamation**

   The following reclamation specifications apply to effluent discharges to all authorized reclamation sites at Discharge Point 003.

   a. **$BOD_5$ and TSS.** This Order establishes discharge specifications for $BOD_5$ and TSS based on technology-based effluent limitations. Section 133.102 of 40 CFR establishes the minimum level of effluent quality that must be attained by secondary treatment for $BOD_5$ and TSS, but allows for some exceptions as provided for in sections 133.103 and 133.105. The secondary treatment effluent limitations for $BOD_5$ and TSS are up to 30 mg/L (30-day average) and 45 mg/L (7-day average). Section 133.105 allows alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for "equivalent to secondary treatment." These "equivalent to secondary treatment" limitations are up to 45 mg/L (30-day average) and up to 65 mg/L (7-day average) for $BOD_5$ and TSS. Section 133.103(c) allows for less stringent TSS limitations for POTWs that use waste stabilization ponds as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved.

      Section 133.101(g) prescribes the conditions under which a POTW is eligible for consideration for equivalent-to-secondary limitations as follows:

      **(a)** The principal treatment process must be either a trickling filter or waste stabilization pond;

      **(b)** The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L $BOD_5$ and/or TSS; and

      **(c)** Water quality is not adversely affected by the discharge.

The Permittee's Facility meets condition (a) above because the principal waste treatment process is a waste stabilization pond.

The previous permit required compliance with standard secondary effluent limitations for $BOD_5$. Although monitoring data collected during the term of the previous permit demonstrates that the Permittee is not able to comply consistently with the standard secondary effluent limitations for $BOD_5$, effluent limitations cannot be made less stringent than the effluent limitations in the previous permit.

The previous permit included equivalent-to-secondary effluent limitations for TSS that consist of a monthly average of 50 mg/L, a weekly average of 65 mg/L and a daily maximum of 80 mg/L. The monthly average effluent limitation of 50 mg/L is less stringent than the equivalent-to-secondary effluent limitation established in the federal regulations because maintenance and monitoring data demonstrated that the TSS values specified in the equivalent-to-secondary regulations could not be achieved. Monitoring data collected during the term of the previous permit demonstrates that the Permittee is not able to comply consistently with even the modified equivalent-to-secondary effluent limitations, however, limitations cannot be made less stringent than the effluent limitations in the previous permit.

**b. Coliform Bacteria.** This Order establishes reclamation specifications for coliform bacteria that reflect standards for secondary treated recycled water adopted by the CDPH in title 22 of the California Code of Regulations and are included to ensure that recycled water quality is protective of human health.

**c. pH.** The Order establishes a reclamation discharge specification for pH of 6.0 to 9.0 based on technology-based effluent limitations required by USEPA pursuant to 40 CFR Part 133. These pH limits are included in the Order to ensure that pH levels are appropriate for protection of groundwater when discharging to reclamation sites.

**d. Chemical Constituents.** The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in CCR, title 22, Chapter 15, Division 4, Article 4, Section 64435 (Tables 2 and 3), and Section 64444.5 (Table 5), and listed in Table 3-2 of the Basin Plan. Monitoring and Reporting Program No. 93-42 did not require such monitoring. The monitoring and reporting program requires the Permittee to monitor for constituents listed in the CCR, title 22, division 4, chapter 15, sections 64431 (inorganic chemicals) and 64444 (organic chemicals) one time during the term of this Order in order to determine whether any of these constituents are present in the treated disinfected recycled water.

### 4. WQBEL Calculations

This section does not apply to the reclamation aspect of this Facility. All of the reclamation specifications are based on the technical capabilities of the treatment system and levels required by the Basin Plan and title 22, thus no calculations were needed to determine the WQBELs.

**Table F-16. Summary of Reclamation Specifications**

| Parameter | Units | Discharge Specifications | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Biochemical Oxygen Demand (5-day @ 20°C) | mg/L | 30 | 45 | 60 | | -- |
| Total Suspended Solids | mg/L | 50 | 65 | 80 | | -- |
| pH | standard units | -- | -- | | 6.0 | 9.0 |
| Total Coliform Bacteria | MPN/100 mL | --- | 23[1] | 240[2] | | -- |

Table Notes:

1. Not to exceed an MPN of 23/100 mL using the bacteriological results of the last seven days for which analyses have been completed.
2. Not to exceed an MPN of 240/100 mL in more than one sample in any 30-day period.

### 5. Water Reclamation Requirements and Provisions

Section IV.C of the Order includes Irrigation/Reclamation Specifications and Requirements that apply to the recycled water irrigation system. Regional Water Board staff reviewed monitoring reports that identified the amount of treated effluent irrigated on the Loades' property irrigation site and it appears that irrigation volumes may exceed agronomic rates, at least during part of the irrigation season. Section VI.C.2.c of the Order requires the Permittee to conduct a special study to identify whether or not irrigation is at agronomic rates or not. Additional recycled water users that meet the criteria of this Order may be included in the Permittee's recycled water program as the compliance project described in section II.E of this Fact Sheet is implemented.

A key to successful reclamation is for the Permittee to ensure that recycled water users establish appropriate BMPs to protect against the possibility of recycled water spills. Thus section IV.C.4.d of the Order requires the Permittee to recognize the possibility of runoff from recycled water use areas and describe measures, including

BMPs, that the Permittee will ensure that the recycled water users implement to minimize the possibility of runoff.

### H. Other Requirements

The Order contains additional specifications that apply to the Facility. Turbidity and Disinfection Process Requirements for Chlorine Disinfection System identified in section IV.D of the Order apply in the event that the Permittee chooses to continue to discharge to surface waters. Storage Pond requirements apply to any existing ponds that are newly added to the system for effluent storage or for construction of new effluent storage ponds.

1. **Turbidity.** Any future tertiary upgrade must comply with turbidity requirements found in title 22 section 60301.230. This provision specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU in any 24-hour period, 5 NTU more than 5 percent of the time, and 10 NTU at any time. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following filtration and before discharge to the disinfection system.

2. **Disinfection Process Requirements for Chlorine Disinfection System.** Any future tertiary upgrades must comply with chlorine disinfection requirements found in title 22, including requirements to achieve a CT value of 450 mg-min/L. These requirements are necessary to demonstrate effective pathogen reduction for protection of human health.

3. **Storage Ponds.** Storage pond requirements are included in section IV.C.2.d of the Order to ensure that future storage ponds are constructed in a manner that protects groundwater and complies with requirements of title 27 of the CCR.

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional* [Water] *Board will apply to regional waters in order to protect the beneficial uses*." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality

objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

### B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, Native American culture, and aquaculture to surface waters.

2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

3. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

4. The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444 of the CCR.

## VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This Monitoring and Reporting Program is provided in Attachment E of this permit. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

### A. Influent Monitoring

Influent monitoring requirements for flow, $BOD_5$, TSS and settleable solids are retained from the previous monitoring and reporting program, Order No. 93-42, revised on April 23, 2009. Influent monitoring for $BOD_5$ and TSS are necessary to determine compliance with the Order's percent removal requirement for these parameters.

### B. Effluent Monitoring

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations EFF-001 and EFF-002 is necessary to demonstrate compliance with technology-based effluent limitations, demonstrate compliance with WQBELs, and

demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.

**1.** Discharge Point 001 at Monitoring Location EFF-001 (discharges to Graham's Pond):

**a.** Retained monitoring requirements for flow, $BOD_5$, TSS, settleable solids, total coliform, pH, chlorine residual, acute toxicity, hardness, DCBM, lead, silver, ammonia, nitrate, and phosphorus, with reductions in monitoring frequency for acute toxicity, hardness, lead, silver, and nutrients to recognize that this is a very small discharger.

**b.** Removed monitoring requirement for zinc based on no finding of reasonable potential.

**c.** Added a new daily monitoring requirement for temperature.

**d.** Added new effluent monitoring requirements for copper, cyanide, mercury, chlorodibromomethane, bis (2-ethylhexyl) phthalate, and organic nitrogen. Monitoring for these pollutants is specified as 4 times per year with two monitoring events to occur during two different months during the period of January through April with one event coinciding with an acute toxicity monitoring event. The other two monitoring events are specified for August and November. This monitoring frequency will capture a variety of discharge situations, including the dry-season when effluent is unaffected by storm water influences, early wet-season sampling, and sampling during the wet-season.

**e.** Added new annual effluent monitoring requirement for chronic toxicity.

**f.** Added new monitoring requirements for CTR pollutants and title 22 pollutants one time during the permit term.

**2.** Discharge Point 002 at Monitoring Location EFF-002 (discharges from Graham's Pond):

**a.** Retained monitoring requirements for flow, dilution rate, dissolved oxygen, pH, temperature, hardness, and turbidity.

**b.** Added a requirement for acute toxicity monitoring to occur one time per year, concurrently with an acute toxicity monitoring event at Monitoring Location EFF-001..

## C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring requirements are retained from the previous MRP (Order No. 93-42 revised on April 23, 2009) and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of

pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth.

New monitoring requirements for chronic toxicity have been added to assess compliance with the Basin Plan's narrative water quality objective for toxicity and with monitoring triggers for chronic toxicity established in section VI.C.2.a.i of the Order.

**D. Land Discharge Monitoring Requirements**

Section VI.C.2.c of the Order requires the Permittee to conduct a special study to determine if irrigation of the Loades' property is at agronomic rates (reclamation) or greater than agronomic rates (land discharge). If irrigation is at greater than agronomic rates, the MRP will be modified to include land discharge monitoring requirements in place of reclamation monitoring requirements.

**E. Irrigation/Reclamation Monitoring Requirements**

If the special study described in Section VI.C.2.c of the Order demonstrates that irrigation is at or below agronomic rates, the Permittee shall comply with the reclamation monitoring requirements in section VII of the MRP.

The Order requires that the Permittee comply with applicable state and local requirements regarding the production and use of reclaimed water. The Order also requires the Permittee to ensure that recycled water users comply with applicable state and local requirements regarding the use of reclaimed water.

The MRP requires the Permittee to monitor continuously for flow and report the average and maximum daily flow rate; report the number of days that treated wastewater is used for reclamation at all authorized sites; and report the average and maximum daily flow rate to authorized reclamation sites; and report the monthly volume and nitrogen application rate for each use site. These requirements apply immediately for any new reclamation site and upon completion of agronomic rate studies for existing reclamation sites.

The Order includes several new reclamation monitoring requirements including:

1. Monthly monitoring for nitrate, nitrite, ammonia, and organic nitrogen. It is necessary to determine the total nitrogen concentration of the effluent in order to ensure application of recycled water at nutrient agronomic rates.

2. Monthly monitoring for total dissolved solids, chloride, boron, and sodium to determine whether any of these constituents are present in the effluent at

concentrations that may exceed water quality objectives for these constituents. TDS is a direct measure of salinity, which can affect underlying groundwater quality as it relates to drinking water and agricultural supply beneficial uses. Secondary MCLs for taste and odor in drinking water have been established by CDPH for TDS (500 mg/L), chloride ( 250 mg/L) and sodium (60 mg/L). An agricultural water quality limit of 0.7 mg/L has been established for boron. The MRP allows for reduction of monitoring frequency or elimination of the monitoring requirement if monitoring data collected over time demonstrates that any constituent is present in concentrations that could not cause an exceedance of water quality objectives.

**3.** Visual monitoring of recycled water use sites. During inspections, the Permittee is required to make observations of the recycled water use sites to ensure that recycled water requirements are being met. The purpose of the visual monitoring is to identify any indicators, such as surface runoff, ponding, broken sprinkler heads, sprinklers operating when the ground is saturated, that could result in a violation of permit conditions and to implement any needed corrective measures.

## F. Receiving Water Monitoring

### 1. Surface Water

Downstream receiving water monitoring requirements have been increased over the monitoring requirements in MRP Order No. 93-42 (revised on April 23, 2009) as follows:

**a.** Monitoring frequency has been increased for dissolved oxygen, pH, turbidity, and temperature.

**b.** Monitoirng requirements have been added for ammonia, nitrate, and phosphorus, with monitoring to occur bi-monthly during periods of discharge from Graham's Pond to Dutch Bill Creek and concurrently with nutrient monitoring specified for Monitoring Location EFF-001..

**c.** The monitoring frequency for hardness is set to coincide with effluent monitoring for hardness-based metals, but only when there is a discharge from Graham's Pond.

### 2. Groundwater

At this time, there are no groundwater monitoring requirements for this Facility.

### G. Other Monitoring Requirements

Visual monitoring requirements of the discharge to Graham's Pond (EFF-001), from Graham's Pond to Dutch Bill Creek (EFF-002), and at the receiving water monitoring location in Dutch Bill Creek (RSW-002) have been added

## VII. RATIONALE FOR PROVISIONS

### A. Standard Provisions

#### 1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Permittee. The rationale for the special provisions contained in the Order is provided in section VII.B, below.

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

#### 2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

**a.** Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 CFR sections 122.41(j)(5) and (k)(2)).

**b.** Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will

be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

## B. Special Provisions

### 1. Reopener Provisions

**a. Standard Provisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, which include the following:

**i.** When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.

**ii.** When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

**b. Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

**c. Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

**d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.

e. **Water Effects Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a water effects ratio or metal translator to a water quality objective for one or more priority pollutants.

f. **Nutrients (Special Provision VI.C.1.f).** This Order establishes effluent limitations for total nitrate and monitoring requirements for the effluent and receiving water for nutrients (i.e., ammonia, nitrate, and phosphorus). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for effluent limitations or more stringent effluent limitations for any of these parameters.

g. **Salt and Nutrient Management Plans (Special Provision VI.C.1.g)**. This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional salt and nutrient management plan that is applicable to the Permittee.

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

a. **Toxicity Reduction Evaluations (Special Provision VI.C.2.a).** The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Attachment E of this Order requires chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Permittee to maintain an up-to-date TRE Work Plan for approval by the Executive Officer, to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring obtained as a result of an accelerated monitoring program.

b. **Technical Report(s) Regarding Existing Recycled Water Use Sites. (Special Provision VI.C.2.b)** Technical information is needed to assess existing recycled water use sites to determine whether or not recycled water is being applied at nutrient and hydraulic agronomic rates. The Permittee must provide a workplan and time schedule for providing the described in section VI.C.2.b of the Order. The workplan must also contain a task to submit a corrective action plan to address any recycled water use that is found to exceed agronomic rates or to be resulting in runoff of recycled water to surface waters. Examples of how compliance could be achieved include adjusting application rates at the use site to ensure that agronomic rates are met and implementing appropriate BMPs to minimize the

potential for runoff; or recognize the site as a land disposal site with appropriate groundwater monitoring and possible permit modification to include any needed land discharge specifications.

c. **Receiving Water Special Study (Special Provision VI.C.2.c)** requires the Permittee to submit a work plan describing a study to assess the effects of the discharge from Graham's Pond on Dutch Bill Creek. This study is necessary to ensure that the discharge is not impacting the beneficial uses of Dutch Bill Creek.

d. **Storage Pond Technical Report. (Special Provision VI.C.2.d)** requires the Permittee to provide technical information for any pond that is proposed for storage of treated effluent in place of Graham's Pond. This requirement applies whether the future proposed pond(s) are newly constructed ponds or existing ponds newly identified for effluent/recycled water storage. This information is needed to determine whether the storage ponds are adequately designed to minimize the potential for treated effluent/recycled water to cause adverse impacts to areal groundwater and beneficial uses thereof. The Permittee will eventually need to demonstrate that storage of treated wastewater meets the requirements of title 27 and is protective of groundwater quality. In addition, groundwater monitoring may be required in the future if it is determined that recycled water is being applied at greater than hydraulic or nutrient agronomic rates.

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

a. **Pollutant Minimization Plan.** Provision VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

4. **Construction, Operation, and Maintenance Specifications**

a. Provision VI.C.4 is included in this Order because 40 CFR 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

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

#### a. Wastewater Collection Systems (Special Provision VI.C.5.a)

i. **Statewide General WDRs for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all SSOs, among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Permittee's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions VI.A.2.b and VI.C.5 of the Order. The Permittee must comply with both the General Order and this Order. The Permittee and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006. The Permittee has enrolled under the General Order as required.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (40 CFR 122.41(d)), to report non-compliance (40 CFR 122.41(1)(6) and (7)), and to properly operate and maintain facilities (40 CFR 122.41(e)). This provision is consistent with these federal requirements.

ii. **Sanitary Sewer Overflows.** This Order includes provisions (Provision VI.C.5.(a)(ii), and Attachment D subsection I.C., I.D, V.E, and V.H.) to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities in case of sewage spills. In addition, as an Enrollee under General Order No. 2006-0003-DWQ, the Permittee is required to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and via telefax when the online SSO database is not available. Detailed notification and reporting requirements for SSOs and sewage spills are specified in Attachment E subsection E (Monitoring and Reporting Program). The goal of these provisions is to ensure appropriate and timely response by the Permittee to SSOs to protect public health and water quality.

6. **Source Control Program (Special Provision VI.C.5.b).** Because the design flow of the facility is less than 5.0 mgd, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, the proposed Order includes requirements for the Permittee to implement a source identification and reduction program. The Permittee's source identification and reduction program will need to address only those pollutants that continue to be detected at levels that trigger reasonable potential.

   In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the Facility, the safety of Facility staff, and to ensure that pollutants do not pass through the treatment facility to impair the beneficial uses of the receiving water.

7. **Sludge Disposal and Handling Requirements (Special Provision VI.C.5.c).** The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27, California Code of Regulations. The Permittee has indicated that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a municipal solid waste landfill in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

8. **Statewide General WDRs for Discharge of Biosolids to Land (Special Provision VI.C.5.d).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. Instead, the Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

9. **Operator Certification (Special Provision VI.C.5.e).** This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.

10. **Adequate Capacity (Special Provision VI.C.5.f).** The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

### 11. Other Special Provisions

a. **Storm Water Best Management Practices (BMPs)(Special Provision VI.C.6.a).** The Permittee has determined that the Facility does not have industrial storm water discharges to surface waters and storm water BMPs are in place to divert storm water run-on from the treatment facility grounds. The Statewide General Storm Water Permit (State Water Board Order No. 97-03-DWQ) does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of with the Facility's NPDES permitted process wastewater or if storm water is disposed of to evaporation ponds, percolation ponds, or combined sewer systems. Therefore, coverage under the General Storm Water Permit is not required. The Permittee shall annually inspect and maintain storm water BMPs, and report these activities to the Regional Water Board.

### 12. Compliance Schedules (Special Provision VI.C.7)

This Order does not contain any compliance schedules

A compliance schedule is included in CDO No. R1-2012-0102 to be adopted concurrently with this Order.

## VIII. PUBLIC PARTICIPATION

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

### A. Notification of Interested Parties

The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the Press Democrat on September 22, 2012.

### B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **October 22, 2012**.

### C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

| | |
|---|---|
| Date: | **December 6, 2012** |
| Time: | **8:30 a.m**. or as announced in the Regional Water Board's agenda |
| Location: | **Regional Water Board Hearing Room**<br>**5550 Skylane Boulevard, Suite A**<br>**Santa Rosa, CA 95403** |

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/northcoast where you can access the current agenda for changes in dates and locations.

### D. Waste Discharge Requirements Petitions

Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and title 23, section 2050 of the CCR. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request the Regional Water Board to reconsider the Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal

rights. If the Permittee chooses to request reconsideration of this Order or file a petition with the State Water Board, the Permittee must comply with the Order while the request for reconsideration and/or petition is being considered. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

**E. Information and Copying**

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Cathleen Goodwin at Cathleen.Goodwin@waterboards.ca.gov or (707) 576-2687.

**ATTACHMENT F-1 RPA Summary**

**Occidental WWTF Reasonable Potential Analysis Summary – May 2012**

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Antimony | µg/L | < | 1 | | NA | 6 | --- | --- | 14 | 4,300 | 6 | No |
| 2 | Arsenic | µg/L | | 0.98 | | NA | 50 | 340 | 150 | | | 50 | No |
| 3 | Beryllium | µg/L | < | 0.1 | | NA | 4 | --- | --- | --- | --- | 4.0 | No |
| 4 | Cadmium | µg/L | < | 0.2 | | NA | 1.8 | 2.9 | 1.8 | --- | --- | 5.0 | No |
| 5a | Chromium (III) | µg/L | | 1.8 | | NA | 149 | 1251 | 149 | --- | --- | --- | No |
| 5b | Chromium (VI) or total Cr | µg/L | < | 5 | | NA | 11 | 16 | 11 | --- | --- | 50 | No |
| 6 | Copper | µg/L | | 83 | | NA | 6.6 | 10 | 6.6 | 1300 | --- | --- | **Yes** |
| 7 | Lead | µg/L | | 5.5 | | NA | 1.9 | 49 | 1.9 | --- | --- | --- | **Yes** |
| 8 | Mercury | µg/L | | 0.0311 | | NA | 0.050 | --- | --- | 0.050 | 0.051 | 2.0 | No |
| 9 | Nickel | µg/L | | 6.5 | | NA | 37 | 334 | 37 | 610 | 4,600 | 100 | No |
| 10 | Selenium | µg/L | < | 0.51 | | NA | 5.0 | 20 | 5 | --- | --- | 50 | No |
| 11 | Silver | µg/L | | 5.6 | | NA | 2.0 | 2.0 | --- | --- | --- | --- | **Yes** |
| 12 | Thallium | µg/L | | 1.5 | | NA | 1.7 | --- | --- | 1.7 | 6.3 | 2 | No |
| 13 | Zinc | µg/L | | 30 | | NA | 85 | 85 | 85 | --- | --- | | No |
| 14 | Cyanide | µg/L | | 9.2 | | NA | 5.2 | 22 | 5.20 | 700 | 220,000 | 150 | **Yes** |
| 15 | Asbestos | µg/L | < | 0.207 | | NA | 7.0 | --- | --- | 7 | --- | 7 | No |
| 16 | 2,3,7,8-TCDD (Dioxin) | µg/L | < | 5.7E-07 | | NA | 1.3E-08 | --- | --- | 1.3E-08 | 1.4E-08 | 3.0E-05 | No |
| 17 | Acrolein | µg/L | < | 0.36 | | NA | 320 | --- | --- | 320 | 780 | --- | No |
| 18 | Acrylonitrile | µg/L | < | 0.14 | | NA | 0.06 | --- | --- | 0.059 | 0.66 | --- | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | Benzene | µg/L | < | 0.08 | | NA | 1.0 | --- | --- | 1.2 | 71 | 1 | No |
| 20 | Bromoform | µg/L | < | 0.099 | | NA | 4.3 | --- | --- | 4.3 | 360 | --- | No |
| 21 | Carbon Tetrachloride | µg/L | < | 0.19 | | NA | 0.25 | --- | --- | 0.25 | 4.4 | 0.5 | No |
| 22 | Chlorobenzene | µg/L | < | 0.075 | | NA | 70 | --- | --- | 680 | 21,000 | 70 | No |
| 23 | Chlorodibromomethane | µg/L | | 1.17 | | NA | 0.40 | --- | --- | 0.401 | 34 | --- | **Yes** |
| 24 | Chloroethane | µg/L | < | 0.25 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 25 | 2-Chloroethylvinyl Ether | µg/L | < | 0.93 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 26 | Chloroform | µg/L | | 30 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 27 | Dichlorobromomethane | µg/L | | 5.8 | | NA | 0.56 | --- | --- | 0.56 | 46 | --- | **Yes** |
| 28 | 1,1-Dichloroethane | µg/L | < | 0.14 | | NA | 5.0 | --- | --- | --- | --- | 5 | No |
| 29 | 1,2-Dichloroethane | µg/L | < | 0.21 | | NA | 0.38 | --- | --- | 0.38 | 99 | 0.5 | No |
| 30 | 1,1-Dichloroethylene | µg/L | < | 0.14 | | NA | 0.057 | --- | --- | 0.057 | 3.2 | 6 | No |
| 31 | 1,2-Dichloropropane | µg/L | < | 0.13 | | NA | 0.52 | --- | --- | 0.52 | 39 | 5 | No |
| 32 | 1,3-Dichloropropylene | µg/L | < | 0.05 | | NA | 0.50 | --- | --- | 10 | 1,700 | 0.5 | No |
| 33 | Ethylbenzene | µg/L | < | 0.11 | | NA | 300 | --- | --- | 3100 | 29,000 | 300 | No |
| 34 | Methyl Bromide | µg/L | < | 0.20 | | NA | 48 | --- | --- | 48 | 4,000 | --- | No |
| 35 | Methyl Chloride | µg/L | < | 0.14 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 36 | Methylene Chloride | µg/L | < | 0.16 | | NA | 4.7 | --- | --- | 4.7 | 1,600 | 5 | No |
| 37 | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.057 | | NA | 0.17 | --- | --- | 0.17 | 11 | 1 | No |
| 38 | Tetrachloroethylene | µg/L | < | 0.21 | | NA | 0.80 | --- | --- | 0.8 | 8.85 | 5 | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | Toluene | µg/L | | 6.8 | | NA | 150 | --- | --- | 6800 | 200,000 | 150 | No |
| 40 | 1,2-Trans-Dichloroethylene | µg/L | < | 0.16 | | NA | 10 | --- | --- | 700 | 140,000 | 10 | No |
| 41 | 1,1,1-Trichloroethane | µg/L | < | 0.13 | | NA | 200 | --- | --- | --- | --- | 200 | No |
| 42 | 1,1,2-Trichloroethane | µg/L | < | 0.12 | | NA | 0.60 | --- | --- | 0.6 | 42 | 5 | No |
| 43 | Trichloroethylene | µg/L | < | 0.13 | | NA | 2.7 | --- | --- | 2.7 | 81 | 5 | No |
| 44 | Vinyl Chloride | µg/L | < | 0.17 | | NA | 0.50 | --- | --- | 2 | 525 | 0.5 | No |
| 45 | Chlorophenol | µg/L | < | 0.66 | | NA | 120 | --- | --- | 120 | 400 | --- | No |
| 46 | 2,4-Dichlorophenol | µg/L | < | 0.66 | | NA | 93 | --- | --- | 93 | 790 | --- | No |
| 47 | 2,4-Dimethylphenol | µg/L | < | 1.2 | | NA | 540 | --- | --- | 540 | 2,300 | --- | No |
| 48 | 2-Methyl-4,6-Dinitrophenol | µg/L | < | 0.75 | | NA | 13 | --- | --- | 13.4 | 765 | --- | No |
| 49 | 2,4-Dinitrophenol | µg/L | < | 1.3 | | NA | 70 | --- | --- | 70 | 14,000 | --- | No |
| 50 | 2-Nitrophenol | µg/L | < | 0.90 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 51 | 4-Nitrophenol | µg/L | < | 0.99 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 52 | 3-Methyl-4-Chlorophenol | µg/L | < | 0.58 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 53 | Pentachlorophenol | µg/L | < | 1.4 | | NA | 0.28 | 16 | 12 | 0.28 | 8.2 | 1 | No |
| 54 | Phenol | µg/L | < | 0.46 | | NA | 21,000 | --- | --- | 21000 | 4,600,000 | --- | No |
| 55 | 2,4,6-Trichlorophenol | µg/L | < | 0.74 | | NA | 2.1 | --- | --- | 2.1 | 6.5 | --- | No |
| 56 | Acenaphthene | µg/L | < | 0.57 | | NA | 1,200 | --- | --- | 1200 | 2,700 | --- | No |
| 57 | Acenephthylene | µg/L | < | 0.48 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 58 | Anthracene | µg/L | < | 0.39 | | NA | 9,600 | --- | --- | 9600 | 110,000 | --- | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | Benzidine | µg/L | < | 3.4 | | NA | 0.00012 | --- | --- | 0.00012 | 0.00054 | --- | No |
| 60 | Benzo(a)Anthracene | µg/L | < | 0.39 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| 61 | Benzo(a)Pyrene | µg/L | < | 0.50 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | 0.2 | No |
| 62 | Benzo(b)Fluoranthene | µg/L | < | 0.64 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| 63 | Benzo(ghi)Perylene | µg/L | < | 0.93 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 64 | Benzo(k)Fluoranthene | µg/L | < | 0.34 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| 65 | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.81 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 66 | Bis(2-Chloroethyl)Ether | µg/L | < | 0.14 | | NA | 0.031 | --- | --- | 0.031 | 1.4 | --- | No |
| 67 | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.41 | | NA | 1,400 | --- | --- | 1400 | 170,000 | --- | No |
| 68 | Bis(2-Ethylhexyl)Phthalate | µg/L | | 5.5 | | NA | 1.8 | --- | --- | 1.8 | 5.9 | 4 | **Yes** |
| 69 | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.43 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 70 | Butylbenzyl Phthalate | µg/L | < | 0.64 | | NA | 3,000 | --- | --- | 3000 | 5,200 | --- | No |
| 71 | 2-Chloronaphthalene | µg/L | < | 0.57 | | NA | 1,700 | --- | --- | 1700 | 4,300 | --- | No |
| 72 | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.93 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| *73* | Chrysene | µg/L | < | 0.76 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| *74* | Dibenzo(a,h)Anthracene | µg/L | < | 0.83 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| 75 | 1,2-Dichlorobenzene | µg/L | < | 0.11 | | NA | 600 | --- | --- | 2700 | 17,000 | 600 | No |
| 76 | 1,3-Dichlorobenzene | µg/L | < | 0.11 | | NA | 400 | --- | --- | 400 | 2,600 | --- | No |
| 77 | 1,4-Dichlorobenzene | µg/L | < | 0.081 | | NA | 5.0 | --- | --- | 400 | 2,600 | 5 | No |
| 78 | 3,3'-Dichlorobenzidine | µg/L | < | 2.0 | | NA | 0.040 | --- | --- | 0.04 | 0.770 | --- | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | Diethyl Phthalate | µg/L | < | 0.86 | | NA | 23,000 | --- | --- | 23000 | 120,000 | --- | No |
| 80 | Dimethyl Phthalate | µg/L | < | 0.68 | | NA | 313,000 | --- | --- | 313000 | 2,900,000 | --- | No |
| 81 | Di-n-Butyl Phthalate | µg/L | | 4.2 | | NA | 2,700 | --- | --- | 2700 | 12,000 | --- | No |
| 82 | 2,4-Dinitrotoluene | µg/L | < | 0.68 | | NA | 0.110 | --- | --- | 0.11 | 9.1 | --- | No |
| 83 | 2,6-Dinitrotoluene | µg/L | < | 0.54 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 84 | Di-n-Octyl Phthalate | µg/L | < | 0.64 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 85 | 1,2-Diphenylhydrazine | µg/L | < | 0.33 | | NA | 0.040 | --- | --- | 0.04 | 0.54 | --- | No |
| 86 | Fluoranthene | µg/L | < | 0.76 | | NA | 300 | --- | --- | 300 | 370 | --- | No |
| 87 | Fluorene | µg/L | < | 0.81 | | NA | 1,300 | --- | --- | 1300 | 14,000 | --- | No |
| 88 | Hexachlorobenzene | µg/L | < | 0.89 | | NA | 0.00075 | --- | --- | 0.00075 | 0.00077 | 1 | No |
| 89 | Hexachlorobutadiene | µg/L | < | 0.84 | | NA | 0.44 | --- | --- | 0.44 | 50 | --- | No |
| 90 | Hexachlorocyclopentadiene | µg/L | < | 0.45 | | NA | 50 | --- | --- | 240 | 17,000 | 50 | No |
| 91 | Hexachloroethane | µg/L | < | 0.58 | | NA | 1.9 | --- | --- | 1.9 | 8.9 | --- | No |
| 92 | Indeno(1,2,3-cd) Pyrene | µg/L | < | 0.63 | | NA | 0.0044 | --- | --- | 0.0044 | 0.049 | --- | No |
| 93 | Isophorone | µg/L | < | 0.81 | | NA | 8.4 | --- | --- | 8.4 | 600 | --- | No |
| 94 | naphthalene | µg/L | < | 0.66 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 95 | Nitrobenzene | µg/L | < | 0.74 | | NA | 17 | --- | --- | 17 | 1,900 | --- | No |
| 96 | N-Nitrosodimethylamine | µg/L | < | 1.1 | | NA | 0.00069 | --- | --- | 0.00069 | 8.1 | --- | No |
| 97 | N-Nitrosodi-n-Propylamine | µg/L | < | 0.85 | | NA | 0.0050 | --- | --- | 0.005 | 1.4 | --- | No |
| 98 | N-Nitrosodiphenylamine | µg/L | < | 0.90 | | NA | 5.0 | --- | --- | 5 | 16 | --- | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 | Phenanthrene | µg/L | < | 0.65 | | NA | No Criteria | --- | --- | --- | --- | --- | No |
| 100 | Pyrene | µg/L | < | 0.45 | | NA | 960 | --- | --- | 960 | 11,000 | --- | No |
| 101 | 1,2,4-Trichlorobenzene | µg/L | < | 0.59 | | NA | 5.0 | --- | --- | --- | --- | 5 | No |
| 102 | Aldrin | µg/L | < | 0.0130 | | NA | 0.00013 | 3 | --- | 0.00013 | 0.00014 | --- | No |
| 103 | alpha-BHC | µg/L | < | 0.0022 | | NA | 0.0039 | --- | --- | 0.0039 | 0.013 | --- | No |
| 104 | beta-BHC | µg/L | < | 0.0022 | | NA | 0.014 | --- | --- | 0.014 | 0.046 | --- | No |
| 105 | gamma-BHC | µg/L | < | 0.0023 | | NA | 0.019 | 0.95 | --- | 0.019 | 0.063 | 0.2 | No |
| 106 | delta-BHC | µg/L | < | 0.0021 | | NA | No Criteria | --- | --- | --- | --- | --- | Ud |
| 107 | Chlordane | µg/L | < | 0.035 | | NA | 0.00057 | 2.4 | 0.0043 | 0.00057 | 0.00059 | 0.1 | No |
| 108 | 4,4-DDT | µg/L | < | 0.0031 | | NA | 0.00059 | 1.1 | 0.001 | 0.00059 | 0.00059 | --- | No |
| 109 | 4,4-DDE | µg/L | < | 0.0019 | | NA | 0.00059 | --- | --- | 0.00059 | 0.00059 | --- | No |
| 110 | 4,4-DDD | µg/L | < | 0.0018 | | NA | 0.00083 | --- | --- | 0.00083 | 0.00084 | --- | No |
| 111 | Dieldrin | µg/L | < | 0.0020 | | NA | 0.00014 | 0.24 | 0.056 | 0.00014 | 0.00014 | --- | No |
| 112 | alpha-Endosulfan | µg/L | < | 0.0011 | | NA | 0.056 | 0.22 | 0.056 | 110 | 240 | --- | No |
| 113 | beta-Endosulfan | µg/L | < | 0.0033 | | NA | 0.056 | 0.22 | 0.056 | 110 | 240 | --- | No |
| 114 | Endosulfan Sulfate | µg/L | < | 0.0035 | | NA | 110 | --- | --- | 110 | 240 | --- | No |
| 115 | Endrin | µg/L | < | 0.0027 | | NA | 0.036 | 0.086 | 0.036 | 0.76 | 0.81 | 2 | No |
| 116 | Endrin Aldehyde | µg/L | < | 0.0016 | | NA | 0.76 | --- | --- | 0.76 | 0.81 | --- | No |
| 117 | Heptachlor | µg/L | < | 0.0028 | | NA | 0.00021 | 0.52 | 0.0038 | 0.00021 | 0.00021 | 0.01 | No |
| 118 | Heptchlor Epoxide | µg/L | < | 0.0025 | | NA | 0.00010 | 0.52 | 0.0038 | 0.0001 | 0.00011 | 0.01 | No |
| 119- | PCBs sum (2) | µg/L | < | 0.02 | | NA | 0.00017 | --- | 0.014 | 0.00017 | 0.00017 | 0.5 | No |

| CTR No. | Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | | | | | | | | | | | | | |
| 126 | Toxaphene | µg/L | < | 0.21 | | NA | 0.00020 | 0.73 | 0.0002 | 0.00073 | 0.00075 | 3 | No |
| | Total Ammonia | mg/L | | 24000 | | | 4 | 11.4 | 2.58 | --- | --- | --- | **Yes** |
| | Nitrate (as N) | mg/L | | 5800 | | | 10,000 | --- | --- | --- | --- | 10 | No |
| | Phosphate (as P) | mg/L | | 9800 | | | No Criteria | --- | --- | --- | --- | --- | Ud |

**NA - Not Available**